issn 1868-3207 • Vol. 20 • Issue 1/2019

1/19

implants

international magazine of oral implantology

research
L-PRF in different intraoral applications

case report
Polypropylene membrane in post-extraction alveolar repair

industry
Contaminated implants raise global concern among dentists

quintessenz

Because time is precious

Visit us on IDS, we will guide you through all our innovations.

SIC invent Group

Raffles with attractive prizes:
FIRST PRIZE 1 x ROLEX

IDS 2019

12. – 16.3.2019
HALL 4.2 AISLE
L 088 / N 089

Product launch:
SICtapered and
SICvantage® tapered

The new freedom
One drill –
two implant shapes

Define the final implant type during osteotomy preparation.

www.sic-invent.com

Dr Rolf Vollmer

First Vice President and Treasurer of DGZI

Quality assurance through further training

Dear colleagues,

Especially in the run-up to IDS, implant dentistry is receiving a great deal of attention, as it is one of the crystallisation points for new therapy procedures and innovative products in modern dentistry. In addition to the procedures and products, however, the skill and experience of the dentists is decisive, as is the case in other dental sub-disciplines. The performance of implant treatments requires special training. This is possible in the form of curricula offered by scientific societies, e.g. the German Association of Dental Implantology (DGZI), in which anatomy and complications are teached and discussed in full details. Furthermore, standard techniques such as bone splitting and sinus lift, as well as simple implantations with sufficient bone can be learned in phantom courses.

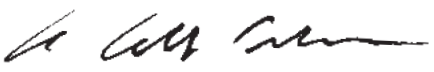
The German Association of Dental Implantology was one of the pioneers in this field and has been offering corresponding training opportunities for almost 20 years. Personally, I have to state that—especially in recent years—the trend has shifted from conventional prosthetics with a crown or bridge restoration to an implant restoration. Of course, patients should always be informed about alternatives. However, I have to say that most patients' decisions tend towards implant restorations, if financially possible. Especially in the atrophic mandible—where there are practically no alternatives to implantation—patients should always be informed about the possibility of stabilising the prosthesis by implant placement.

In order to deepen these and other relevant topics of modern implantology, DGZI not only organises every year a variety of training events within the framework of various curricula, but also organizes the 49th International Annual Congress of DGZI. This year, at the end of the Oktoberfest season, 4 to 5 October 2019, the congress will be held in Munich, Germany. This so-called "2nd Future Congress" will take place under the motto "Perio-Implantology: Implants, Bone & Tissue—Where are we today and where are we headed?" With practical table clinics on Friday and a top-class scientific lecture programme on Saturday, the implantological advanced training will be realised at the highest level.

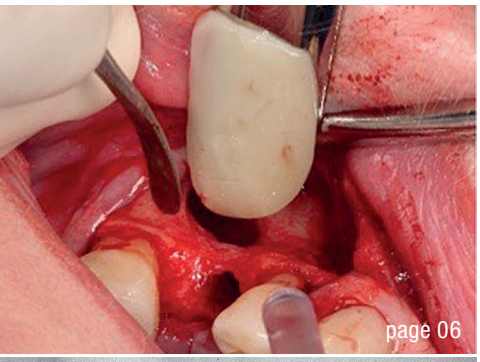
Until then, I hope you enjoy reading the new *implants—international magazine of oral implantology* and would like to draw your attention to the contents relevant to continuing education that our colleagues have once again made available to us in the form of professional articles.

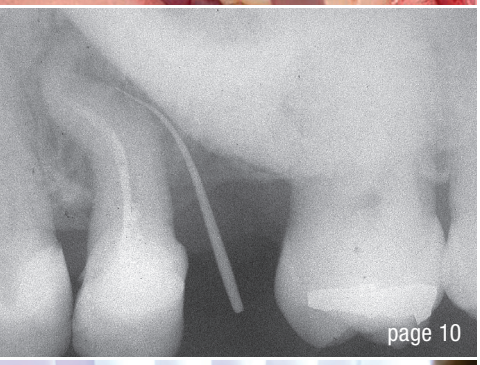
At IDS in Cologne, Germany, DGZI will be located in Hall 11.2, Booth L060, thanks to our long-standing cooperation partner OT medical.

Yours,



Dr Rolf Vollmer


page 06


page 10


page 16

editorial

research

case report

industry

interview

events

news

about the publisher

Cover image courtesy of
TBR Dental Group
www.tbr.dental

MAKE NO BONES ABOUT IT.

CONFIDENCE IN ALL BONE QUALITIES: PROGRESSIVE-LINE

SPECIALIST IN SOFT BONE:

- Apical conical area for high primary stability in soft bone
- Thread up to the apex, ideal for immediate implantation
- Thread design with deeply engaging thread flanks
- Flexible drill protocol for preferred stability

IDS 2019
HANDS-ON
HALL 11.3
BOOTH A010 / B019

WWW.CAMLOG.COM

a perfect fit™

camlog

L-PRF in different intraoral applications

Part III: L-PRF in sinus floor elevation

Prof. Nelson R. Pinto[1], Dr Andy Temmerman[2], Ana B. Castro[2], Simone Cortellini[2], Prof. Dr Wim Teughels[2] & Prof. Dr Marc Quirynen[2]

[1] Department of Periodontology and Oral Implantology, Faculty of Dentistry, Universidad de Los Andes, Santiago, Chile
[2] Department of Oral Health Sciences, Section of Periodontology, KU Leuven & Dentistry, University Hospitals, KU Leuven, Leuven, Belgium

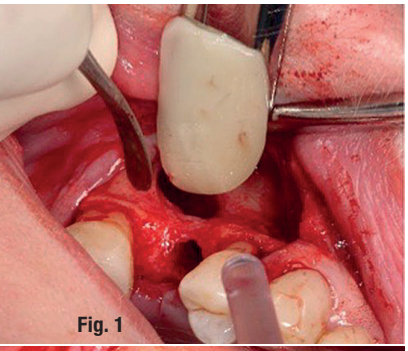


Fig. 1

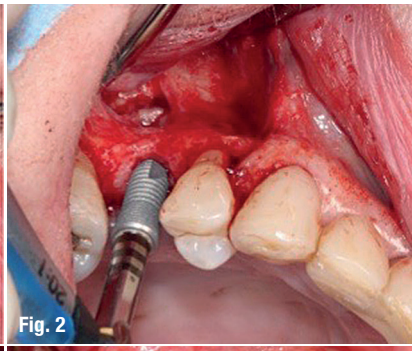


Fig. 2

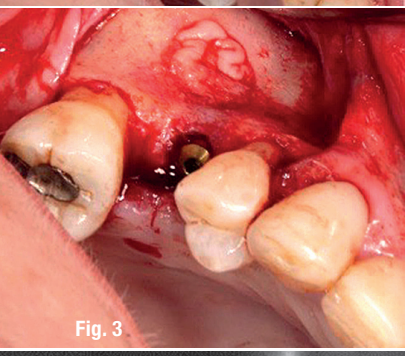


Fig. 3

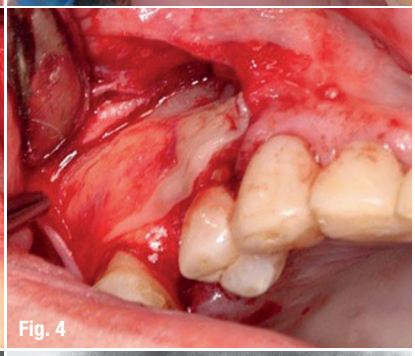


Fig. 4

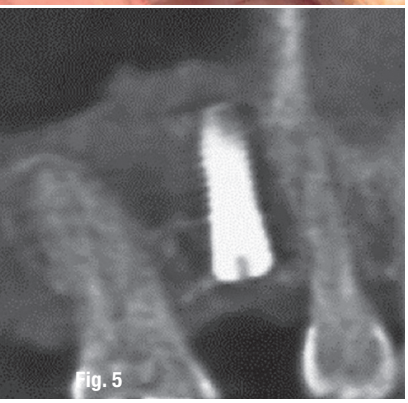


Fig. 5

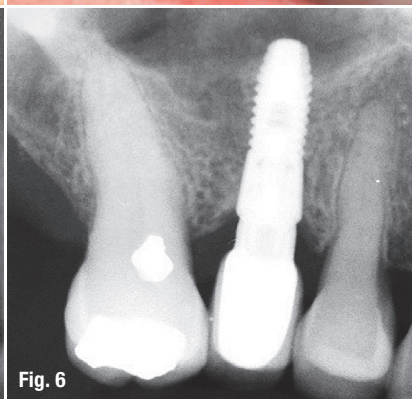


Fig. 6

Approach 1: Lateral window technique – Fig. 1: After careful preparation of the osteotomy, L-PRF membranes are placed to cover the Schneiderian membrane (at least three layers). **Fig. 2:** Implant placement. **Fig. 3:** Additional L-PRF membranes are placed around the implant. **Fig. 4:** The window is covered with L-PRF membranes (at least two layers). **Fig. 5:** CBCT scan immediately after surgery. **Fig. 6:** Radiograph after one year.

Leukocyte- and platelet-rich fibrin (L-PRF) accelerates wound healing in both soft and hard tissue significantly. Major indications for the use of L-PRF and the step-by-step preparation of L-PRF clots, membranes and plugs, as well as application approaches to open-flap debridement and ridge preservation, were introduced in the first two parts of this article series. In this third part of the series, two treatment approaches to sinus floor elevation will be presented. The first option is the application of the lateral window technique and the use of L-PRF as grafting material. The second approach described below is the transalveolar technique, an alternative to the lateral window technique.

Lateral window technique

The lateral window technique is a minimally invasive approach to surgical access. The clinical procedure provides lateral access to the maxillary sinus with a minimally invasive osteotomy. An incision of relatively small dimensions is made with regular lines to delimit a rectangular shape, and convergent incisions in the cavity direction, resulting in a true chamfer. This surgical approach creates sinus access by detaching the Schneiderian membrane from the sinus floor and placing bone grafting materials into the sinus cavity in order to promote bone augmentation. Local infiltrative anaesthesia in the buccal and palatal regions of the surgical area is administered prior to the surgical procedure. The technique is considered quite successful, even with the use of different types of grafting materials and implants.

Step-by-step approach to sinus floor elevation via the lateral window technique

Elevation of the sinus floor was achieved in the case demonstrated by employing the lateral window technique. The implant was placed simultaneously using L-PRF as sole grafting material.

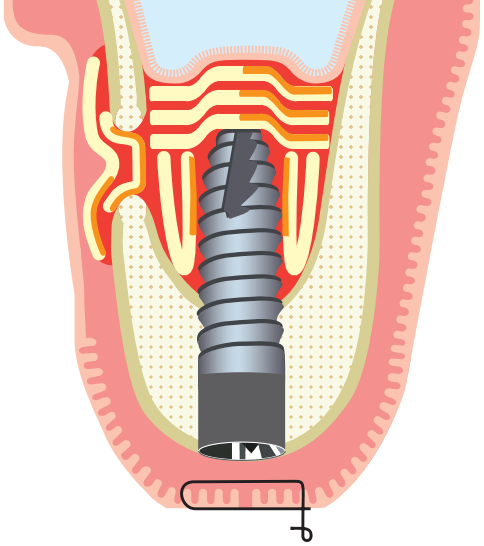


Fig. 7: Final situation after surgery using the lateral window approach with immediate implant placement using L-PRF. At the end of the procedure, the window is sealed with at least two layers of L-PRF membranes.

Protocol for the lateral window technique

- Crestal incision and one or two optional releasing incisions.
- Folding back of the full-thickness apically and distally and far enough to have a clear view.
- Preparation of the lateral window using piezo-ultrasonic instruments or a ball drill. Prior to that, a CBCT scan should be taken in order to check for potential arteries in the lateral sinus wall.
- Meticulous elevation of the Schneiderian membrane. The bony window can either be pushed inside, avoiding sharp edges, or be removed.
- Once the membrane has been elevated, the osteotomy site can be prepared.
- After careful preparation of the osteotomy, but before implant placement, L-PRF membranes are placed covering the Schneiderian membrane and the area which is to be augmented (especially palatally), since this entire area is quite difficult to reach after the implant has been inserted (Fig. 1). At least three layers of L-PRF (preferably two double-folded layers) must cover the Schneiderian membrane in the area where the apex of the prospective implant will be located.
- Placement of several L-PRF membranes against the palatal/mesial/distal walls of the uncovered sinus.
- Implant insertion (Fig. 2).
- Application of further L-PRF membranes around the implant in the sinus and buccally (Fig. 3), so that the space between the implant and the bony walls of the augmented sinus is filled with membranes, often more than three.
- Sealing of the window using at least two layers of L-PRF membranes (these should be facing towards the sinus; Fig. 4).
- Closure of the flap without moving the L-PRF membranes.
- Suture with a monofilament, non-resorbable thread (Fig. 5).

Postoperative care

- Flying, diving or using wind instruments is forbidden for at least six weeks.
- Forceful sneezing should be prevented for at least six weeks.
- Sufficient painkillers, systemic antibiotics, a nose spray and corticosteroids (the last for three days, for example) should be prescribed if needed.
- After four to six months of healing, the abutment can be placed and loaded if the implant has integrated well.
- A control radiograph should be taken at the one-year check-up (Figs. 6 & 7).

Transalveolar technique

The transalveolar approach to sinus floor elevation can be chosen for the subsequent placement of dental implants. This approach to sinus floor elevation is considered less invasive than the lateral window technique. It can be employed in the case of reduced residual bone height (of more than 4 mm) in a patient that does not allow for the conventional placement of implants. After the treatment, patients are often advised to take antibiotics, when grafting materials were used, and to perform antiseptic rinses in order to prevent perforation of the Schneiderian membrane or possible postoperative infections. Successful treatment outcomes of the transalveolar technique have been reported with and without the use of grafting materials.

Step-by-step approach to sinus floor elevation via the transalveolar technique

Elevation of the sinus floor was achieved in the case demonstrated by employing the transalveolar technique. The implant was placed simultaneously using L-PRF as sole grafting material.

