# FREE COMMUNICATIONS DAY

**24/02/2017 – PROVINCIHUIS, LEUVEN**

## PROGRAMME

### 08:15 – 09:00

**Registration**

### 09:00 – 10:30

**PART 1 – S01 through S05 (90 minutes)**

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>De Beule, Frédéric</td>
<td>Periodontal treatment and maintenance of molars affected with severe periodontitis (DPSI=4): an up to 27-year retrospective study (in a private practice).</td>
</tr>
<tr>
<td>S02</td>
<td>Castro, Ana</td>
<td>Leucocyte- and Platelet Rich Fibrin (L-PRF) and Advanced Platelet Rich Fibrin (A-PRF) in socket management and ridge preservation: a randomized clinical controlled trial</td>
</tr>
<tr>
<td>S03</td>
<td>Meers, Evelien</td>
<td>Periodontal screening and referral behavior of Flemish general dentists</td>
</tr>
<tr>
<td>S04</td>
<td>Debel, Maxim</td>
<td>Acute periodontal disease caused by orthodontic elastics: a case report</td>
</tr>
<tr>
<td>S05</td>
<td>Christiaens, Véronique</td>
<td>The accuracy of peri-apical radiography by peri-implantitis</td>
</tr>
</tbody>
</table>

[abstracts see pages 3-16]

### 10:30 – 11:00

**Coffee Break**
11:00 – 12:30
PART 2 – S06 through S10 (90 minutes)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S06</td>
<td>Laleman, Isabelle</td>
<td>The practical implementation of new insights regarding non-surgical periodontal therapy</td>
</tr>
<tr>
<td>S07</td>
<td>De Carvalho, Bruno</td>
<td>Guided bone regeneration and full guided surgery in a case of dental agenesis.</td>
</tr>
<tr>
<td>S08</td>
<td>Glibert, Maarten</td>
<td>A randomized controlled trial to assess initial crestal bone remodelling of four different implant designs</td>
</tr>
<tr>
<td>S09</td>
<td>Cortellini, Simone</td>
<td>Guided Bone Regeneration with L-PRF block</td>
</tr>
<tr>
<td>S10</td>
<td>Salem, Souheil</td>
<td>Effectiveness of removable prosthesis retained by 4 implants-supported locator</td>
</tr>
</tbody>
</table>

[abstracts see pages 3-16]

12:30 – 13:45
Lunch

13:45 – 15:15
PART 3 – S11 through S15 (90 minutes)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S11</td>
<td>Ackhurst, Johan</td>
<td>Real-time navigation: The beginning of a new era in guided implant surgery</td>
</tr>
<tr>
<td>S12</td>
<td>Matthijs, Stefan</td>
<td>A multi-disciplinary approach for the replacement of a central upper incisor.</td>
</tr>
<tr>
<td>S13</td>
<td>Molemans, Bo</td>
<td>Simultaneous sinus-lift and implant placement using L-PRF (Leukocyte- and platelet-rich fibrin) as a sole grafting material.</td>
</tr>
<tr>
<td>S14</td>
<td>Li Manni, Lou</td>
<td>Immediate implant loading and prosthoendontic components full-guided surgery: results of a case series.</td>
</tr>
</tbody>
</table>

[abstracts see pages 3-16]

15:15 – 15:45
Coffee Break

15:45 – 16:15
General Assembly

SUBSCRIPTIONS AT WWW.PARODONTOLOGIE.BE

ACCREDITATION 30 AE/UA
De Beule, Frédéric  

Periodontal treatment and maintenance of molars affected with severe periodontitis (DPSI=4): an up to 27-year retrospective study (in a private practice).

Frédéric De Beule (FDB)*, Ghada Alsaadi (GA)*, Marina Perić†, Michel Brecx†  
*Cabinet de Parodontologie, Waterloo, Belgium  
†Catholic University of Louvain, Brussels, Belgium

ABSTRACT

Aim: This retrospective study aimed to evaluate the long-term response of molars affected with severe periodontitis to periodontal treatment, to analyze the differences in response between molars with and without Furcation Involvement (FI) and to reevaluate the usefulness of the existing classification of FI in determining the prognosis.