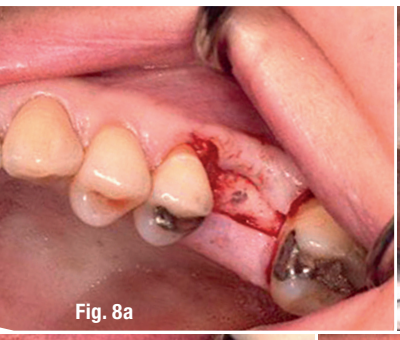


Fig. 8a

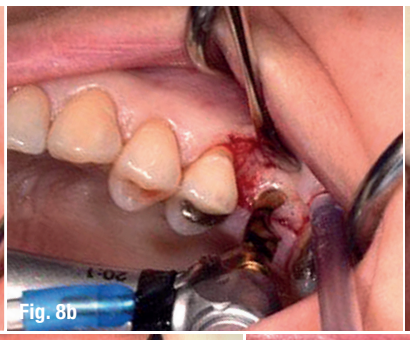


Fig. 8b

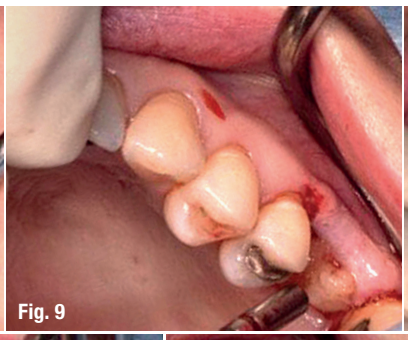


Fig. 9

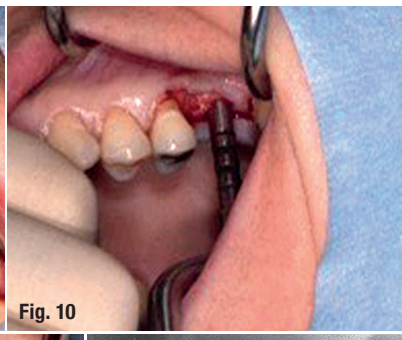


Fig. 10

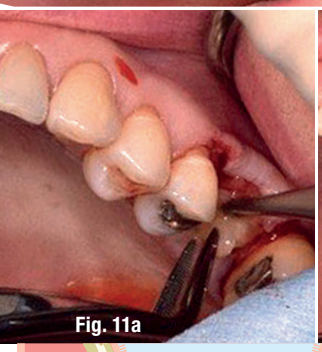


Fig. 11a

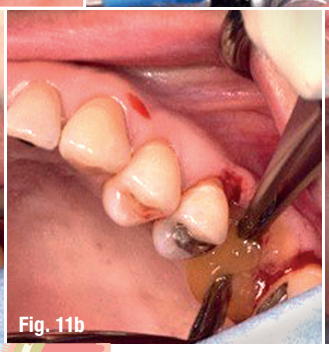


Fig. 11b

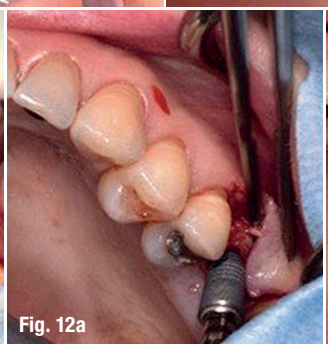


Fig. 12a

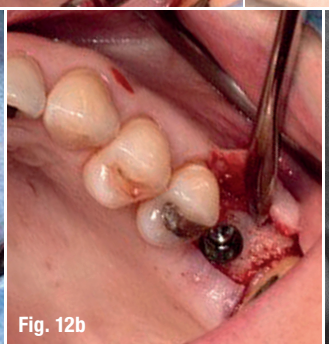


Fig. 12b

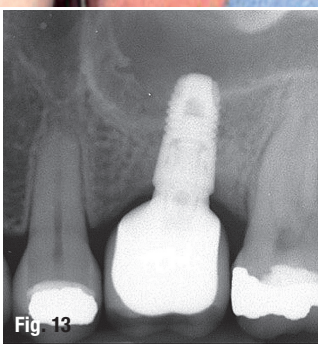


Fig. 13

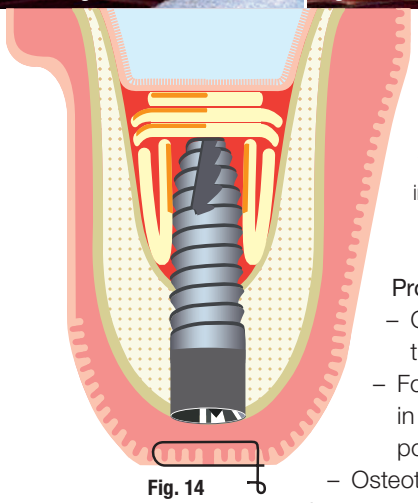


Fig. 14

Approach 2: Transalveolar technique – Figs. 8a & b: Osteotomy preparation at a distance of up to 1 mm from the Schneiderian membrane. **Fig. 9:** Placement of one L-PRF membrane into the osteotomy site as a cushion for the osteotomes. **Fig. 10:** Fracturing of the remaining sinus floor with osteotomes. **Figs. 11a & b:** Elevation of the Schneiderian membrane by inserting several (four or more) L-PRF membranes. **Figs. 12a & b:** Implant placement. **Fig. 13:** Radiograph after one year. **Fig. 14:** Final situation after surgery using the trans-alveolar approach to sinus augmentation. Several L-PRF membranes separate the Schneiderian membrane from the apex of the implant and fill the space between the implant and the augmented sinus.

Protocol for the transalveolar technique

– Crestal incision and one or two optional releasing incisions.
– Folding back of the full-thickness flap in order for the crestal bone to be exposed.
– Osteotomy site preparation at a distance of up to 1 mm from the Schneiderian membrane (different techniques can be applied; Figs. 8a & b).
- Placement of one L-PRF membrane into the osteotomy site, which then acts as a cushion for the osteotomes used in the next step (Fig. 9).
- Careful fracturing of the remaining sinus floor with osteotomes (Fig. 10).
- Elevation of the Schneiderian membrane by carefully inserting several L-PRF membranes (one at the time) into the sinus via osteotomy with the use of osteotomes. At least four L-PRF membranes should be placed into the sinus (Figs. 11a & b), since generally at least four membranes are needed for one implant.
- Implant insertion (Figs. 12a & b).
- Suturing with a monofilament non-resorbable thread.

Postoperative care

- Flying, diving or using wind instruments is forbidden for at least six weeks.
- Forceful sneezing should be prevented for at least six weeks.
- Sufficient painkillers, systemic antibiotics, a nose spray and corticosteroids (the last for three days, for example) should be prescribed if needed.
- After four to six months of healing, the abutment can be placed and loaded if the implant has integrated well.
- A control radiograph should be taken at the one-year check-up (Figs. 13 & 14).

Editorial note: The fourth and last part of this article will be published soon. It will cover application approaches to implant coating with L-PRF, gingival recession coverage and the preparation of L-PRF blocks.

contact

Prof. Dr Marc Quirynen
University Hospitals Leuven
Periodontology & Oral Microbiology
Kapucijnenvoer 7 blok a – box 7001
3000 Leuven, Belgium
Phone: +32 163 32483
marc.quirynen@kuleuven.be

Author details

The unique Tissue Level Implant with Zirconia Collar

Z1® Implant

Giving you confidence in implantology.

Proven Technology

- ✓ 98.6%* success rate
- ✓ Pure Titanium and Y-TZP Zirconia
- ✓ Suitable for all prosthetic solutions

Proven economics for a profitable implant practice

- ✓ Reduced chairtime
- ✓ Practice development
- ✓ Patient satisfaction

Proven clinical outcomes for patient safety

- ✓ Anti-bacterial shield
- ✓ Ideal in fresh extraction sockets
- ✓ Immediate aesthetic result

Proven surgical protocols for a simplifed workflow

- ✓ Only 1 surgery
- ✓ No healing abutment
- ✓ Visibility of the connection

IDS 2019

Join us
Hall 4 .1
Booth A58

Find us online
www.tbr.dental

TBR®
Unique, like your smile

*Z1 implants are medical devices of class IIb manufactured by SUDIMPLANT SAS. Information collected from the data of the Smiletonquility® Program based on 15.534 patients with Z1 implants from 01/2014 to 01/2016.

Polypropylene membrane in post-extraction alveolar repair

With a future perspective on osseointegrated implants

Drs Irineu Gregnanin Pedron & Munir Salomão, Brazil

Introduction

Literature

Despite the technological and scientific advances made in contemporary dentistry, exodontia is still very common in the daily clinical practice. Caries, fractures, periodontal diseases, iatrogenesis, unsuccessful therapies, prosthetic failures, persistent pathologies, malocclusions, automobile and/or sports accidents, neglected oral health and orthodontic indications, among others—all these factors contribute to dental damage.[1] When exodontia is necessary, the repair of the alveolar bone will subsequently begin dynamically. The clot left by the extravasation of blood after the rupture of the vessels present in the periodontal ligament and the neurovascular bundle carries a series of cellular types. These series of cellular types carry proteins responsible for genetic information for bone production. The morphogenetic bone proteins present in the blood platelets initiate extracellular matrix mineralisation in the extraction sites and, thus, the subsequent production of the trabecular framework of bone tissue.[2,3]

Owing to the rapid colonisation of epithelial cells and the expected clot retraction, part of the conical cavity space, which results from the extraction of the dental root, will be occupied by epithelial and connective tissue cells. This connective tissue forms granulation tissue in which there is intense vascular proliferation (angiogenesis), which in turn is necessary for revascularisation and local tissue nutrition. After a few days, the totipotent or pluripotent cells differentiate and the new osteoblasts, as well as the existing ones, secrete a matrix that can mineralise.[4,5] Through a physical barrier, the guided bone regeneration technique aims to contain cell types that are undesirable to the alveolar bone repair, and to favour the immobility of the osteoblasts in the proliferative alveolar site. Being precursors of bone tissue, osteoblasts can emit pseudopodia by initiating the process of secretion of the extracellular matrix that will later mineralise.

The process of development from the osteoid tissue to maturation, within a period of a few months, will have culminated in the formation of concentric lamellae with adequate nutrition, featuring Haversian and Volkmann's canals, which makes the tissue susceptible to the maintenance of the functional activities resulting from masticatory loads, provided that detailed prosthetic restoration has been performed with satisfactory backwards planning.[6] Several materials have been tested as barriers, including castor, polytetrafluoroethylene and even gold screens.[7] However, conflicting results were found and the barriers were not really practical in daily clinical prac-

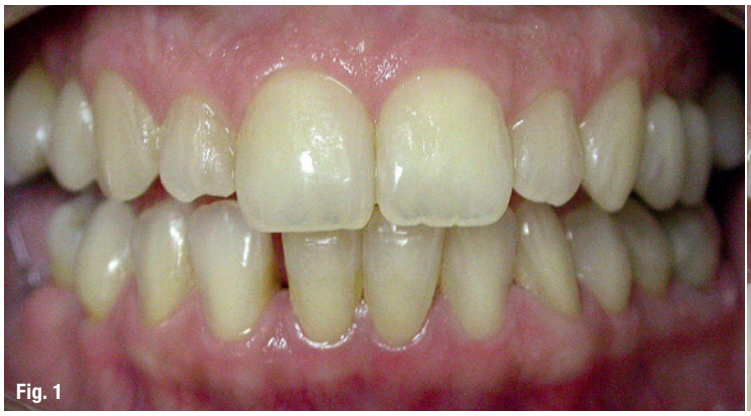


Fig. 1

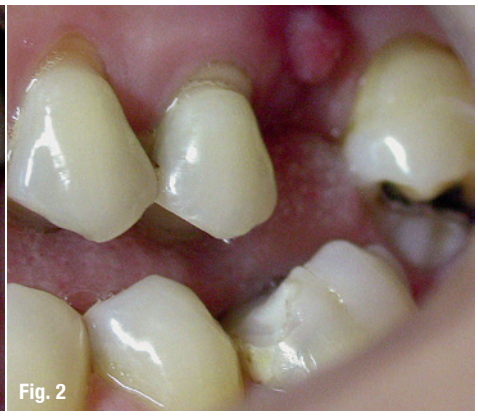


Fig. 2

Fig. 1: Generalised chronic periodontitis was observed during the initial visit. **Fig. 2:** Marked mobility of tooth #13 and a gingival fistula in the area of lost tooth #14.

Acuris™

It's time to redefine retention.

Click and you're done. That's what the final restoration is like with Acuris—our new conometric concept. Instead of cement and screws, it relies on friction retention to secure the crown onto the abutment. Just click once on the crown with our unique Fixation Tool, and that's it. Placement takes seconds rather than minutes and the procedure couldn't be easier.

Without cement there is less risk of biological complications and without screws there are no visible screw access holes to cover. In short, Acuris is a time-saving and easy-to-use alternative that ensures predictable end-results and excellent esthetics.

IDS 2019

Visit us at IDS!
Hall 10.2 + 11.2

Retention redefined.
Acuris by Dentsply Sirona Implants.

Dentsply Sirona Implants

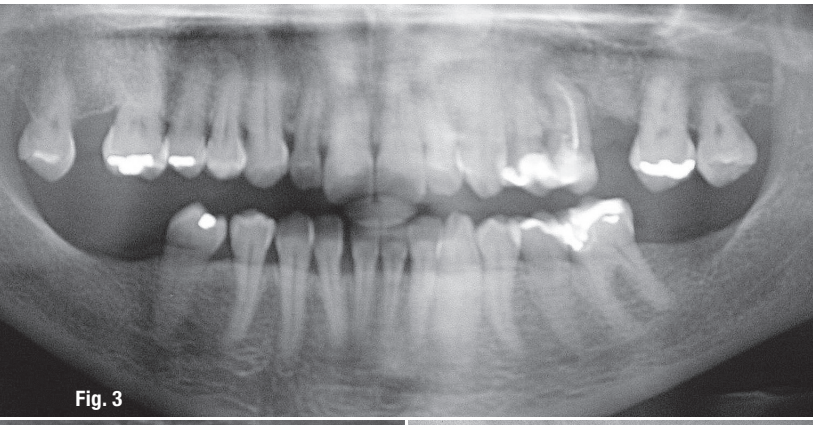


Fig. 3

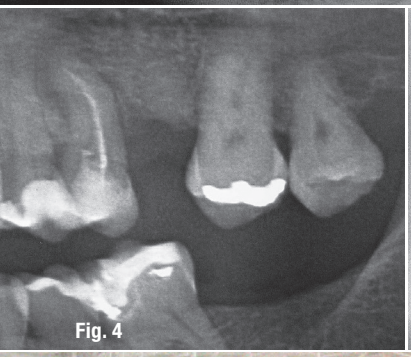


Fig. 4

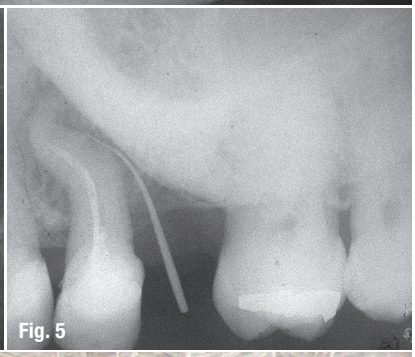


Fig. 5

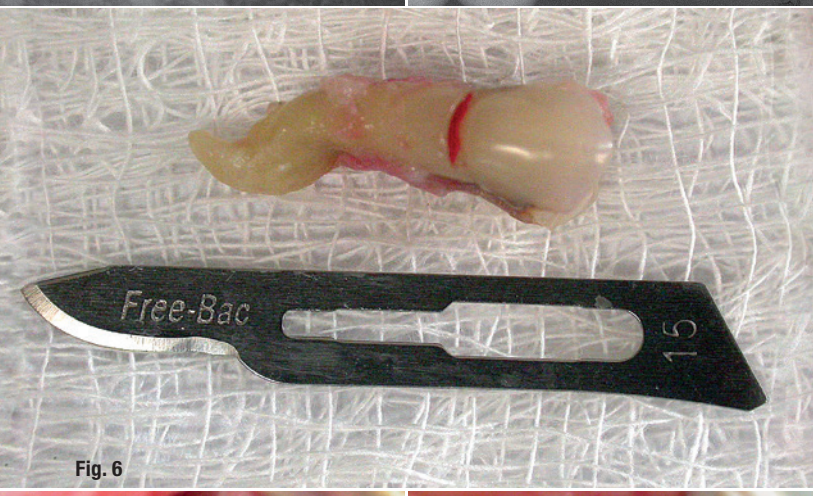


Fig. 6

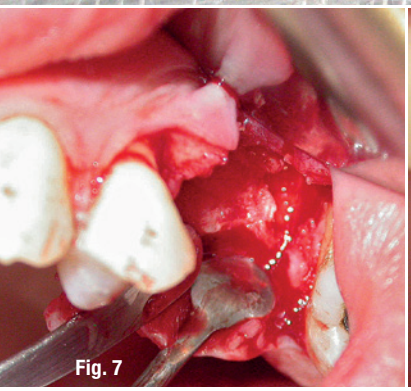


Fig. 7

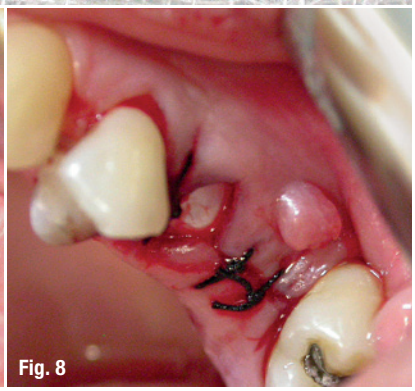


Fig. 8

Fig. 3: Dental losses and generalised alveolar bone loss. **Fig. 4:** Marked vertical bone loss and angled root of tooth #13. **Fig. 5:** Insertion of a gutta-percha cone into the alveolus of tooth #13. **Fig. 6:** Tooth #13 removed, presenting an angled root. **Fig. 7:** Immediate post-exodontic surgical bed. **Fig. 8:** Polypropylene membrane exposed to the oral environment and sutured on the post-op surgical bed (occlusal view).

tice.[8,9] This article presents a case of the use of a polypropylene membrane post-exodontia with a future perspective on the placement of osseointegrated implants and prosthetic restoration.