Materials and Methods: A total of 402 patients from a single private practice were included. The observation period was 27 years (mean 16.5 years). The average frequency of the supportive periodontal therapy (SPT) visits was 1.76 ± 0.57/ year (median 1.95 / year). Inclusion criteria were: at least 10 years of periodontal follow-up, at least one tooth with probing depth ≥6mm, level 4 of the Dutch Periodontal Screening Index (DPSI).

Results: Of the 2 559 molars present at the initial examination, 125 were extracted immediately. Degrees III or II of FI were found in 37.2% molars, while 62.8% exhibited degree I or had no FI. The performed periodontal treatments were: nonsurgical therapy of scaling and root planning (77.5%), eventually repeated (11.7%), access flap (7.8%), tunnellisation (0.2%) and root resection (2.8%). The overall survival rate was 83.9% (77.5% molars with FI; 87.8% without FI). In none of the treatment provided, the presence or absence of FI exhibited a significant effect.

Conclusion: Simple treatments can successfully be applied to treat molars affected with severe periodontitis, even with FI, yielding good long-term survival rates. The classification of FI was not of a great use in determining the prognosis except in case of degree III FI.
<table>
<thead>
<tr>
<th>S02</th>
<th>0920-0935</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Castro, Ana</strong></td>
<td>Leucocyte- and Platelet Rich Fibrin (L-PRF) and Advanced Platelet Rich Fibrin (A-PRF) in socket management and ridge preservation: a randomized clinical controlled trial</td>
</tr>
</tbody>
</table>

Ana B. Castro1, Andy Temmerman1, Jeroen Vandessel2, Reinhilde Jacobs2, Wim Teughels1, Nelson Pinto 1,3, Marc Quirynen1

1 Department of Oral Health Sciences, Periodontology, KU Leuven & Dentistry, University Hospitals Leuven, Belgium.

2 OMFS-Impath Research Group, Department of Oral and Maxillofacial Surgery, University Hospitals Leuven, Belgium.

3 Department of Oral Implantology, University of the Andes, Santiago, Chile.

**ABSTRACT**

Aim: To evaluate the effect of L-PRF and A-PRF in ridge preservation compared to natural healing.

Material and methods: Patients needing the extraction of three single-rooted teeth in the maxilla were included. After the atraumatic extractions, two sockets were filled with L-PRF or A-PRF. A third socket had no filling (natural healing). The treatment was randomly assigned (computer generated) and the patients were masked for allocation to type of platelet concentrate used in each socket. Clinical measurements with a customized acrylic stent were obtained immediately after tooth extraction and after 3 months.

(Preliminary) Results: To date, four patients were included in this study. In the clinical measurements, the mean horizontal change for the buccal bone was +0.4 ± 0.2 mm, +0.25 ± 0.4 mm, and -0.5 ± 0.3 mm for L-PRF group, A-PRF group, and control group, respectively. For the palatal bone wall, the mean horizontal change was +0.6 ± 0.4 mm, +0.6 ± 0.7 mm, and -0.30 ± 0.1 mm for L-PRF group, A-PRF group, and control group, respectively.

Conclusions and clinical implications: Within the limitations of these results due to the small sample, we can suggest that the use of L-PRF and A-PRF might prevent the bone resorption after tooth extraction.
Aim: Dental caries and periodontal diseases are the two most common diseases of the oral cavity. When general dental practitioners (GDP's) are confronted with the latter, generally, these patients are referred to a periodontist. In Belgium, the Dutch Periodontal Screening Index (DPSI) is a broadly accepted screening tool. We investigated the use of DPSI in the general dental practice and the criteria for referral to a periodontist. Further the influence of age, education and location were studied.