Case presentation

A 40-year-old Caucasian female patient attended the private clinic needing periodontal treatment and exodontia. Generalised chronic periodontitis was clinically observed (Fig. 1) with marked mobility of tooth #13 and a gingival fistula in the area of lost tooth #14 (Fig. 2). Radiographs showed dental losses (teeth #2, 14, 17, 18, 30, 31 and 32), generalised horizontal alveolar bone loss, marked vertical bone loss and an angled root of tooth #13 (Figs. 3–5). Subsequently, periodontal treatment was performed and the extraction of tooth #13 was indicated. With the prospect of placing osseointegrated implants and prostheses, the use of regenerative techniques (guided bone regeneration) was suggested. After the patient's consent had been obtained, the use of a polypropylene membrane was discussed.

After the exodontia and the subsequent curettage of the lesions and abundant rinsing with saline solution (Figs. 6 & 7), the polypropylene membrane (Bone Heal, INP) was cut, adapted, inserted and sutured. The membrane was intentionally exposed to the oral environment (Fig. 8). Analgesic, anti-inflammatory and antibiotic drugs were administered right after the surgery. Ten days after the procedure, the remaining sutures and the membrane were removed (Figs. 9 & 10). At that point, no postoperative changes or complications were observed or reported. However, maintenance and immobilisation of the clot were clinically observed, maintaining relative thickness of the alveolar ridge (Fig. 10). After three months, the patient was scheduled for the implant placement procedure and prosthetic restoration, for the purpose of restructuring the remaining ridge.

Discussion

In the period after the exodontia, there is physiological and determinant coagulation retraction originating from the salivary enzymes and the microbiota of the oral cavity itself. Local haemostasis initiates a series of cellular and tissue phenomena common to physiological repair.[10] The fibrin screen interconnects the walls of the alveolus, giving a yellowish and gelatinous appearance to the site. First-line cells of organic or immune defence, like neutrophils, try to prevent the invasion of bacteria from the oral environment. Salivary immunoglobulins and epithelial growth factors also aid in the neutralisation of these invading microorganisms.[2]

Three days after the surgery, the endosteum and the periodontal ligament produce differentiated and undifferenti-

Fotona
choose perfection

The universe at your fingertips.

LightWalker

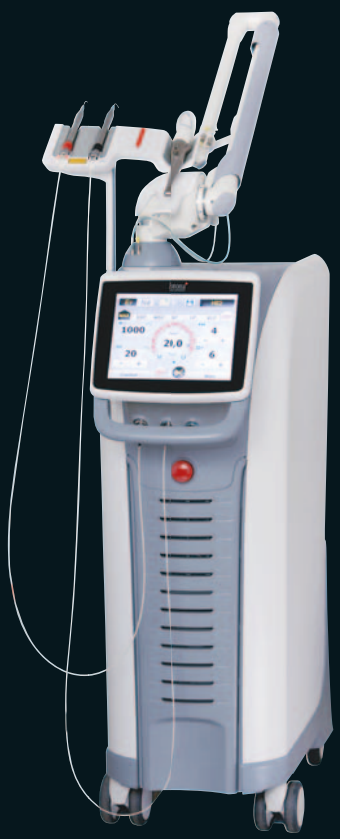
The highest technology dental laser system

Supreme clinical results:

- TwinLight® Perio Treatments
- TwinLight® Endo Treatments
- No-sutures soft-tissue surgery
- Patient-friendly conservative dentistry
- Pre-sets for over 40 applications

Unmatched simplicity of use:

- Balanced and weightless OPTOflex® arm
- Nd:YAG handpiece detection system
- Quantum Square Pulse technology for fast minimally invasive treatments
- X-Runner™ - the first digitally controlled Er:YAG dental laser handpiece



Visit Fotona's booth (Hall: 10, Plain: 2, Aisle: M, No: 050) to find out more about our latest high-performance, ASP-powered LightWalker laser systems and minimally invasive dental solutions.

Download on the App Store | Google play

Fotona App

IDS 2019

88897/25

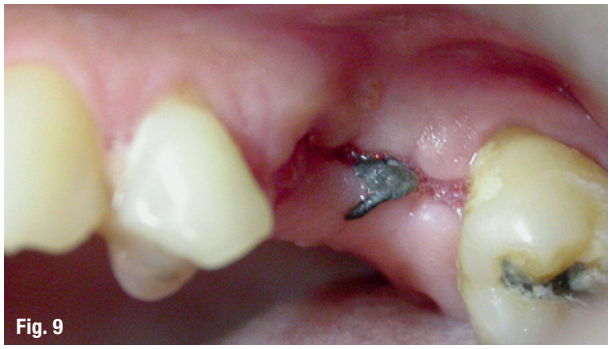


Fig. 9

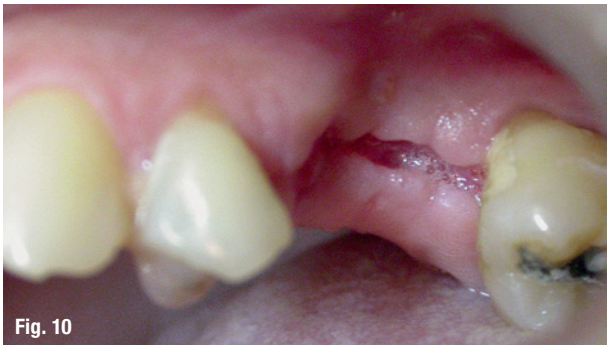


Fig. 10

Fig. 9: Ten days post-op before removal of the sutures and membrane. **Fig. 10:** Ten days post-op after removal of the sutures and membrane.

ated cells, which contribute significantly to the cellular colonisation of the granulation tissue that forms towards the centre of the alveolus left after the exodontia.[1,3] Four days after the procedure, irregularly formed trabeculae of primitive bone fill the defect. Owing to its restricted function, it only serves as filling and is unable to withstand more intense mechanical forces, such as more vigorous mastication.[11,12] After seven days, angioblastic proliferation occurs in the alveolus centre. Additionally, in the osseous cortical walls, mature or secondary bone tissue interposes the granulation tissue.[2,3] Three weeks after the surgery, there is complete isolation between the postoperative alveolus and the oral cavity. Apicocervically, there is the formation of secondary bone. Up to 35 days after the surgery, new osteoblasts form from osteoprogenitor cells, with osteoid tissue developing. After 45 days, connective tissue is permeated by mature bone tissue with incompletely formed trabeculae. Osteocytes are trapped in the newly formed adult bone tissue.[13] After only four months, the bone tissue is considered morphologically able to withstand more severe mechanical stresses and already reliable regarding upcoming prosthetic restoration.

Prior to implant-supported rehabilitation, a period of four months for the maxilla and six months for the mandible is usually required after the surgery.[14] Even the execution of pre-prosthetic surgeries requires planning based on terminal bone maturation.[15,16] The importance of the immobility of the clot within the context of alveolar bone rehabilitation after the surgical procedure needs to be emphasised. Bone sequestration, restorative material remains, surgical wound infections, abrupt increases in local temperature of higher than 47 °C for a duration of longer than one minute (which causes protein denaturation and minimisation of alkaline phosphatase), untimely movements of the flap or traumatic removal of sutures, among others, hinder alveolar repair.[17]

If replacements and fillings for tooth extraction sites are needed, autogenous bone grafts are considered to be the gold standard. Bone substitutes were developed with the purpose of saving surgical time and making the need for a second surgical stage, with greater morbidity for the patient, redundant.[18–21] Membranes or screens have made it possible for the grafts to remain in position, since the periosteum does not always provide adequate containment owing to extensive bone defects. Surgeries such as maxillary sinus lift, correction of bone defects due to trauma or periodontal problems, augmentation of aesthetic areas after extraction, or periodontal surgeries with connective tissue grafts and apposition of blocks or particles of autogenous bone use membranes or barriers as an aid to bone repair.[22–24]

Membranes made of different materials can be employed for guided bone regeneration. The ideal material should have the following features: it must be able to be cut and shaped; it should be easily adaptable; its mechanical resistance should be compatible with applied loads; it should have great malleability; it should not be expensive; it should not require additional fixation, such as screws or tacks; it should be exposable to the oral environment without promoting infections; it should be applicable without making relaxing incisions; and it should be, if necessary, removable without the use of drills or punch instruments. The polypropylene membrane, as presented in this article, met most of these requirements and fostered osteopromotion.[25]

The polypropylene membrane bears numerous potential advantages. It can be intentionally exposed to the oral environment and the flaps can be kept apart from each other for healing by secondary intention. Moreover, there is no supremacy in the use of granular biomaterials in the alveolus—only the blood clot. In addition, it is not linked to greater financial cost regarding complementary instruments. Furthermore, there is no need for prior hydration. It is dimensionally stable during its retention in the surgical area. It is waterproof and can be removed between seven and 14 days after placement. Moreover, it does not adhere to scar tissue, and the inner surface promotes the adsorption of osteoblasts and precursor cells. It can be used when implants are placed, employing the Schroeder technique with immediate loading, allowing the simultaneous regeneration of bone and grafted gingival tissue and hindering the accumulation of dental biofilm and food debris.[26–30]

In the field of contemporary dentistry, the guided bone regeneration technique with membrane aid is considered an effective alternative for osteopromotion and osteogenesis. In the region of the post-extraction alveolus, the barrier selectivity characteristic protects the clot to facilitate the proliferation of histologically competent cells for the production of bone tissue. In addition, it potentiates the local physiology aiming for a more reliable prosthetic restoration, a better prognosis and longevity.[21,22]

Conclusion

Aid of alveolar bone repair by means of guided bone regeneration is the basis of the osteopromotion phenomenon. Treatment of periodontal defects, alveoli after dental extractions, maxillary sinus lift and alveolar ridge augmentation are common surgical procedures in which guided bone regeneration can be employed. The use of bone substitutes and allogeneic, xenogeneic and alloplastic grafts is considerably more time-consuming and results in greater costs for the patient. The physicochemical characterisation of these bone substitutes provides limitless parameters such as crystallinity, contact surface and compositional constitution. These factors lead to a loss of control regarding bone repair rates and a degradation of biomaterials over time. There is an urgent need for more predictable treatment options that entail both a lower morbidity for the patient and a consequent reduction of costs.

contact

Dr Irineu Gregnanin Pedron
Bottoxindent Institute
Rua Flores do Piauí 508
08210-200 São Paulo, Brazil
igpedron@alumni.usp.br

Author details

about the authors

Dr Irineu Gregnanin Pedron is a specialist in periodontics and implantology and an independent researcher at the School of Dentistry of the Unisversity of São Paulo in Brazil. In addition, he lectures Periodontics and Oral Implantology at the School of Dentsitry, Universidade Brasil (São Paulo, Brazil) and teaches a course on botulinum toxin in dentistry at the Bottoxindent Institute in São Paulo. He is author of the book *Toxina Botulínica: Aplicações em Odontologia* (Editora Ponto, 2016; Portuguese). **Dr Munir Salomão** is a specialist in periodontics and implantology. Both authors work in private practice in São Paulo.

Contaminated implants raise global concern among dentists

Dr Dirk U. Duddeck, Germany

There is a problem that many implantologists are not aware of: recent analyses of dental implants using scanning electron microscopy indicate that an alarming number of sterile-packaged implants are contaminated. In addition, the number of manufacturers affected is increasing, which is a major cause for concern. The placement of contaminated implants can lead to a decline in the quality of clinical outcomes and, as a result, possibly lead to an increase in malpractice cases and thus compensations claims.

In this regard, the organisers of a study currently being conducted in collaboration with the Charité–University Medicine Berlin in Germany are approached by concerned dentists almost daily. Compared with three previous studies over the last ten years,[1–3] this new study indicates a concerning increase in contaminations of implants due to production, such as metallic particles (including residues of stainless-steel particles, tungsten and tin bronze from the blasting process). Moreover, the study has found large amounts of organic particles originating either from handling and packaging processes, or from rough implant surfaces coming into direct contact with the packaging. The discussion about the clinical consequences of such contaminations is as old as the discipline of implant dentistry itself. For instance, in implants that had not successfully osseointegrated, Büsing and Donath both found significant foreign body giant cells in the areas surrounding foreign material residue.[4,5] The authors assumed that either foreign particles had found their way into the osseous bed during the implant placement procedure or the implant material itself was contaminated.

Sterile debris

In the 1980s, Prof. Gerhard Wahl examined dental implants under a scanning electron microscope. In his findings, published in 1987, he states that an alarming number of contaminated implants were found using this

Fig. 1: Implant analysis by an accredited laboratory.

Azento™
Single tooth replacement

Some call it convenience, we call it Azento.

IDS 2019

Visit us at IDS!
Hall 11.2, Booth K-030

Azento makes the most of your valuable time by streamlining your workflow, increasing patient acceptance rates and making your everyday more convenient.

You simply scan your patient and upload the data. We then suggest a customized treatment plan, which you review and approve. After this, you receive a box with everything needed for the treatment, including the plan, surgical guide, instruments and drills, a case-specific implant and an Atlantis custom healing abutment.

With Azento you get an easier workflow —scan, approve, treat.

Outstanding flow. Great results.
Azento by Dentsply Sirona Implants.

Dentsply Sirona
Implants

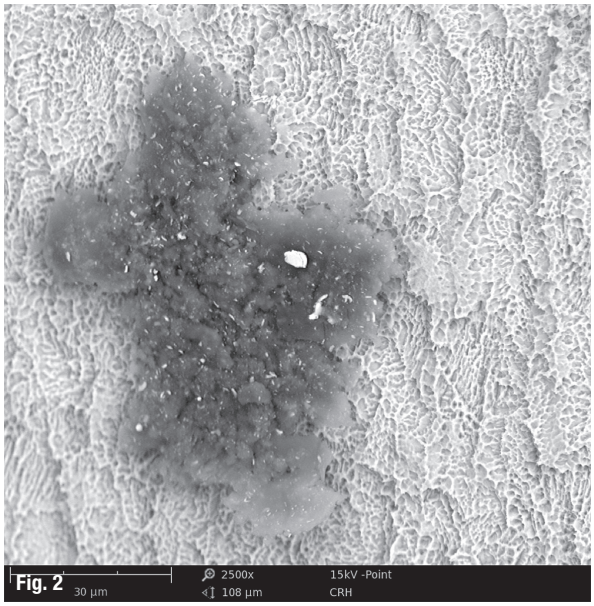


Fig. 2: Tin bronze particles (light) on organic contamination (dark) – SEM 2,500x.

method.[6] Yet, it seemed at that time that most manufacturers did not care a great deal about these issues or about quality management in general.