Material and methods: An online questionnaire in Dutch was designed containing eleven questions related to our research topic. In order to reach a substantial part of the Flemish dentist population, the main investigator (EM) personally contacted all the dentists of the membership base of VVT (Verbond der Vlaamse Tandartsen), VBT (Vlaamse Beroepsvereniging Tandartsen) and LUTV (Leuvense Universitaire Tandheelkunde Vereniging). The questionnaire could be filled in online and was conducted anonymously. It consisted of two parts, the first part aimed at describing the profile of the dentist. Gender, age, education center, specialisation and location of dental practice were surveyed. The second part of the questionnaire was designed to determine the periodontal screening method and referral behavior of the Flemish dentists. Firstly, it comprised three questions about the used screening method. Secondly, it was surveyed if general dental practitioners check certain periodontal risk factors. And finally, the referral behavior was researched. This was examined on the basis of an open-ended question.

For the statistical analyses, chi-square tests were performed with IBM's SPSS Statistics 21. P-values and Cramer's V were reported as measures of statistical significance and effect size, respectively. A p-value <0.05 was seen as statistically significant.

Results: 1050 Flemish dentists attended the questionnaire. 64 periodontist were excluded from the analyses, leaving the data of 986 GDP's. It was shown that 63.0% of the GDP’s used DPSI as screening method, 27.9% screened based on probing pocket depth and 4.5% used RX. However 4.7% mentioned to have no method at all. Dentist who graduated after 2006, the year from which DPSI was reimbursed by the RIZIV, used significantly more DPSI as a screening method (83.9%) than GDP’s who graduated before 2006 (57.1%) (p<0,001 and Cramer's V= 0,23). Education and location did not seem to influence the use of DPSI. Due to the open-ended nature of the question about referral, there was a plethora of answers. The most frequent response (33%) was: “I always refer when periodontal problems are detected”. 13.7% of the GDP’s said to first treat patients themselves and only refer if deep pockets persists. 11.4% also mentioned motivation of the patient as an important factor in the decision for possible referral.

Conclusions and clinical implications: Although DPSI is a quick and easy screening method, reimbursed by the RIZIV, only 63.0% of the general dentists use it. 4.7% of the dentists mention to have no periodontal screening method at all. A positive trend regarding the use of DPSI is seen: the younger the dentist, the more DPSI is used. Clinically this can be translated to a more thought-through referral behaviour to periodontal specialists.
Debel, Maxim

Acute periodontal disease caused by orthodontic elastics - a case report

Debel Maxim, Brecx Michel, Toma Selena, Lasserre Jérôme

Patient situation at intake:

The patient is an 11 year old Tunisian female, she was referred to the Department of Periodontology, University Hospital Saint-Luc by the Department of Orthodontics. The patient has no significant medical history, but the dental history revealed orthodontic treatment for closure of diastema by an elastic band.

Reason of consultation:

She was complaining of dental mobility, pain, periodontal swelling and bleeding while brushing. A clinical examination revealed dental plaque accumulation, hyperplastic papillae along with bleeding on probing and pus suppuration. Deep periodontal pockets of 10mm at the disto-buccal site of the teeth 11 and 21 were registered. An retroalveolar radiography showed alveolar bone defect.

Treatment plan:

The first treatment consisted of oral hygiene instruction followed by ultrasonic scaling with local anesthesia and pocket irrigation with 10% povidone iodine. Amoxicillin 500 mg and Metronidazole 250 mg during 10 days was also prescribed. After a healing period of 3 months, clinical inflammation was still present thus an exploratory surgery was scheduled. A full mucoperiosteal flap was raised in order to access the lesion and 4 elastic bands were discovered close to the apex of the two central incisors.

Conclusion and clinical implication:

At this stage, the healing phase has not been completed yet but clinical reduction of periodontal inflammation (PlI, Gi, PPD) parameters was obtained. A new orthodontic treatment has to be planned. Closure of diastema with elastic bands has to be avoid in order to prevent dramatic periodontal complications. Orthodontists have to be warned for this practice.
### S05 1210-1230

<table>
<thead>
<tr>
<th>Christiaens, Véronique</th>
<th>The accuracy of peri-apical radiography by peri-implantitis.</th>
</tr>
</thead>
</table>

CONTACT: Véronique Christiaens – vchristi.christiaens@ugent.be
CURRENT CATEGORY: Research

**Introduction:**

The accuracy of peri-apical radiographs in assessing peri-implant interproximal bone level and defect morphology is poorly documented. The aim of this study was to compare clinical and radiographic analyses for bone level assessment to intra-surgical bone level registrations (1); to identify predictors of deviation from the true bone level using multivariate analyses (2).

**Method:**

The study sample included 50 implants with peri-implantitis in 23 patients. Registration methods included pocket probing, peri-apical radiography and bone sounding without and with flap elevation. The latter was considered the true bone level. Twenty examiners evaluated all radiographs. All registration methods were compared to the true interproximal bone level by means of the Wilcoxon signed ranks test. Repeated measures ANOVA was used to compare the data from peri-apical radiographs between the 20 examiners.

**Results:**

Pocket probing and peri-apical radiography resulted in a significant underestimation of the true bone level by 1.04 mm (p<0.001) and 2.32 mm (p<= 0.013), respectively. Bone sounding without flap elevation did not differ significantly from the true bone level (p=0.429). Radiographic underestimation was significantly affected by defect depth (p<0.001). Variation between clinicians was huge (range: 1.10-3.78); however, clinical experience had no impact on radiographic underestimation (p>= 0.796).

**Conclusion:**

Bone sounding without flap elevation was the best predictor of peri-implant bone level, whereas periapical radiography was the worst. Consequently, peri-implantitis may be underdiagnosed if examination is only based on radiographs.
The practical implementation of new insights regarding non-surgical periodontal therapy

Isabelle Laleman1, Bahar Alkaya2, Seray Keceli2, Onur Ozcelik2, Cenk Haytac2, Wim Teughels1

Aim: Lactobacillus spp and bifidobacteria are the most frequently used probiotics in oral health research. Effects of these on mutans streptococci, bad breath and periodontitis are known. Probiotic effects have been suggested for other genera such as bacilli, though, no trials are available studying the effect of Bacillus probiotics on periodontal diseases. The aim of this study was to evaluate the clinical effects of Bacillus probiotics versus a placebo in patients with generalized gingivitis.

Material and methods: In this double-blind, placebo-controlled, randomized clinical trial non-smoking, systemically healthy, generalized gingivitis patients were included. After a 3 week wash-out period, the patients were instructed to use the study products for 8 weeks. Half of the group received the probiotic products (toothpaste, mouthwash and toothbrush cleaner) with a total of 5 x 10^7 Bacillus subtilis, Bacillus megaterium and Bacillus pumulus. The other half received placebo products that were identical in shape, texture, taste and smell. Primary outcome measures of interest were plaque and gingivitis index, secondary outcome measures were pocket probing depth and bleeding on probing. Additionally compliance and adverse effects were noted. The subject was the unit of interest in all statistical tests, except for the sites with plaque. The appropriate statistical tests were selected according to the nature of the available data: generalized linear mixed models and Anova models were used. Correction for simultaneous hypothesis testing was performed for each variable separately according to Sidak. For all measurements statistical significance was set as p≤0.05.

Results: 20 male and 20 female patients were randomized over the 2 groups. All participants could be included in the final analysis. Although plaque and gingivitis indices were significantly reduced after 8 weeks, no intergroup differences could be found at any time point. Also for the secondary outcome measure only intragroup and no intergroup differences could be detected. No harms or unintended effects were reported by the patients after using the study products.

Conclusions and clinical implications: This study did not show any statistically significant differences between a placebo and a Bacillus containing toothpaste, mouthwash and toothbrush cleaner on gingivitis parameters. This confirms that probiotic effects depend on strain, dosage and mode of application. Consequently, to date, there is no evidence to use Bacillus probiotics in the prevention or treatment of periodontal diseases.
A 19 years-old patient come to the department of Periodontology and Oral Surgery to find a rehabilitation solution for multiple dental agenesis. The patient presented agenesis of the 12; 22; 31; 32; 41; 42 and uses a superior and inferior removable prosthesis since the age of 8 years old. Patient presents ASA I status, a generalized gingivitis and thin bone crest in the areas of the agenesis.