Today—more than 30 years later—there is no longer any need for dentists to extensively sterilise implants at their dental practices. However, in light of the most recent scientific findings, the following statement by Prof. Wahl can be considered more topical than ever: "We need to admit that, for a long time, 'sterile debris' has found its way into the bodies of patients during implant placement procedures, and such contamination was difficult to detect preoperatively owing to a very small particle size."[6]

Plaque-like contaminations that are larger in size are most likely to be encapsulated in soft tissue, whereas particles smaller than 10 µm tend to be absorbed by the body through phagocytosis. Considering the absorption of these foreign materials by the patient's body, the question needs to be raised of whether the problem of incompletely osseointegrated, contaminated implants and contaminated implants with low bone–implant contact values can be solved within the context of an academic discussion. It becomes obvious that—even after 30 years—many manufacturers apparently still do not think it is worth ensuring that their implants are as sterile and clean as they can possibly be according to state-of-the-art technology, and without foreign particle contaminations of any kind. This is where dental practitioners come into play: if not even existing CE marking certification can guarantee the cleanliness of implant surfaces, how are dental clinicians supposed to know which systems are safe to use in clinical procedures in their practices? After all, providing patients with the best possible medical devices and thus the best possible treatment should be a goal worth aiming for.

Trusted Quality Mark

By introducing a global quality label for clean implants, the CleanImplant Foundation, a non-profit organisation located in Berlin, is addressing the issue of contaminated implants. Supported by numerous renowned scientists, the organisation has released a consensus paper which stipulates specific criteria implants have to meet in order to be considered clean. Most importantly, these criteria include being free of foreign particles, as well as long-term clinical documentation. Last year, implant systems from MIS Implants Technologies (V3), bredent (blueSKY), NucleOSS (T6), BTI (UnicCa), MegaGen (AnyRidge) and NDI (REPLICATE) were awarded the Trusted Quality Mark according to a strict peer-review process. In a comprehensive analysis at a testing laboratory accredited according to DIN EN ISO/IEC also implants from Straumann (SLA Standard) and Nobel Biocare (NobelActive), met the strict testing criteria of this international quality label in 2019.

Transparent testing conditions

At this year's IDS, to be held from 12 to 16 March in Cologne in Germany, dentists can form their own opinions on their preferred implant systems. Implants can be checked on-site by means of a scanning electron microscope at the CleanImplant Foundation's booth. Those who are not able to attend the trade fair in Cologne this spring can register as a member of the CleanImplant Community online. For the annual membership fee, equivalent to the cost of one implant, members receive professional support in the case of legal disputes, as well as a certificate to display in the waiting room of their dental practice that states that the implants used by the dentist are certified to be free of contamination. This serves as an indicator for patients and referral practices alike. For further information, visit CleanImplant at IDS in Hall 11.1 at Booth B020.

Editorial note: A list of references can be obtained from the author.

contact

Dr Dirk U. Duddeck
Managing Director
CleanImplant Foundation CIF
Am Brandenburger Tor
Pariser Platz 4a
10117 Berlin, Germany
duddeck@cleanimplant.org
www.cleanimplant.org

Author details

CBCT WORLD PREMIERE

Precise 3D-Imaging. Large FOV. Low radiation. Simple operation.

MAKE an appointment at IDS 2019!

www.prexion.eu

From 12 to 16 March 2019, the Japanese technology group *PreXion* will present the new CBCT system *PreXion3D EXPLORER* at Booth B081 in Hall 2.2 at the International Dental Show. The high-performance system, especially developed for the European market, allows for an extraordinary combination of the most precise imaging, great picture detail, low radiation exposure, safe diagnostics and digital planning, covering the entire range of indications in modern dentistry.

Show what you're made of—with precision from *PreXion*.

PreXion
make IT visible

PreXion Europe GmbH Stahlstraße 42–44 · 65428 Rüsselsheim · Germany
Phone: +49 6142 4078558 · info@prexion-eu.de · www.prexion.eu

IDS 2019
Hall 2.2
Booth B081

Creating unique smiles with the Z1 implant system

The French-based company TBR Dental is specialised in the development and manufacturing of high-grade implants made from zirconia and titanium. In this interview, Julien Benhamou, CEO of the company, talks about the company and the unique features of their implant system Z1.

What does your company stand for? What's your core philosophy?
For over 30 years, TBR has been sharing a vision with dentists: we want to offer patients the best possible functional and aesthetic restorations. Our team focuses on being the right partner for dentists who are looking to boost their practices with innovative products like the Z1 implant system, which offers unique benefits for dental practitioners and patients alike.

What are the overriding trends in your market?
Tissue-level and zirconia implants are answering key challenges in implantology. Today, leading manufacturers like Nobel Biocare with the On1 concept and the NobelPearl implant, and Straumann with the PURE Ceramic implant system, are offering new tissue-level solutions that enable practitioners to achieve highly satisfactory results.

Analyses by the Schroeder's research team have shown that—in order for implant treatments to be successful—it is vital for dental implants to integrate with the three tissues types that implant placement procedures are predominantly concerned with: bone tissue, connective tissue and epithelial tissue. The challenge of periodontal implant integration is to achieve quality and especially long-term stability between these three tissues. Around a soft-tissue-level implant, the size of the muco-implant junction is comparable to the size of the gingival junction around healthy natural teeth.[1–3] Owing to extensive research, there is an ongoing market shift towards minimally-invasive tissue-level implants at the moment. Supported by 20 years of scientific research, TBR is proud to

TBR®
Unique, like your smile

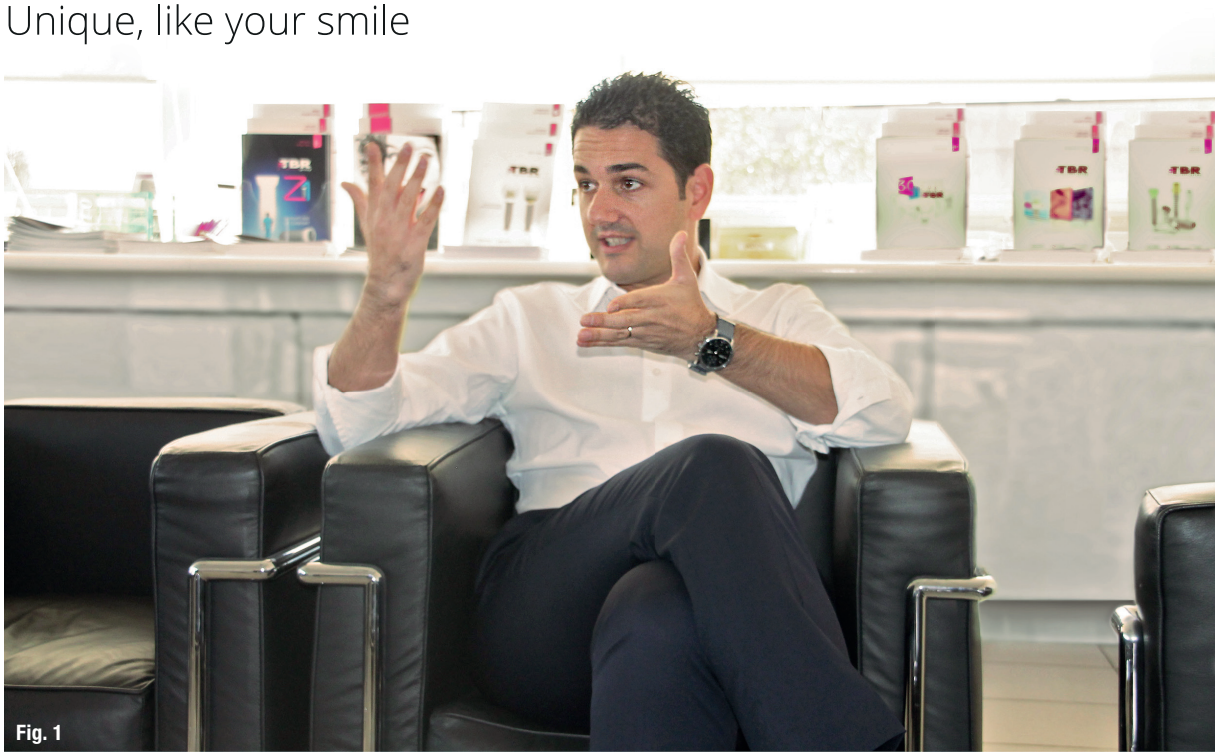


Fig. 1

Fig. 1: Julien Benhamou, CEO of TBR Dental.

I AM DEMANDING

XMIND trium

3D technology that facilitates implant planning with instant volume measurement and bone density assessment

- Assess volume and bone density in a single click.
- Increase your success rate with a 75µm resolution.
- Focus on the region of interest with a wide range of fields of view.
- Simplify implant planning with a single software.
- Create a detailed and illustrated report in a few seconds.

IDS 2019 Hall 10.2 – Booth M060-N069

Mac

WINDOWS® COMPATIBLE

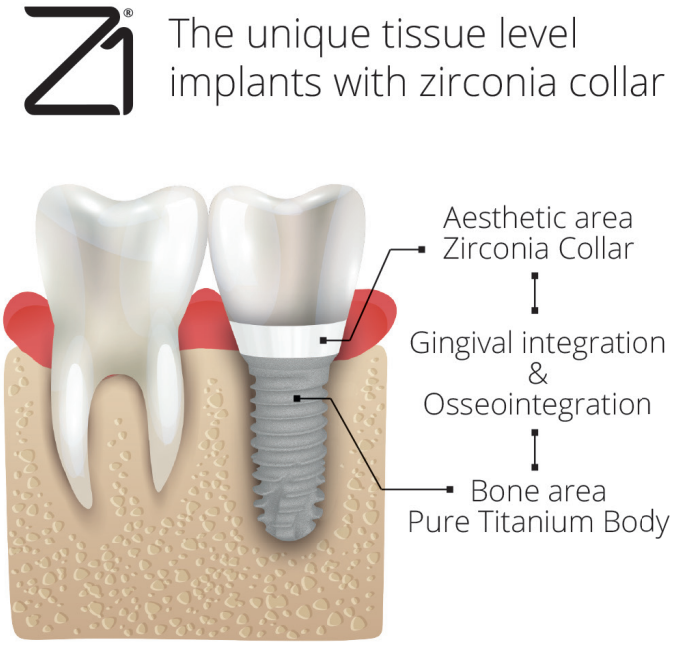
X-Mind® trium, 3-in-1 extraoral imaging system (CBCT 3D, Panoramic and Cephalometric). This medical device is a class IIb device according to the applicable European Directive in force. It includes CE marking. Notified body: IMQ S.p.A - CE 0051. This medical device for dental care is reserved for healthcare personnel, it is not covered by health insurance providers. This equipment was designed and manufactured in accordance with an EN ISO 13485-certified quality assurance system. Please read the user guide carefully before use. Manufacturer: de Götzen (Milan-Italy) - a company of ACTEON® Group.

Fore further information, please contact:
SOPRO | a company of ACTEON Group
ZAC Athélia IV | Av. des Genévriers | 13705 LA CIOTAT Cedex | FRANCE
Tel. +33 (0) 442 980 101 | Fax. +33 (0) 442 717 690
E-mail: info@sopro.acteongroup.com | www.acteongroup.com

ACTEON

offer the unique Z1 tissue-level implant system featuring a zirconia collar.

What makes your implant system special?
The Z1 system follows a clear philosophy: it is specifically designed to suit the anatomy of every patient. It is the only tissue-level implant which is able to adapt the used materials zirconia and titanium to the surrounding tissues, achieving highly successful osseointegration as a result. A study by Hermann et al., published in 2001[4], emphasises that—especially in aesthetic areas—the placement of tissue-level implants can have significant benefits for patients, since tissue-level implants resemble natural teeth in many ways.



Unlike other dental implants, which require several surgeries for being effectively placed and restored, the Z1 combines the two reliable and biocompatible materials zirconia and titanium for an improved healing process and, as a consequence, long-term and successful treatment outcomes. When it comes to meeting patients' high aesthetic expectations, we can proudly say that 100 per cent of the treated patients are satisfied with the treatment outcome. In addition, the Z1 can be placed during only one surgical procedure in the dental practice. Moreover, the Z1 system protects the patient's gum by providing high-quality aesthetics and an anti-bacterial shield to the crestal bone and the gingiva.[5–6]

Z1 is an implant system that offers a highly aesthetic, protective and long-lasting solution, owing to the zirconia collar at gum level, which mimics the colour of natural teeth.[7–9] From the patient's side, there has been a clear and strong demand for an implant system like this and—since it's release—patients have come to love it.

Speaking of prosthetic flexibility—what works and what doesn't?
When it comes to design, modern CAD/CAM technologies provide a high degree of flexibility. The Z1 system has also been developed and manufactured with this purpose in mind. Recent trends have shown that—if we want to limit bone cratering and sulcus depth—we need to move the prosthetic connection away from the bone area.[10] Placing and restoring the Z1 implant is easier, safer and more aesthetic in comparison to other dental implant systems. With Z1, your prosthetic possibilities are only limited by your imagination.

What is the future for TBR?
TBR is excited to invite even more talented dentists to experience the advantages of the new Z1 implant system first-hand. There are many practitioners who have already fallen in love with the Z1 technology, since they are able to create unique patients' smiles with it. Driving our growth in key markets, there is no doubt that the Z1 implant is currently developing to become a game changer in the dental implant market. Apart from growing organically, the TBR Group is also looking to grow through the acquisition of innovative companies. Next step: IDS 2019! Visit us in Hall 4.1 at Booth A058 to learn more about Z1.

Further information on the Z1 implant system can be found online under tbr.dental, or via e-mail at contact@tbr.dental.

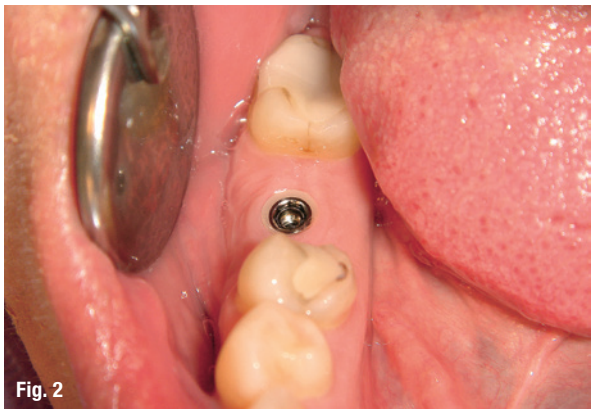


Fig. 2: A placed Z1 implant in the posterior region.

contact

TBR Dental Group
24 Impasse René Couzinet
31500 Toulouse, France
Phone: +33 562 167100
www.tbr.dental

Literature

Planmeca Emerald™

Elevate your scanning experience

Planmeca Emerald™ is a small, lightweight and exceedingly fast intraoral scanner with superior accuracy. It is the perfect tool for smooth and efficient chairside workflows. Taking digital impressions has never been as easy!

- Highly accurate quadrant and full arch scanning
- Small and lightweight design
- Impeccable infection control
- Support for a wide range of indications

Find more info and your local dealer!
www.planmeca.com

PLANMECA

Planmeca Oy, Asentajankatu 6, 00880 Helsinki, Finland. Tel. +358 20 7795 500, fax +358 20 7795 555, sales@planmeca.com, www.planmeca.com

Confidence beyond immediacy

At Straumann's "Arena of Confidence" booth at IDS 2019, the spotlight will be on the recently introduced Straumann BLX, a fully tapered immediate implant system that fills the gap in the company's premium portfolio and aims to win significant share in this segment. *implants* spoke with Dr George Raeber, Head of Global Product Management SDIS, to find out more.