**Diagnosis:**
- Generalized gingivitis
- Superior prosthetic stomatitis

**Treatment plan:**

**Initial phase**

Motivation and explanation of the periodontal problem and instruction of the brushing techniques were explained to the patient. A subgingival debridement was made in order to correct the bacterial charge. To the prosthetic stomatitis, a new prosthesis was elaborated and prescription of anti-fungal was made.

**Rehabilitation phase**

The first step was to perform the rehabilitation of the upper jaw. The patient had a short time of presence in Belgium, so the treatment of the lower jaw was postponed to be performed in 2017.

At the maxillae a guided bone regeneration was performed in position 12 and 22. After a healing period of 4 months, a minimally invasive orthodontic treatment was performed using the removable prosthesis of the patient in order to close the central incisors diastema. When the teeth final position was achieved a fully guided surgery was performed to the placement of the implants in positions 12 and 22. Screw -retained provisionals were elaborated due to the fact that the patient was going to be absent for 1 year.

The treatment plan stablished to the mandibule is:
- Free gingival graft at 31 32 41 42 position
- Guided bone regeneration at 31 32 41 42 position
- Fully guided implant surgery at 32 and 42
A randomized controlled trail to assess initial crestal bone remodelling of four different implant designs

Maarten Glibert*, DDS, MSc; Stijn Vervaeke+, DDS, MSc, PhD, Hugo De Bruyn¥, DDS, MSc, PhD

*PhD student, Department Periodontology & Oral Implantology, Dental School, Faculty Medicine and Health Sciences, Ghent University Belgium
+Assistant professor, Department Periodontology & Oral Implantology, Dental School, Faculty Medicine and Health Sciences, Ghent University Belgium
¥Professor and chairman, Department Periodontology & Oral Implantology, Dental School, Faculty Medicine and Health Sciences, Ghent University Belgium, visiting professor, Department of Prosthodontics, Malmö University, Sweden

Aim: The aim of this RCT is to assess the influence of the implant-abutment connection and microthreads on initial crestal bone loss.

Materials & Methods: Maxillary edentulous patients were consecutively selected for a bar supported maxillary overdenture. Each patient received 4 implants of which one has an internal connection and microthreads on the implant neck (Group 1). Implants of Group 2 have also an internal connection but no microthreads. The implants of the remaining 2 groups (Group 3 and 4) have an external connection, respectively with and without microthreads. Implant survival and initial crestal bone loss served as the main variables. Pairwise analysis was performed to assess differences in initial crestal bone loss between the different implant groups.

Results: Eighteen patients received 72 implants of which 68 and 55 implants could be evaluated at respectively 3 – 4 and 6 – 7 months follow-up. An implant survival of 97.14 % was recorded after 6 – 7 months follow-up. Limited initial crestal bone loss was recorded at 3 – 4 months (Group 1: n= 17; 0.29 mm SD: 0.72; Group 2: n= 17; 0.15 mm SD: 0.31; Group 3: n= 18; 0.20 mm SD: 0.34; Group 4: n= 16; 0.13 mm SD: 0.21) and at 6 – 7 months (Group 1: n= 13; 0.21 mm SD: 0.29; Group 2: n= 14; 0.23 mm SD: 0.38; Group 3: n= 14; 0.32 mm SD: 0.39; Group 4: n= 14; 0.27 mm SD: 0.38). There was no statistically significant difference in initial crestal bone loss between the different implant groups or between the different time intervals.