Dr Raeber, Straumann's new BLX implant is said to be a game changer. What makes it so unique?
In essence, it is a unique combination of three elements: advanced implant geometry, prosthetic simplicity, and the consequent application of our legendary technologies, Roxolid and SLActive. The implant geometry allows for dynamic bone management. It is designed to cut bone where necessary and to redistribute and condense this native bone into less dense areas. This has two clinically highly relevant benefits: optimised primary stability in all types of bone and very high bone-to-implant contact directly after placement. The hybrid connection offers the benefit of only one connection and, hence, one abutment and auxiliary line for all major implant diameters. This reduces the system's complexity and inventory for our customers, allowing them to achieve good aesthetic results. Finally, the stronger material Roxolid and the SLActive surface provide clinicians with the confidence to aim for the best possible treatment even in the most challenging clinical situations. The development of Straumann BLX is based on clinical experiences and technological advancements in implant dentistry of the last ten to 15 years.

Considering the already large and successful portfolio, why did Straumann choose to add yet another product line, and with such a specific focus?
Immediacy protocols are a common wish of more and more clinicians. In addition, they are also driven by patient demand. Many of our customers already successfully apply immediacy protocols with Straumann implants today, for example with the BLT. However, we realised that some customers prefer fully tapered self-cutting implants. Hence, we set out to develop a next-generation product within this class to respond to these requests. Right from the start, we took great care in creating a flexible system that can also be used in healed sites and, of course, with conventional loading protocols. The feedback that we have received so far from clinical users is very positive, particularly in this regard. It clearly demonstrates that we have designed a highly versatile system that has been perfected for the use in immediacy procedures, but also excellent for all other indications.

Is the new BLX an implant made mainly for highly skilled specialist surgeons?
No, it is not. The implant was designed for the use in both simple and complex clinical situations. In other words, it is the clinical procedure that may require a high level of experience and not the product that is used therein. For instance, immediate procedures often require a lot of experience and should therefore be performed by skilled surgeons rather than dentists who are just taking their first steps in the field of implant dentistry. That being said, BLX might be the ideal system for clinicians who plan on venturing into more complex procedures, as it is relatively easy to use. The implant shape, in combination with the simple drilling procedure, results in implant placement being distinctly forgiving. The development team managed to create an implant with very good self-cutting properties, but that follows the intended trajectory in a very controllable way.

How did Straumann make sure that its first specific implant for immediate procedures was at the top of the game from the very beginning?
We involve experts and run customer panels in order to understand market trends and needs when developing a new Straumann product. In this particular case, we wanted to look at radical new ideas, which is why we chose to work with one of the world's leading specialists when it

IT'S SIMPLE TO BE A WINNER

PROVEN SUCCESS MEETS ENHANCED STABILITY

The biological stability and predictable esthetics of the SEVEN, combined with the extensive research and development process have given the SEVEN a potential advantage in soft tissue preservation and growth as well as an array of restorative benefits. Learn more about the SEVEN implant system and MIS at: www.mis-implants.com

mis® SEVEN®

comes to designing implants for immediacy protocols: Dr Ophir Fromovich. This became and continues to be a very exciting and beneficial collaboration. Combining his innovativeness and clinical knowledge of and experience in implant designs specifically made for immediate loading with our clinically proven technologies, precision engineering and highest development standards enabled us to create what we believe to be an extraordinary system.

In addition, we naturally went the typical Straumann way of developing new products. When we develop a new implant, it has to deliver and it has to be safe from day one. In a second stage, we therefore took the time to involve specialists, general practitioners, Straumann customers and implantologists who predominantly use competing brands. In total, over 100 clinicians have been working with BLX and they have specifically documented the performance of the new implant in their daily practice setting. The feedback we got from that was very positive. It confirmed what we had seen in preclinical studies: excellent primary stability and bone maintenance combined with the high versatility of the BLX system. Moreover, several controlled clinical trials are running for specific indications. Therefore, an impressive amount of clinical data will be available when the commercialisation of Straumann's BLX starts. We prefer launching a new product commercially only after it has been meticulously tested.

Apart from the good performance in all bone types, what benefits does the new implant offer Straumann's customers?
We've put a lot of thought into creating a system that is able to preserve as much of the natural tissue and is as minimally invasive as possible. Firstly, I would like to mention the significant clinical benefit that Roxolid offers in this regard. The stronger material enabled the developers to design a 3.75 mm BLX implant, which is already indicated for all tooth positions. We tried it with titanium, which is commonly used, but it did not work. A smaller implant preserves more of the natural tissue and reduces the invasiveness of the procedure because augmentations can be avoided. It also gives the clinician greater flexibility in placing the implant. Secondly, I would like to mention the shortened, low-temperature drill protocol. This was made possible thanks to the new Velodrills, which were specifically designed for the BLX system. VeloDrills will soon be available for our other implant lines as well. VeloDrills reduce the heat generated during the drilling process through an innovative new surface, as well as a very specific new cutting geometry. The difference is astounding. Using this technology in the context of guided surgery, clinicians can switch directly from the pilot drill to the final drill without overheating the bone, maintaining ideal conditions for reliable osseointegration. Lastly, but nonetheless importantly, I would like to highlight the biologically driven prosthetic design concept of BLX. Owing to the new TorcFit connection, we were able to design slim and under-contoured abutments. This makes it possible to preserve more soft-tissue volume, which supports predictable aesthetic outcomes.

How do you believe BLX is able to support dentists in today's competitive environment?
What I have observed is that dentists are facing increasing and often conflicting patient demands. Today, patients are demanding perfectly aesthetic and long-lasting tooth replacements, with fewer visits. Hence, digitally enhanced workflows, which translate to shorter chair times, in combination with a highly reliable implant system that allows clinicians to treat even advanced cases with confidence, are key in order to stay competitive. This is exactly what we aim to offer with BLX. The system has been developed to make efficient workflows driven by immediacy protocols predictable and manageable. Furthermore, BLX is embedded in Straumann's powerful and growing digital ecosystem, which gives our customers the possibility of optimising their value chain. Based on all this, we believe that BLX can support our customers in creating new business opportunities and strengthening their position in today's competitive environment.

When and where will BLX be available?
In April, BLX will be launched on the European market. The US and other regions will follow later in the year.

contact

Dr George Raeber
Institut Straumann AG
Peter Merian-Weg 12
4002 Basel, Switzerland
Phone: +41 61 9651111
www.straumann.com

The craft makes nature perfect.

ZIBONE

ZIBONE
Zirconia Dental Implant

COHO BIOMEDICAL TECHNOLOGY CO., LTD.
Tel: 886-3-311-2203 Fax: 886-3-312-5626
www.zibone.com

Dynamic Navigation: Closing the gap between planning and execution

Computer-guided surgery is among the most exciting advancements made in digital dentistry throughout recent years. In this interview, Prof. Dr Ronald Jung[1] and Dr Marc Balmer[2], both working at the University of Zurich, talk about the current state of computer-guided implantology and the advantages of dynamic navigation in particular.

With the emergence of new digital technologies, novel treatment approaches have become available to clinicians—particularly in the field of implant dentistry. However, some implantologists are still sceptical of them. Why do you think that is? And what do you think is holding back more widespread utilisation of computer-guided-implantology right now?
For the utilisation of static or dynamic guidance, clinicians need to invest time to learn to use the new technology and protocols and adjust their workflow to create a streamlined process in their private practice. Clinically, static guides provide no tactile feedback, reduce access to drilling sites and delay time from scan to surgery. Dynamic navigation eliminates these disadvantages, yet it requires a higher initial purchase investment.

Let's talk about the use of computer-guided implantology. What types of cases are you going into thinking that you must have, or are probably going to need surgical guidance? What are the advantages of dynamic navigation?
There are four major points: complex anatomy, high aesthetic demanding situation, flapless surgery and immediate loading. The big advantages are flexibility and visibility during surgery. Planning is simpler because no guide needs to be designed and fabricated. Treatment can be adapted any time during operation and the access to the operation field is unimpeded. Furthermore, a dynamic navigation system provides you with live feedback during the operation. In comparison with surgical guides, one could say that a static guide holds your hand, while a dynamic navigation system gives you more information during treatment. Moreover, with dynamic navigation there is increased safety and predictability because an accuracy check is always easily available.

Has it already proven itself in research and clinical practice? What results can it achieve compared with free-hand surgery?
Research in the field of dynamic guided implantology is ongoing. Some comparisons to free-hand and statically guided surgery, both *in vitro* and *in vivo* are already available. A recent JOMI publication showed that dynamic navigation is about two to three times more accurate than free-hand surgery, especially in angulation.

Fig. 1: Discussion of a patient scan before treatment. **Fig. 2:** Navident training tools ready for use.

What can clinicians do to better implement a digital workflow in implant treatment?
Clinicians should educate themselves about the latest technologies available and be ready to make an initial investment in training and be open to changing work habits. Newer developments in the field of dynamic navigation facilitate the process. The new generation of dynamic navigation systems require no preparations of stents or clips during 3D-imaging and no intraoral scans. In fact, the diagnostic scan can often be used for guidance as well. Also, with much simplified planning, the clinician can now easily and quickly plan the procedure themselves, rather than delegate it to technicians.

You also mentioned postgraduate studies. Clinicians need more exposure to dynamic navigation in order to gain more skills or to determine that they want to incorporate the technology into their workflow. Can you tell us about any programme that you have at the university?
All postgraduate students in our clinic are exposed and trained to multiple systems. This way, they can gain experience in static, as well as in dynamic navigation. They decide for themselves which systems fits better in their workflow.

You also mentioned being a "mentor clinician" for the programme. Does that mean you're still available to clinicians who complete the programme, even after it's over?
Yes, of course. We have an alumni programme and we stay in touch with all our former students on a professional and friendly basis.

Last question: How will dynamic navigation further change digital dentistry in the future?
Dynamic Navigation has an enormous potential for further developments. Beyond handpiece guidance, it can be applied to other fields of dentistry, for example for root canal preparation and orthognathic surgery. In the longer term, it would enable the introduction into dentistry of other modern technologies such as virtual and augmented reality and robotics.

Editorial note: Watch a video recording in which Dr Balmer is teaching a postgraduate student using Navident via the QR Code below.

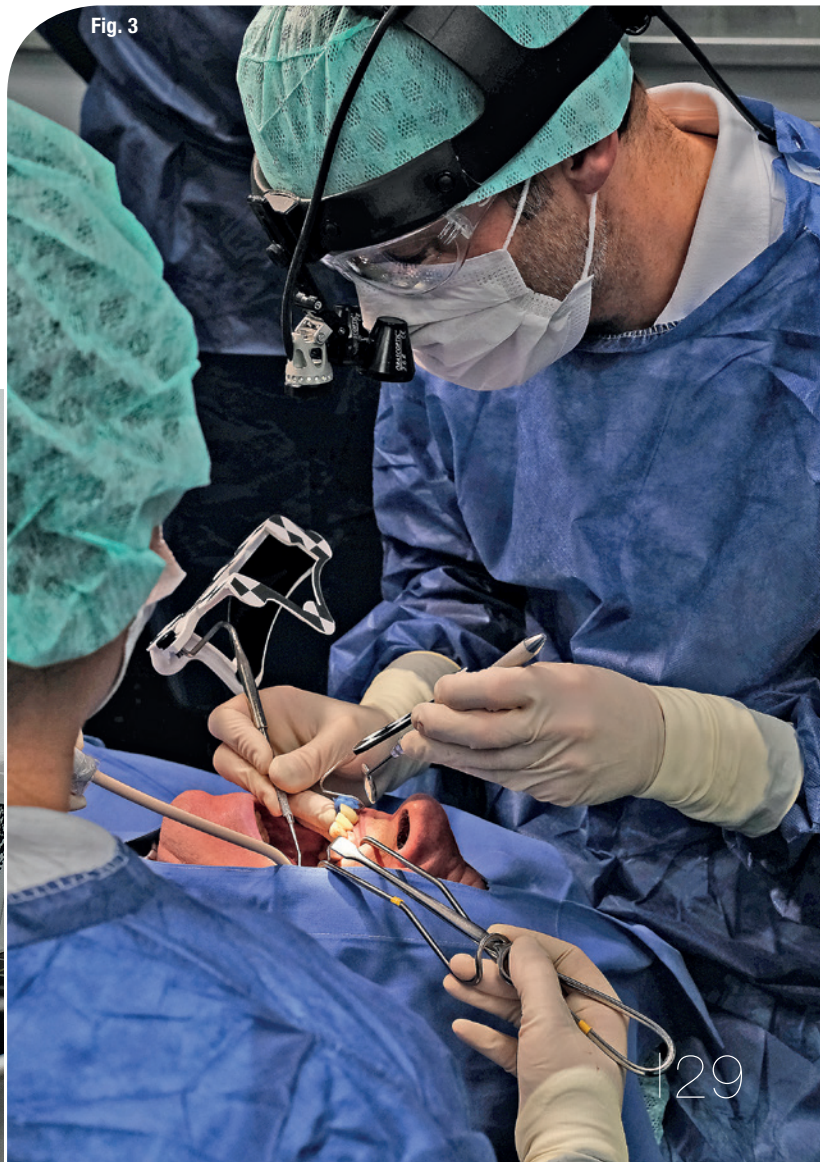
1 Head Division of Implantology, Clinic of Fixed and Removable Prosthodontics and Dental Material Science, Center of Dental Medicine, University of Zurich.
2 Senior Teaching and Research Assistant, Clinic of Fixed and Removable Prosthodontics and Dental Material Science, Center of Dental Medicine, University of Zurich.

contact

ClaroNav Inc.
1140 Sheppard Avenue West, Unit 10
M3K 2A2 Toronto, Canada
Phone: +1 647 951-1525
www.claronav.com

Video

Fig. 3: Prof. Jung performing a TaP registration.



"There are many things that have improved significantly over the last 30 years."

Prof. Ann Wennerberg answered questions regarding her recent research findings on implant surfaces.

"It is fantastic to have implants as a treatment option"

Prof. Ann Wennerberg from the University of Gothenburg in Sweden is a world-leading authority on dental implant surfaces. She recently led a systematic review of 62 clinical studies in which she analysed a total of over 17,000 implants with at least ten years of follow-up. The study compared the long-term clinical outcomes of implant treatments with different surfaces including sandblasted, titanium plasma-sprayed, turned, sandblasted and acid-etched, and anodised ones. Dental Tribune International met with Prof. Wennerberg to discuss her research and its findings.

Prof. Wennerberg, in your study, you compared five different implant surfaces including the TiUnite implant surface by Nobel Biocare. Could you please explain what TiUnite is exactly?
To begin with, TiUnite is an anodised surface. An electrolytic bath is used to create the typical pores and structures on the surface of the implant. On an image, an anodised surface can be easily detected and distinguished from an etched or blasted one.

What are the main advantages of implants with the TiUnite surface? Were any of these investigated in the study?
I think, the sole fact that the renowned company Nobel Biocare produces it, is already an advantage. There are a number of moderately rough surfaces that function well, but in order to assess their safety, as stated in the paper, it is helpful and important to work with companies that have already collected some clinical data regarding their products. For quite some years now, there has been a continuously strong interest in TiUnite. Thus, it is safe to say that its safe clinical use has been proven by now, which is an advantage, of course. Throughout the recent years, Nobel Biocare implants

with a turned surface have been very well documented. In this very study, we were particularly interested in how TiUnite, which is still relatively new, performs in the oral cavity. Since its surface has so many undercuts, there had been some concerns that it might be difficult to clean and, as a result, might harbour bacteria that cause bone resorption over time.

What are the limitations of the TiUnite surface?
I do not know if there are any limitations at all. We do not have any proof that it possibly causes more bone resorption or other problems. Having said that, I cannot rule out the possibility entirely. I have no idea how the implant will perform over the course of 25 years or more. As of now, we have not been able to confirm this concern though. As for the financial aspect, a lot of the major companies, which have spent a great deal on the development of these surfaces, naturally expect some form of profit, which results in some implant systems being more expensive. However, there often is more documented data available on these systems, in comparison to cheaper ones—so you know what you are buying. It may not be the case for every product but, generally speaking, I think it is true.