Conclusion: From this RCT, it is concluded that the implant-abutment connection and microthreads have few influence on initial crestal bone remodelling which is a multifactorial process and might be more depending on biological factors such as the installation of biological width.
**Cortellini, Simone**  
*Guided Bone Regeneration with L-PRF block*

**Intake:**
- Male patient, 42 years old
- ASA 1
- No periodontal problems
- External cervical resorption of 13, 14 and 15

**Treatment plan:**
- Extraction of 13, 14 and 15
  - 13 and 15 ridge preservation with L-PRF
  - 14 ridge preservation with BioOss
- Implant placement + GBR
  - Pilot Guide for implant position
  - Implant placement (ASTRA EV)
  - Horizontal GBR with L-PRF block + BioGide + screws +L-PRF membranes
- Abutment placement + widening of keratinized mucosa
  - Split thickness flap elevation with apical displacement of flap
  - CTG for thickening of soft tissue
  - L-PRF for widening of keratinized mucosa
- Placement of bridge
  - Placement of screwed bridge 13-15
S10  

| 1010-1030 |

**Salem, Souheil**  

**Effectiveness of removable prosthesis retained by 4 implants-supported locator**  

SALEM.S, BOUHY, A., LEGROS, C., M.LAMY, LECLoux, G., ROMPEN, E., LAMBERT, F.

**BACKGROUND:** The effectiveness of mandibular overdentures retained by 2 dental implants has been documented extensively over the past decades. According to recent systematic reviews, the implant survival rate of this oral rehabilitation concept reaches more than 95%. Many studies display high success rates of fixed implant-supported rehabilitations of the edentulous maxilla but these treatment options remain costly and are therefore reserved to a limited social category of patients.

**AIM:** The aim of this prospective study was to evaluate the implant success rates of removable prosthesis retained by 4 implants-supported Locator attachments after a follow-up period of 6 months.

**MATERIALS & METHODS:** The study included 30 patients with edentulous maxillae and at least one short span dentition (fixed) at the lower jaw. A CBCT was performed and was then evaluated by 2 independent surgeons to potentially exclude any patients presenting a lack of bone availability. Four regular or narrow diameter implants (Standard tissue level, Straumann, Basel, Switzerland) were placed and non-submerged. The implant positions were determined according to the bone availability. The conventional removable prostheses were adjusted after the surgery to avoid any contact with the implants. After 8 weeks, the conventional denture was connected to the implant with individual attachments (Locators®, Zestanchor, California, USA). The implant survival rate was assessed 6 months the connection of the prostheses on the implants. Additionally, post surgical complications and plaque and gingival index were recorded on each implants.

**RESULTS:** The patient mean age reached 66.4 ± 7.7 years old. A total of 120 implants were placed in 30 patients. A single patient dropped out after one week and the statistics were based on the 116 implants remaining implants. After 6 months, 12 implants were lost in 9 patients, leading to an implant survival rate of 89.7% at the implant level. All failing implants were replaced successfully. Within the 2 months post-surgery until attachment connection, 76.7% of the patient showed peri-implant mucosa hyperplasia, associated with pain in 63.3% of the patients. Moreover, cover screw loosening occurred in 24% of the implants. At the 6 months follow-up, the gingival index displayed superficial inflammation in 23.3%) implants while the rest were healthy. Plaque was visible 7.8% of implants.

**CONCLUSION AND CLINICAL COMPLICATIONS:** The implant survival rate found in the present study is slightly higher than what is found in the literature for the upper maxilla. However, in such indication, implants can be easily replaced without compromising the prosthesis. Considering the complications, post-surgical pain and peri-implant soft tissues hyperplasia were related to the discharge of the prosthesis leading to a diapneusy effect over the healing abutments. Within the limit of the present study, the placement of four implant supported individual attachment to retain a maxillary denture seems to be an acceptable treatment option. However, placing a bone level implant in a submerged manner may reduce the number of post-surgical complications. Long-term evaluation should be conducted to show the effectiveness of such an implant treatment approach.
**Real-time navigation: The beginning of a new era in guided implant surgery**

Dr. J. D’haese; Dr. J. Ackhurst, Prof. Dr. G. Hommez & Prof Dr H. De Bruyn

**Introduction:**

Up to now, stereolithographic guided surgery seems to be the golden standard in computer guided surgery. Real-time, dynamic, navigation could be a valuable alternative to stereolithographic guided surgery as both osteotomy preparation and implant placement are tracked in real time. The tracking system uses an on screen visual representation of the surgical area to aid the clinician.