What are the next steps in surface technology? Where do you see innovations heading?
Right now, we are not yet at the point to talk about innovations. From a research point of view, however, it might be possible that at some point you would be able to load surfaces with different substances when treating a certain disease for example. With regard to infections, you might load a surface with antibiotics or something else, to which the tissue would respond in one way or another. There are already some developments in this area. Furthermore, I think that in terms of topography, we have come to a really good state-of-the-art. Of course, other fields such as implant design have not yet been investigated thoroughly enough and may be of great interest in the future.

What do you consider to be the biggest development in dental implantology throughout the past decades?
This question is difficult for me to answer, since there have been many developments. With regard to materials, for example, both mechanical properties and prosthetic solutions have improved a lot, and, as a result, we are better able to compensate for misalignment. There are many things that have improved significantly over the last 30 years, but I would not say it happened in one giant leap. Things have developed more in a step by step kind of way. Thanks to the many players in the field, who have provided us with very good clinical results, these developments are constantly being pushed forward. Overall, I think it is fantastic to have implants as a treatment option for patients.

Thank you very much for the interview.

Editorial note: The study, titled "Long-term clinical outcome of implants with different surface modifications", was first published in the European Journal of Oral Implantology.

Author details

contact

Prof. Ann Wennerberg
Box 450
40530 Gothenburg, Sweden
Phone: +46 31 7863543
ann.wennerberg@odontologi.gu.se

COMING SOON

to be announced on 12 March

LakeComo Institute

FULL IMMERSION TRAINING

FIT

we will transform your practice

VENUE
Milan & Como - Italy

COURSE DIRECTOR
Tiziano Testori MD, DDS, FICD

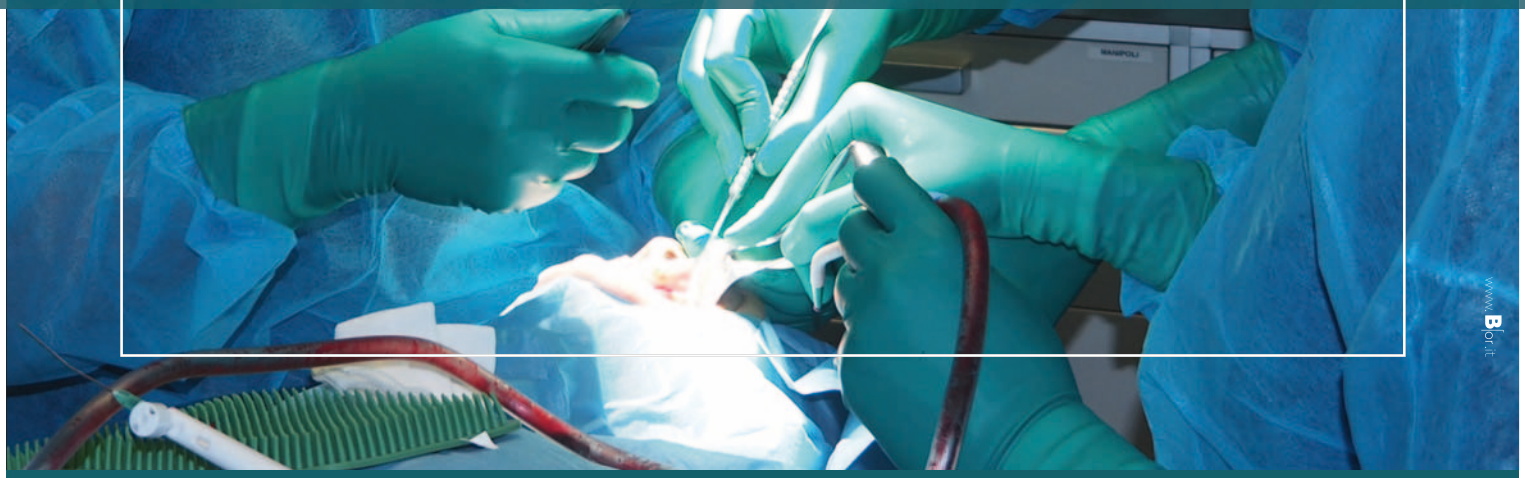
DATES
From July 1st to July 5th

SPEAKERS
Tiziano Testori MD, DDS, FICD
& Lake Como Institute Faculty

in partnership with

BIOHORIZONS
SCIENCE • INNOVATION • SERVICE

OsteoBiol by Tecnoss



1st MODULE: July 1st and 2nd 2019
ANATOMICAL AND SURGICAL TRAINING WITH WORKSHOP ON HUMAN CADAVER

2nd MODULE: July 3rd, 4th & 5th 2019
THEORETICAL AND HANDS-ON COURSE PERIO IMPLANTOLOGY FOR THE GENERAL PRACTITIONER: SURGICAL AND PROSTHETIC PHASE
Hands-on on pig jaws for bone regeneration techniques and soft tissue management

LakeComo Institute®
Implant Advanced Training Center

info@lakecomoinstitute.com
www.lakecomoinstitute.com

CAMLOG

Reliable high initial stability with new PROGRESSIVE-LINE

For modern implant concepts such as immediate restoration or loading, a reliable high initial stability is mandatory. The current concepts in market for immediacy are mainly niche implants, suitable for specific situations or bone types only. The geometry of the new PROGRESSIVE-LINE implants, however, was developed to be an implant suitable for all indications with predictable results and increased primary stability. Available as CONELOG® implant—a real bone level implant with conical connection and integrated platform switch—or as a CAMLOG® implant for prosthetic ease using the renowned tube-in-tube connection, both options allow to reach high initial stability especially in soft bone. A highly efficient drill protocol offers maximum flexibility to safely place the implant according to the needs of the treatment plan—without requiring additional tools or tap. Well thought-out features make the practitioner feel at ease with all clinical standard treatments but specially assists him in critical clinical situations, for example in the case of limited bone height. The PROGRESSIVE-LINE features down to the apex, making it ideal for immediate implantation. In addition, a coronal anchorage thread allows for improved stability in reduced bone height. Additional features encompass a broadened thread height, and a parallel-walled section for flexibility of the vertical position.

CAMLOG Biotechnologies GmbH
Margarethenstr. 38
4053 Basel, Switzerland
www.camlog.com

Straumann

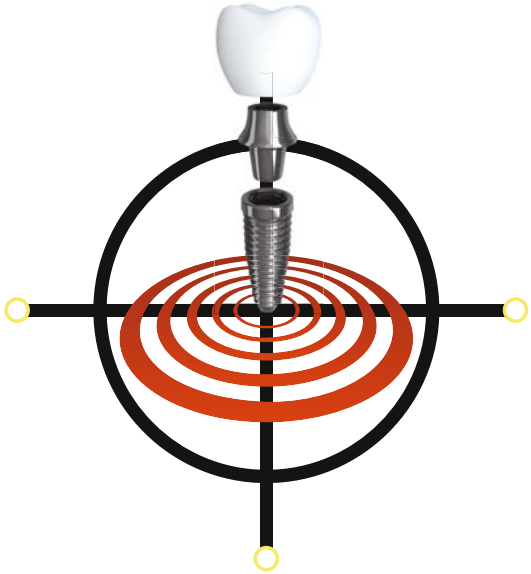
A new versatility in the field of immediacy

To provide the most versatile and the easiest to use of all available implants for immediate protocols—this is what the new BLX system from Straumann is aiming for. Clinical experiences and technological advancements in implant dentistry of the last decade—including Straumann's own apically tapered BLT implant—have been taken into account when developing BLX. Intending to combine high effectiveness in typical immediacy procedures with forgiving character when used in less than ideal situations, the Swiss company did not limit themselves designing just another fully tapered implant. Having already gained positive results and responses, Straumann BLX combines an innovative design concept for optimised stability with its high-performance Roxolid metal alloy and SLActive surface. This creates an implant system that offers confidence—for immediacy and beyond. It also enables the use of smaller implants. In addition, the resultant simplified workflow translates to shorter chair times. The BLX concept relies on a mix of new drills, called Velodrill®, designed to prevent hyperthermia of the bone, and specific implant shapes which aim to achieve high primary stability in soft bone without overcompressing the cortical areas. All BLX sizes have the same prosthetic connection, and the diameter of 3.75 mm is cleared for all indications. Thus, the new BLX will not only add versatility to the field of immediacy, but usability too.

Institut Straumann AG
Peter Merian-Weg 12
4000 Basel, Switzerland
www.straumann.com

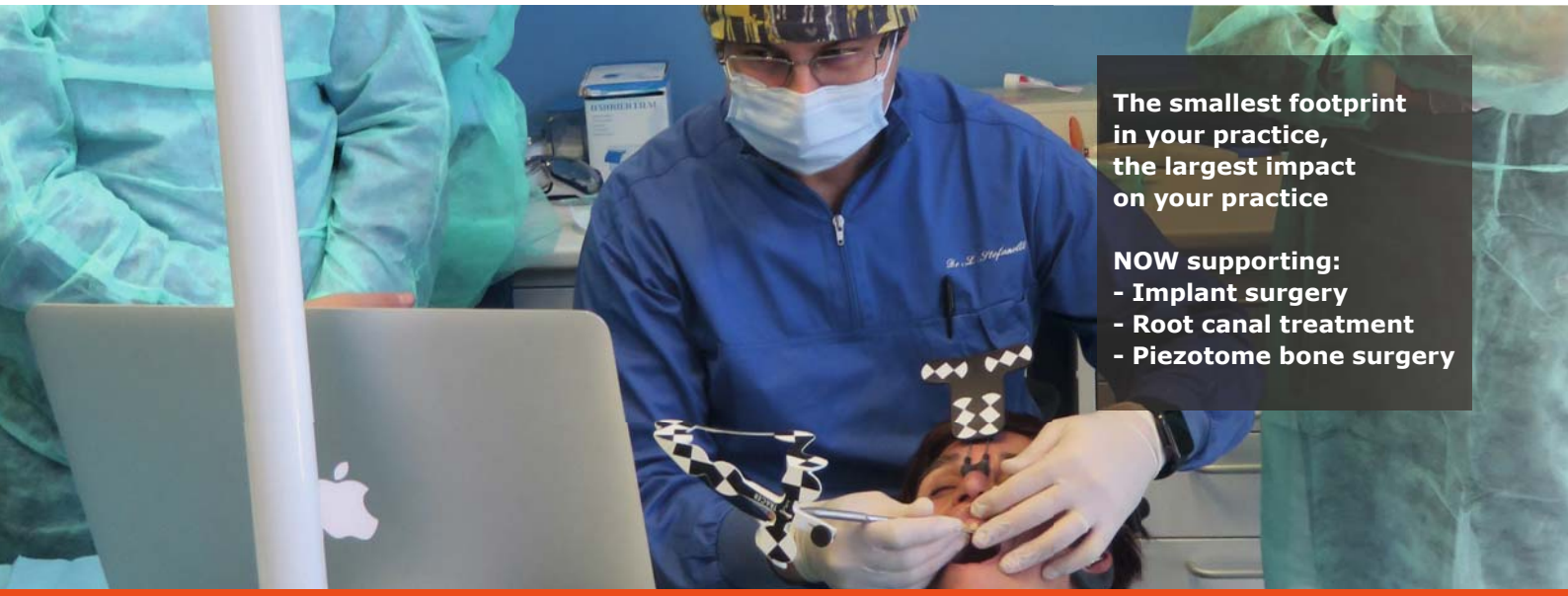
Navident

Targeting Perfection



Dynamic navigation for freehanded dental implant placement

See for yourself how freehanded guided surgery aids more accurate implant placement. Navident tracks the drill and the patient's jaw, providing real-time tactile guidance and visual feedback.



Compatible with any implant type, drill system and all CBCTs currently on the market

- Precision guidance for increased accuracy within 0.5mm of treatment plan*
- Provides even greater value from your CBCT data
- Easy to use, reducing time and expense with a simplified workflow
- Enables minimally invasive flapless drilling without a physical guide

Try Navident's precision guidance for yourself.
Call +32.475.75.52.26 or email info@claronav.com
Visit us at Hall 2.2 Aisle B No: 008 at IDS 2019

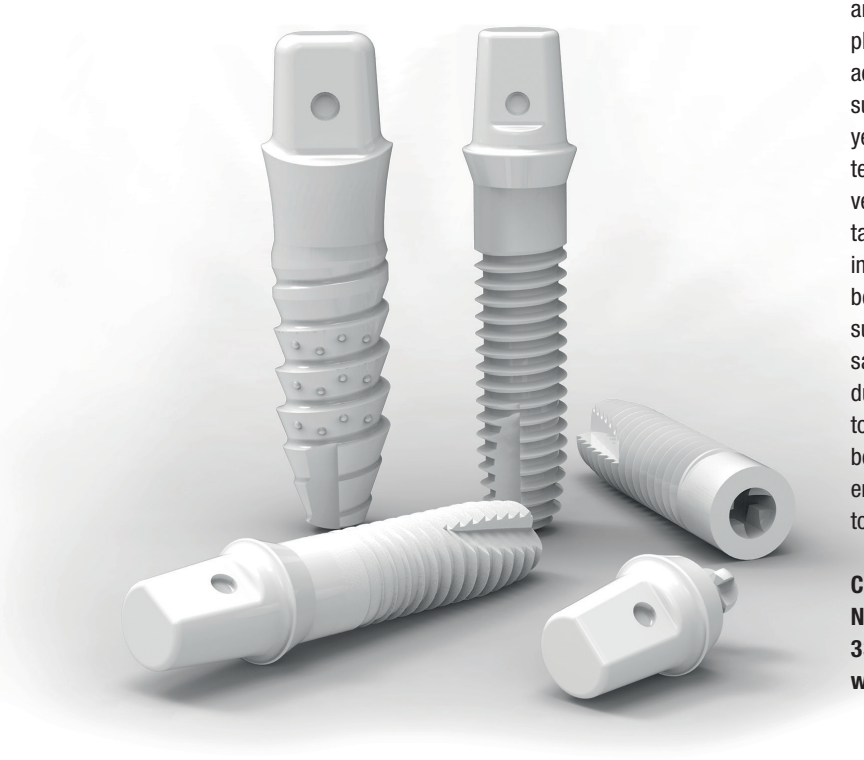
ClaroNav
www.claronav.com

*Average error of 0.4mm in internal bench tests with a range of operating conditions.

COHO Biomedical Technology

Applying the uniqueness of zirconia

COHO offers various one- and two-piece ZiBone systems, as well as the Zircasso implant systems featuring different screw patterns and abutment designs, depending on the individual needs of patients. The one-piece ZiBone system comes in three different sizes (3.6/4.0/5.0 mm) with five different lengths (8/10/11.5/13/14.5 mm). Abutments with different heights and angles are also available for the two-piece system. Novel implant surface processing technology is continuously developed, adopting the plasma film treatment for an increased chance for successful osseointegration. Developed over the course of ten years, Zircasso aims to achieve the best possible results both in terms of functionality and aesthetics. The unique design was developed to reduce the most common complications and to maintain and improve the already good characteristics of previous implants. Using the Zircasso concept, clinicians can aim for the best results imaginable. It offers real added value in the fields of surgery, prosthetics, dental technology and, in particular, patient satisfaction. With more than 20 years of experience in the production of medical devices, the R&D team of Zibone® continues to develop useful and innovative surgical tools that improve on both surgery convenience and safety by utilising the unique properties of Zirconia. Stay tuned for more and even better surgical tools made of Zirconia!



COHO Biomedical Technology Co., Ltd.
No. 21 Da Feng Street, Luzhu District
33860 Taoyuan City, Taiwan
www.zibone.com

Omnia

Omnia Dental Solutions are now provided by Cantel Dental

The Omnia portfolio of dental surgical products and the Crosstex line of market-leading infection prevention and compliance solutions have now been brought together under Cantel Medical, a global leader in innovative infection prevention products and services in the dental, life sciences and medical industries. This follows the completion of Cantel's acquisition earlier this year of Omnia. As the provider of the Crosstex line, including personal protection equipment, dental unit waterline treatments, chemicals, sterilisation, preventative products, nitrous oxide equipment and single-use disposable products, Omnia will help to accelerate Cantel's infection prevention presence in Europe. Omnia has grown through a rich history of developing, manufacturing and selling innovative sterile and disposable surgical products designed to meet the requirements of dental surgery, and its products are used across multiple dental surgical procedures. The extensive Omnia portfolio of custom procedure kits, sutures and irrigation line systems is offered with a special focus on the set-up and prevention of cross-contamination in operating rooms. The combination of the high-quality solutions in the Omnia and Crosstex product lines allows Cantel to provide a truly unique and comprehensive portfolio that ensures success in infection prevention, control and compliance to its distribution partners and dental customers across the globe.

OMNIA CROSSTEX

Cantel Dental Europe
Omnia Srl
Via Francesca Delnevo, 190
43036 Fidenza (Parma), Italy
www.omniaspa.eu

SUBSCRIBE NOW!

implants—international magazine of oral implantology

Interdisciplinary, transparent & market orientated

ONLINE
SUBSCRIPTION HERE

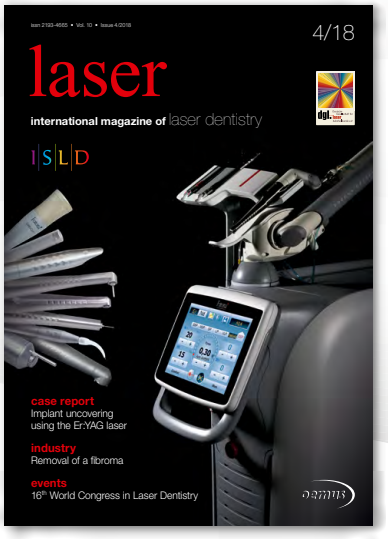
www.oemus-shop.de

stay updated:

research
L-PRF in different intraoral applications

case report
Polypropylene membrane in post-extraction alveolar repair

industry
Contaminated implants raise global concern among dentists



Fax: +49 341 48474-290

I would like to subscribe for the following journals:

☐ implants—international magazine of oral implantology 4 issues p.a. €44*

☐ laser—international magazine of laser dentistry 4 issues p.a. €44*

Terms & Conditions: The subscription may be cancelled in written form without due justification within 14 days of order by contacting OEMUS MEDIA AG, Holbeinstraße 29, 04229 Leipzig, Germany. Dispatching notification in good time will suffice. The subscription is automatically extended by another twelve months if it is not cancelled in written form 6 weeks prior to the end of the reference period.

* All prices include VAT, shipping and handling.

Last Name, First Name

Company

Street

ZIP, City, Country

E-mail

Signature

Credit Card Number Expiration Date Security Code

OEMUS MEDIA AG

Holbeinstraße 29 · 04229 Leipzig · Germany · Phone: +49 341 48474-201 · d.duetsch@oemus-media.de

PreXion

New CBCT system with superior imaging quality

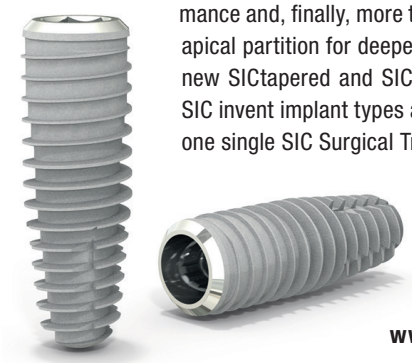
The Japanese high-tech company PreXion, which has been active on the world market for more than 15 years, is specialised in three-dimensional diagnostic radiography like no other. Their new CBCT system PreXion3D EXPLORER stands out with a crystal clear, ultra-precise image and the lowest possible radiation exposure—at an attractive price point. Looking at most of today's imaging solutions, a higher image quality usually goes along with higher radiation levels. The PreXion3D EXPLORER, especially developed for the European market, features a unique combination of superior imaging quality owing to its 0.3 mm focal spot and voxel size of 0.07 mm at the lowest possible radiation exposure levels in the industry. The new PreXion CBCT scanner allows for accurate 360-degree rotation with 512 to 1,024 projected views. Apart from the 3D-Analysis mode, the PreXion3D EXPLORER features a "True" and a "Reconstructed" panoramic scan mode with field of view (FOV) sizes of 50 x 50, 150 x 78 and 150 x 160 mm. In addition, the system convinces with its easy operability and features a comprehensive imaging software, as well as planning programmes covering the entire range of dental indications.
From 12 to 16 March 2019, the PreXion3D EXPLORER will celebrate its world premiere at IDS in Hall 2.2 at Booth B081 of the Cologne trade fair. Individual appointments can now be arranged online via info@prexion-eu.de and on the PreXion website.

PreXion Europe GmbH
Stahlstraße 42
65428 Rüsselsheim, Germany
www.prexion.eu

SIC invent

Introducing new implant lines

At IDS 2019, the new implant lines SICtapered (internal hex connection) and SICvantage® tapered (internal Morse taper connection) will be presented. The tapered implant body allows for higher primary stability in most bone types and overcomes compromised anatomical situations such as narrow ridges, converging root tips and anatomical undercuts. Other features of the SICtapered and SICvantage® tapered implants include: sharper threads for safe cutting of hard bone and reduction of bone compression; slightly more tapered core in the middle of the implant for adjusting the bone compression according to the drilling protocol; improved flute design for a better cutting performance and, finally, more tapered core and threads in the apical partition for deeper initial insertion. Including the new SICtapered and SICvantage® tapered implants all SIC invent implant types and shapes can be placed with one single SIC Surgical Tray, which has been proven for many years.



SIC invent AG
Birmannsgasse 3
4055 Basel, Switzerland
www.sic-invent.com

Bicon

Implants driven by simplicity

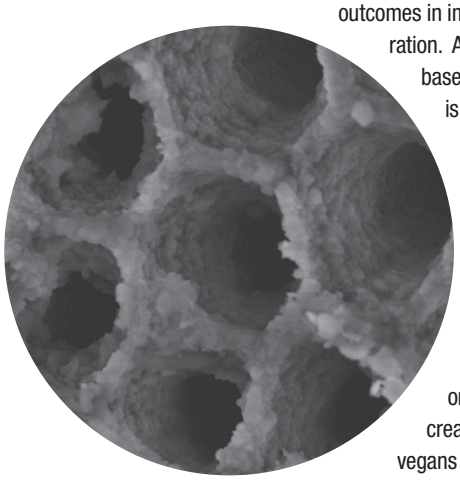
The SHORT Implants line of the US-American company Bicon perfectly embraces their core philosophy of simplicity. When the Bicon system was first introduced in 1985, its implants with lengths of 8.0 mm were considered quite short in comparison to most other implants, which had lengths of at least 12 to 14 mm or 18 to 20 mm. Since then, the natural progression of Bicon's design philosophy has resulted in 5.0 mm and 6.0 mm SHORT Implants, all with proven clinical success. At IDS 2019, feel free to visit us in Hall 4.2, Booth G070–J079.

Bicon
501 Arborway
02130 Boston, MA, USA
www.bicon.com

Dentsply Sirona Implants

Celebrating 30 years of Algipore

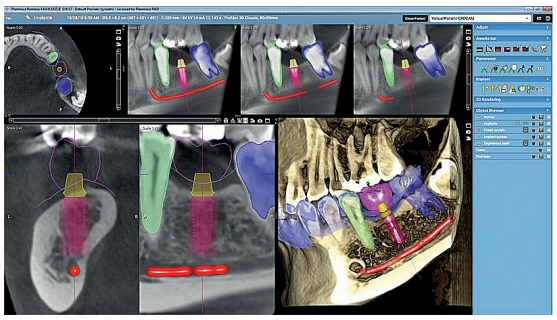
With Algipore, part of the Symbios line of regenerative solutions, Dentsply Sirona Implants celebrates 30 years of proven reliability and effectiveness of this natural phycogenic bone graft material. Algipore is made from calcifying red algae. It is natural bone like, biocompatible, osteoconductive, and stable during bone formation. It has a unique pore structure that promotes new bone formation for the best possible outcomes in implant treatment preparation. Algipore, being a plant-based bone graft material, is a natural first choice for patients who would like to avoid xenografts and allografts. "In times of well-informed and critical patients, it is important to offer patients a material of non-animal origin. Above all, the increasing number of both vegans and people of different religious beliefs make it necessary to react and to offer alternative materials," says Dr Thomas Hanser, a partner at Private Clinic Schloss Schellenstein in Olsberg, Germany.



Dentsply Sirona Implants
Fabrikstraße 31
64625 Bensheim, Germany
www.dentsplysirona.com/implants

Planmeca

Implant planning made easy



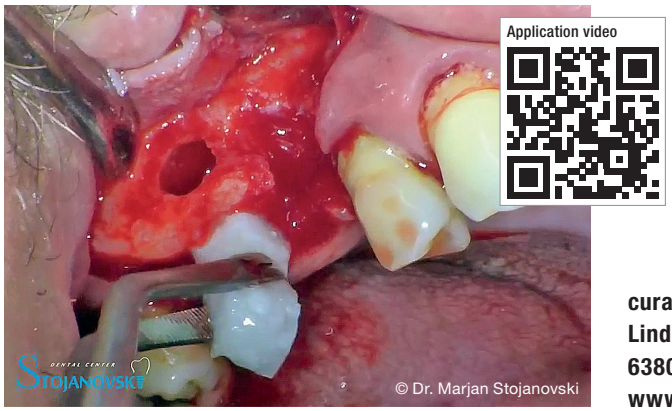
Our Planmeca Romexis® 3D Implant Planning module offers the most sophisticated tools to meet all the needs of modern implantology. Planmeca Romexis® allows for easy planning and verification of implant placement using realistic implant, abutment and crown models from our Planmeca Romexis libraries. You can then import and superimpose a soft-tissue scan and crown design with CBCT data—providing you with the best possible environment for implant planning. To turn the virtual planning into reality, you can design your own implant guide with the Planmeca Romexis® Implant Guide module. The guide can then be printed from surgical guide material with any suitable 3D printer or the new Planmeca Creo C5™ 3D printer. At IDS 2019 in Cologne, the new Planmeca Romexis® 6 software with implant planning and the Planmeca Creo C5™ will be presented.

Planmeca Oy
Asentajankatu 6
00880 Helsinki, Finland
www.planmeca.com

curasan

Complication Management with CERASORB® Foam

Perforation of the Schneiderian membrane is a complication that always brings discomfort for the dental clinician. The case portrayed in the video below shows a positive Valsalva test and a massive cyst close to the maxillary sinus. In addition, the destruction of the bone tissue is extensive, especially in the area surrounding the remaining teeth. The entire treatment and the desired bone regeneration were done exclusively with CERASORB® Foam, a brand-new product that combines collagen and beta-tricalcium phosphate (ß-TCP) material. It achieves a much higher absorption of blood components during the early phase of bone regeneration.



Editorial note: Follow the QR Code to watch a video recording of the above depicted clinical case. The video footage and all content therein has been provided by the author.

curasan AG
Lindigstraße 4
63801 Kleinostheim, Germany
www.curasan.de

LCI's Full Immersion Training will transform your practice

Lake Como Institute (LCI) is a training centre for advanced implantology founded by Dr Tiziano Testori. The training centre, located in Como in Italy, combines evidence-based approaches with 30 years of clinical experience in the field of perio-implantology and cutting-edge diagnostic and surgical equipment. LCI courses aim to educate participants on professional, comprehensive dental care for patients. Clinical excellence is based on protocols and attention to detail, fundamental factors for achieving long-lasting treatment outcomes.

LCI's motto is "You ask. We have the answer". This year, LCI's answer is a tailor-made course that will transform clinical practice. The facility is organising the Full Immersion Training (F.I.T.) course, which consists of two modules, including a two-day cadaver course with the specific goal of teaching the anatomy of the facial skeleton. Working on human cadavers is equivalent to performing surgery on a patient, but allows the clinician to practise and improve surgical skills without taking risks.

About 90 per cent of the course is hands-on training, as the LCI teaching staff believe this is the best training for implantologists who want to learn new or improve their current skills. A dissection course (first module) can be a great benefit for both beginners and experts and is considered essential for implantologists.

The second module is dedicated to perio-implantology for the general practitioner. This part of the course includes theoretical and hands-on training to build confidence and develop skills in using the most popular bone reconstruction techniques and soft-tissue grafting procedures. Attending this module will increase predictability and long-term stability of bone grafting cases and can improve proficiency in implant dentistry through standardised surgical and prosthetic protocols. Attendees will receive practical guidelines for easy application in day-to-day clinical practice.

The F.I.T. programme is based on a learning-by-doing approach, and LCI is proud to share knowledge with attendees, because "You ask. We have the answer".

contact

Lake Como Institute
Advanced Implantology Training Center
Via Rubini, 22
22100 Como, Italy
Phone: +39 031 2759092
www.lakecomoinstitute.com

SUBSCRIBE NOW!

ceramic implants—international magazine of ceramic implant technology

Interdisciplinary, transparent & market orientated

ONLINE
SUBSCRIPTION HERE

www.oemus-shop.de

implants 1/19

stay updated:

research
Patient preference and knowledge of ceramic implants

case report
PEEK-based restoration for monotype zirconia implants

interview
A new splash of life

Fax: +49 341 48474-290

I would like to subscribe for the following journals:

☐ ceramic implants—international magazine of ceramic implant technology — 2 issues p.a. — € 30*

☐ implants—international magazine of oral implantology — 4 issues p.a. — € 44*

Terms & Conditions: The subscription may be cancelled in written form without due justification within 14 days of order by contacting OEMUS MEDIA AG, Holbeinstraße 29, 04229 Leipzig, Germany. Dispatching notification in good time will suffice. The subscription is automatically extended by another twelve months if it is not cancelled in written form 6 weeks prior to the end of the reference period.

* All prices include VAT, shipping and handling.

Last Name, First Name

Company

Street

ZIP, City, Country

E-mail

Signature

Credit Card Number Expiration Date Security Code

OEMUS MEDIA AG

Holbeinstraße 29 · 04229 Leipzig · Germany · Phone: +49 341 48474-201 · d.duetsch@oemus-media.de

Ceramic implants—Game changer in implant dentistry

On 10 and 11 May 2019, the 5th Annual Meeting of the International Society of Metal Free Implantology (ISMI) will take place on the premises of the Constance Clinic under the theme "Ceramic Implants—Game Changer in Implantology". Renowned speakers and participants will discuss practical experiences and current trends in the use of ceramic implants on both congress days. With its 5th annual conference, ISMI—founded in January 2014 in Constance, Germany—would like to push boundaries and offer new insights into a particularly innovative field of implantology. After a successful kick-off event in 2015, and the successful annual congresses in Berlin (2016), Constance (2017), and Hamburg (2018), ISMI returns to its place of origin and invites participants once again to Constance in 2019. The two-day event starts on Friday with a Pre-Congress Symposium, seminars and the broadcast of a live operation via the Internet. The highlight of the first congress day will be the ISMI White Night, taking place directly after the day's programme (hedicke's Terracotta) and offering participants a relaxed atmosphere with wine and music to wind down the day. On Saturday, which will be dedicated to scientific lectures, a wide range of topics will be presented and discussed, covering almost all areas of metal-free implantology. The Scientific Director of the conference will be ISMI President, Dr Dominik Nischwitz.