**Method:**

Partially edentulous patients requiring a fixed rehabilitation were selected for this pilot study. No specific contra-indications were withheld; smokers were not excluded. Pre-operatively, an impression was taken using an irreversible hydrocolloid (Cavex CA37) to fabricate a diagnostic cast for the molding of the surgical stent (NaviStentTM). Afterwards, a standard CBCT scan was made with the NaviStentTM in place using a Planmeca Promax 3D Max. CBCT images were converted into DICOM files and transformed into a 3-D virtual model using the Navident® software. The potential implant locations were planned in a prosthetic driven way. When starting the osteotomy preparation, the drilling axis of the hand piece and the twist drills had to be calibrated. The osteotomies were prepared at low speed using abundant cooling. The drilling procedure was assisted by the navigation software to guide the drilling procedure in real-time. Prior to installation of each implant, an extra calibration procedure was performed in order to be able to track the implant itself.

The aim of this pilot study was to determine the clinical outcome up to 12 months post-operatively when implants were installed using the Navident guided surgery system.

**Results:**

Thirteen partially edentulous patients were included in this pilot study. The population consisted of 6 males and 7 females. Mean age was 52,15 years (range: 20 – 75 years). Out of the 13 patients, 2 were current smokers (more than 10 cig /day). The total number of implants inserted with was 20. No mechanical and/or biological complications occurred during the surgical procedure. No major complaints such as hemorrhages, sinus pathology or severe post-operative pain were reported. Up to one year after insertion no implant was lost, resulting in a 100% implant survival.

**Conclusion:**

Based on this pilot study it is tempting to suggest that real-time navigation could be a promising technique. However, there is still not enough scientific evidence to show that this method is as safe and predictable as conventional implant surgery.
A multi-disciplinary approach for the replacement of a central upper incisor.

Stefan Matthijs, Geert Limpens, Maarten Meire, Pieter Ghysens

A 38 year old patient was referred for replacing tooth 21 after suffering traumatic crown fracture. She also had high aesthetic demands about teeth 12-11-22. The patient was in good general condition but was a light smoker (< 10 cigarettes/day). Clinical and radiological examination not only showed the problem of tooth 21, but also revealed mucogingival problems and apical pathology of the anterior teeth. Case analysis by means of the ITI SAC classification tool, resulted in a surgical and prosthetic 'Complex' classification of the case.

After evaluation of the different treatment options, a multi-disciplinary approach for treatment of teeth 12 to 22 was chosen.

Tooth extraction, socket management, mucogingival treatment, endodontic treatment, implantologic and prosthetic treatment approach will be discussed.
**Molemans, Bo**

*Simultaneous sinus-lift and implant placement using L-PRF (Leukocyte- and platelet-rich fibrin) as a sole grafting material.*

Molemans B.1, Teughels, W.1, Jacobs R.2, Quirynen, M.1
1 Department of Oral Health Sciences, KU Leuven & University Hospitals Leuven, Department of Periodontology. Kapucijnenvoer 33, B-3000 Leuven, Belgium.
2 OMFS-Impath Research Group, Department of Oral & Maxillofacial Surgery, University Hospitals, KU Leuven, Kapucijnenvoer 7, 3000 Leuven, Belgium.

**BACKGROUND AND AIM:**
Sinus-lift and simultaneous implant placement is predictable and reproducible. The technique of choice, either transalveolar or lateral using a Caldwell-Luc osteotomy is mainly dependent on the residual bone height of the alveolar ridge and the anatomy of the sinusfloor. Both techniques show similar results. However the best filling material for the subsinus cavity remains a topic of debate. Considering the high osteogenic potential of the Schneiderian membrane, most grafting materials are generally accepted. The morbidity of harvesting autologous bone drives us to look for other filling materials. The aim of this study is to assess the relevance of simultaneous sinus-lift and implant placement using L-PRF as a sole subsinus filling material.

**MATERIAL AND METHODS:**
Four lateral and 10 transalveolar sinus elevations were performed in 12 patients with simultaneous implant placement. In total 8 L-PRF membranes were used per sinus-lift per patient. L-PRF membranes were used to protect the Schneiderian membrane and to fill the space between and around the implants. Clinical and radiographic follow-up was performed immediately after implant placement and at abutment placement 6 months later. Measurements of the newly formed bone were done with 0,1 mm accuracy using AGFA Healthcare Impax 6 radiology. Four measurements (mesial, distal, buccal, palatal) were included using the center of the implant as a reference.

**RESULTS:**
Six months after surgery, all implants were clinically integrated. The vertical bone gain was always substantial, between 2,2 mm and 7,6 mm (4,3 ± 1.6). The final level of the new sinus floor was in most cases in continuation with the apical end of the implant. The mean gain in bone height in transalveolar sinus-elevations was 3,35 ± 0,98 mm. The mean gain in bone height in lateral window sinuselevations was 6,18 ± 1,17 mm. The relative bone density of the augmented bone was similar to the density of the maxillary bone, spongyous bone at the tuber or below the nasal spine.

**CONCLUSION:**
The use of L-PRF as sole filling material during simultaneous sinus-lift and implant placement, using the transalveolar or the lateral window technique, seems to be a reliable surgical option promoting natural bone regeneration. L-PRF proved to be a practical, safe and inexpensive subsinus filling material.
Immediate implant loading and prosthodontic components full-guided surgery: results of a case series.

L. LI MANNI1, G. LECLoux1, C. LEGROS2, A. MAInJOT3, E. ROMPEN1, F. LAMBERT1

1 Department of Periodontology and oral surgery, CHU of Liège, University of Liège, Belgium
2 Department of Removable Prosthodontics, CHU of Liège, University of Liège, Belgium
3 Department of Fixed Prosthodontics, CHU of Liège, University of Liège, Belgium

BACKGROUND:
Digital planification and full-guided surgery for single tooth replacement allow an accurate positioning of dental implant. Therefore, the fabrication of the final abutment and the provisional crown based on digital planning prior to the surgery should allow immediate loading at the time of surgery without any prosthodontic adjustments.

AIM:
The first aim of the present study was to assess the reliability of such an immediate loading protocol for tooth replacement in the esthetic zone. The secondary objectives were to evaluate the implant success rates after a 6-months follow-up and the pink esthetic score of the sites before final crown placement.

MATERIAL AND METHODS:
A total of 13 implants were placed in 10 patients by 2 experimented surgeons using a full-guided template and a minimally invasive surgical approach (5 Nobel Active®, 1 Nobel Parallel Wall®, 7 Nobel Conical Connection®, Nobel Biocare, Switzerland). 11 implants were in incisor position (6 centrals and 5 laterals) and 2 in the canine position. The immediate loading was performed only if the primary stability of 30 N/cm of the implant was achieved. The implants were immediately loaded with a custom-made zirconia abutment and provisional cemented crowns both fabricated prior to the surgery according to the digital planning. The potential complications related to immediate loading procedures were recorded. Additionally, implant survival rate and the Furhauser’s pink esthetic score (PES) were calculated 3 months after the surgery.

RESULTS:
All implant abutments and provisional crowns could be immediately loaded right after surgery without any prosthetic adjustments. Two implants failed 2 months after surgery in the same patient. Over the 3 months following the implant surgery, 1 abutment unscrewed and 1 provisional crown got loose and no further complications occurred. The average PES reached 10.5 (min 6-max 14) at 3 months.

CONCLUSION:
According to those preliminary results and within the limits of this case series, the preparation of prosthodontic components prior to full-guided implant surgery based on a digital planning seems to reliable treatment option for immediate loading. However, further follow-up and investigations are needed in order to validate the technique.
<table>
<thead>
<tr>
<th>S15</th>
<th>1500-1515</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Questions and Answers</td>
</tr>
</tbody>
</table>