ISMI was founded with the aim of promoting metal-free implantology as an innovative and particularly trend-setting field within implant dentistry. In this context, ISMI supports its members with training offers, as well as current tech and market information. In its public relations work, i.e. in specialist circles, as well as in patient communication, ISMI is also committed to a comprehensive establishment of metal-free implantological treatment concepts. ISMI members receive a 20 per cent discount on the congress fee.

contact

OEMUS MEDIA AG
Holbeinstraße 29
04229 Leipzig, Germany
www.ismi-meeting.com

Programme

5TH ANNUAL MEETING OF ISMI

10 & 11 May 2019
Constance, Germany—hedicke's Terracotta

BOOK ONLINE /
CONGRESS PROGRAMME

www.ismi-meeting.com

Theme:

Ceramic Implants—Game Changer in implantology

Scientific Director:

Dr Dominik Nischwitz | Germany

Organisation:

ISMI – International Society of Metal Free Implantology
Lohnerhofstraße 2 | 78467 Constance | Germany
Phone: +49 800 4764-000
Fax: +49 800 4764-100
office@ismi.me | www.ismi.me

ISMI | INT. SOCIETY OF METAL FREE IMPLANTOLOGY

Registration:

OEMUS MEDIA AG
Holbeinstraße 29 | 04229 Leipzig | Germany
Phone: +49 341 48474-308
Fax: +49 341 48474-290
event@oemus-media.de | www.oemus.com

Fax Reply +49 341 48474-290

☐ I would like to receive further information on the 5TH ANNUAL MEETING OF ISMI.

Title, Surname, Name

E-mail (for digital programme)

Stamp

implants 1/19

A new chapter in implant dentistry

A new chapter for implant dentistry will open this summer in Madrid. At the upcoming Global Symposium, the first of three international events hosted by Nobel Biocare, new developments in the field of implant design and site preparation will be unveiled. Supporting these innovations will be new advancements in implant surface technology, as well as long-term implant care. Leading international clinicians, all experts in their field, will be on-site in Madrid to share their experiences with the new solutions. They will also demonstrate how these can help clinicians to further shorten time-to-teeth and to improve long-term clinical results. Participants will be able to further explore the innovations and more through a number of dedicated hands-on sessions and product demonstrations. Held at the Marriott Auditorium Hotel & Conference Center from 27 to 29 June, the Nobel Biocare Global Symposium in Madrid is kicking off the new global event series which was announced last year to extend the originally planned Nobel Biocare Global Symposium 2019 in Las Vegas. Following the meeting in the Spanish capital are two additional Global Symposia in Las Vegas in 2020, as well as in Tokyo in 2021. Through this unique event concept, more dental professionals than ever will be able to experience this new wave of innovations by Nobel Biocare first hand.

Commenting on the upcoming events and launches, Hans Geiselhöringer, President of Nobel Biocare said: "We are excited to welcome dental professionals from all over the world to Madrid in June where we will present the next revolutionary steps in dental implant care with a host of new and forward-thinking innovations. With two more events to come, it will be a once-in-a-generation opportunity to experience true game changers in implant dentistry." More information about the Nobel Biocare Global Symposium events series, as well as how to register for the kick-off meeting in Madrid can be found online at www.nobelbiocare.com/global-symposia. Dental professionals who already registered for the original Nobel Biocare Global Symposium in Las Vegas will be given the opportunity to transfer their registration to any of the three upcoming events.

contact

Nobel Biocare Services AG
P.O. Box
8058 Zurich, Switzerland
www.nobelbiocare.com

“Confidence in You” contest to mark BLX implant system launch

To mark the full European market release of its new BLX implant system, Straumann ran an online contest in which the top prizes are 3 lifetime lion adoptions at Drakenstein lion park, South Africa, where Straumann has already adopted a lion named “Tarzan”. More than 500 dental professionals worldwide have participated in the contest. The three lucky winners will be announced on www.confidence-in-you.com after the IDS 2019. Additionally, the company will give away 20 “Anna and the Lion” children books signed by the company’s CEO Marco Gadola. The winners will be announced after the IDS 2019 in Cologne.

Taking “Arena of Confidence” as its main theme, the Straumann booth at IDS will focus on the confidence that the company, its people, products and solutions bring to the world of dentistry, from dental professionals to patients. A highlight of the IDS show is the full European market release of the Straumann® BLX implant system. The fully-tapered implant is a next generation solution for confidence beyond immediacy. It combines an innovative design concept aiming for optimised stability with high performance Roxolid® metal alloy and SLActive® surface. This creates an implant system that offers new levels of confidence.

In addition to launching BLX, Straumann will use its booth to highlight key topics that represent current industry focuses and trends, each featuring a range of products, solutions and services. These include:

- Straumann® Pro Arch Fixed Edentulous Solutions offering tailored fixed immediate full-arch restorations on four to six implants with a highly aesthetic prosthetic outcome.
- Straumann DenToGo, a remote dental monitoring solution that enables orthodontists and dentists to remotely monitor the treatment progress in their patients.
- In biomaterials, Straumann launches Emdogain® FL, the first product that has been clinically demonstrated to eliminate and sustainably regenerate periodontal pockets as part of scaling and root planing and dental hygiene procedures.

contact

Institut Straumann AG
Peter Merian-Weg 12
4000 Basel, Switzerland
www.straumann.com

VISIONS IN IMPLANTOLOGY

2ND FUTURE CONGRESS FOR DENTAL IMPLANTOLOGY

Perio-Implantology: Implants, Bone & Tissue— Where are we today and where are we headed?

According the motto "Visions in Implantology", the German Association of Dental Implantology (DGZI) hosted their 48th International Annual Congress in 2018. The Düsseldorf event, which was held as "Future Congress in Dental Implantology" for the first time, turned out to be a great success.

The 250 dentists and the 120 practice employees attending the event experienced a congress that provided answers to topical issues and that pointed out new ways regarding the interaction between participants, speakers and the industry. This inherent high and new standard of content was also reflected in a completely fresh organisational concept, which will also serve as the bedrock of the 2nd DGZI Future Congress in Dental Implantology, to be held **in Munich from 4 to 5 October 2019**.

The overriding aim of the congress will be to provide top-notch practical education on the highest level and to bridge the gap between the latest scientific findings and industry innovations, with a view to the integration into the daily clinical practice of the latter. To sharpen its profile as practical and application-oriented event, the congress will no longer be split into separate speaking stages, workshops and side programmes. Instead, it will be divided into a so-called industry day on Friday featuring strategy talks, transmissions of live operations and table clinics, as well as a science-oriented Saturday. This setup guarantees that individual demands—especially from implantologists—will be met and satisfied. By using modern tools such as the Future Podium, innovative presentation techniques, an internet-based digital poster presentation, interactive solutions or a catering concept based on "flying services", the event will resemble a congress trade fair. Without there being considerable breaks between lectures, live surgeries and table clinics anymore, participants, speakers and industry representatives will be given significantly more time and space for communication.

DGZI
Deutsche Gesellschaft für Zahnärztliche Implantologie e.V.

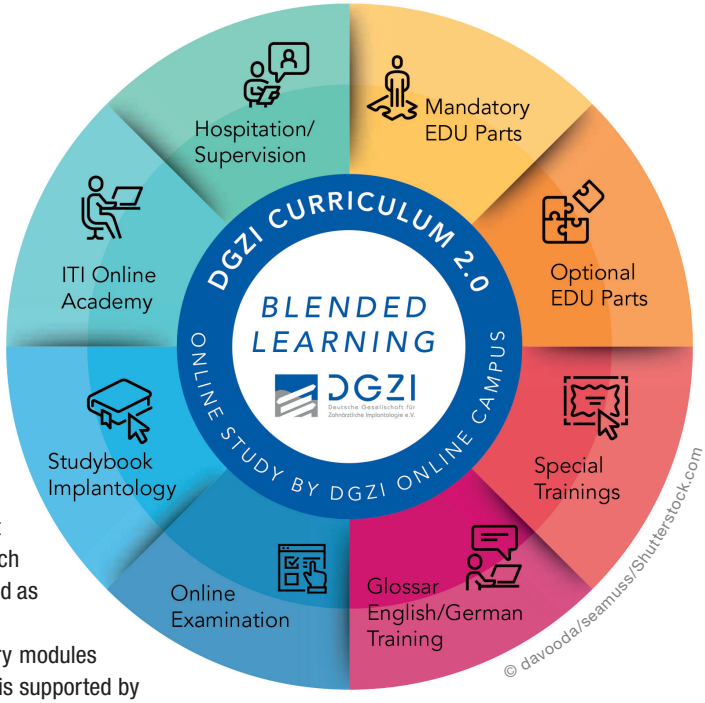
ONLINE REGISTRATION/
CONGRESS PROGRAMME

www.dgzi-jahreskongress.de

Holbeinstraße 29 · 04229 Leipzig · Germany · Phone: +49 341 48474-308 · event@oemus-media.de

DGZI Online Campus

International online training wherever you are



The structure and content of DGZI's successful implantology curriculum was revised in 2019. Since February, all participants have had access to the ITI Academy, where young dentists with little experience in implantology can learn the basics of implant dentistry.
All participants in the curriculum will then start their training in the new "DGZI Online Campus". This has been completely redesigned and enables e-learning from all devices and from anywhere you have online access. The theoretical basics of implant dentistry are well presented and taught in separate modules. Each module ends with a learning success check, which can be practised as often as required in advance in test examinations.
After successful online training, three practice-related compulsory modules and two therapy-related optional modules follow. The curriculum is supported by special learning materials of the DGZI Online Campus.
Start with the new concept of the DGZI online training at home or wherever you are—that is Blended Learning! Now at DGZI!

Contact: sekretariat@dgzi-info.de

Commensal flora to play key role

In fighting periodontal infections

The development of an animal's immune system relies on commensal flora—microorganisms such as bacteria present in certain parts of the body. In the case of immunity against periodontal diseases—infections of the areas surrounding teeth—it is unclear, however, what exactly the role of commensal flora is. Now, Professor Manabu Morita from Okayama University and colleagues have investigated the relation between commensal flora in the mouth and the immune response to a bacterium called *Porphyromonas gingivalis (P. gingivalis)*, which contains lipopolysaccharide (LPS), a known periodontal pathogen. The researchers tested the immune response of mice after the application of *P. gingivalis*/LPS. Two types of mouse were used in the experiments: germ-free and specific-pathogen-free mice. The former are free of any microorganisms, including commensal flora; the latter are mice guaranteed to be free of certain pathogens—in this case, periodontal pathogens—but not of commensal flora. The response to the bacterium was assessed by the amounts of particular types of cells that are characteristic of immune system activation. The scientists observed that exposure to *P. gingivalis* led to an increase in the number of a certain type of cell associated with immune system activity in the specific-pathogen-free mice, after three hours, indicating that application of the bacterium, indeed, triggered the immune system. At the same time, the germ-free mice did not show similar increased levels of these cells, suggesting that commensal flora contribute to the development and functioning of the periodontal immune system.

Source: Okayama University

ZERAMEX® XT

Receives FDA approval

Dentalpoint has received the FDA approval for their new, metal-free two-piece ceramic implant system ZERAMEX® XT. The system, which is available since November 2017, is the most recent addition to the company's product line. It is particularly well suited for the treatment of anterior teeth. By having a root-like design, a high primary stability can be achieved. In addition, a high prosthetic flexibility is guaranteed owing to the new interior connection. The centrepiece of this connection is the carbon fibre reinforced peek screw VICARBO®. The implant is equipped with the microstructured implant surface ZERAFIL™ and thus, allows for a successful osseointegration with a success rate between 96.7 and 98.5 per cent, depending on the system. Since 2006, Dentalpoint is developing and manufacturing innovative ceramic implant systems and is considered to be among the pioneers and industry leaders when it comes to modern two-piece ceramic implants. All ZERAMEX® implants are made in Switzerland.

Source: Dentalpoint AG

Launch of the Oral Reconstruction Foundation

Research Award 2018/2019

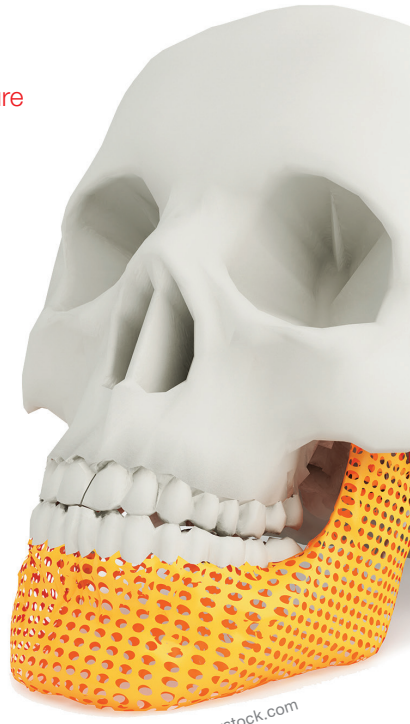
The Oral Reconstruction Foundation announced that it is now accepting applications for the 2018/2019 Oral Reconstruction Foundation Research Award, which is presented every two years and is open to all young, talented scientists, researchers, and dedicated professionals from universities, hospitals, and practices. Eligible scientific papers include those that have been published or accepted for publication in an English peer-reviewed journal that addresses one of the following topics in implant dentistry, oral reconstruction, or related areas: diagnostics and planning, hard- and soft-tissue management, sustainability of implant-supported prosthetics, physiological and pathophysiological aspects, or advances in digital procedures. The recipient of the Oral Reconstruction Foundation Research Award 2018/2019 will have the opportunity to present his or her work at the Oral Reconstruction Global Symposium, which takes place in New York City from 30 April to 2 May 2020. Furthermore, the authors of the three best contributions will receive prizes of EUR10,000, EUR6,000, and EUR4,000 respectively. To be considered a candidate for this award, visit www.orfoundation.org/awards to download the mandatory registration form and to review the eligibility requirements. The registration deadline is 30 November 2019.

ORAL RECONSTRUCTION FOUNDATION

Source: Oral Reconstruction Foundation

Novel Bone Augmentation Procedure

Successful for Challenging Cases



© belekekin/Shutterstock.com

Researchers from the Medical Center of the Goethe University Frankfurt (Germany) recently published a case study in the *Journal of Oral Implantology* that evaluates the use of a novel augmentation alternative in a former head and neck cancer patient. By using a combination of a xenogeneic bone substitute (BO) and platelet-rich fibrin (PRF), they were able to successfully perform an implantation in a severely compromised mandible. A 61-year-old female with cancer in her mandible was treated by a tumour resection in her jaw, as well as neck dissection on both sides, resulting in disfiguration to the lower jaw. The patient's blood was drawn, centrifuged and combined with the BO to fill an anatomy-specific three-dimensional titanium mesh. The titanium "cage" was made from a CT scan generated model of the patient's mandible. The mesh was placed at the involved surgical sight, and then covered with collagen matrix plus a final layer of PRF clots were used to cover the matrix. In this case study, researchers introduce an extremely promising new method of dental reconstruction in treating a severely compromised mandible in a patient recovering from head and neck cancer. The original article is titled "Individualized Titanium Mesh Combined with Platelet-Rich Fibrin and Deproteinized Bovine Bone: A New Approach for Challenging Augmentation" and was published in *Journal of Oral Implantology*, Vol. 44, No. 5, 2018.

Source: Journal of Oral Implantology

Congresses, courses and symposia

AO Annual Meeting

13–16 March 2019
Venue: Washington DC, USA
www.osseo.org/annual-meetings

Giornate Veronesi

3–4 May 2019
Venue: Verona, Italy
www.giornate-veronesi.info

5th Annual Meeting of ISMI

10–11 May 2019
Venue: Constance, Germany
www.ismi-meeting.com

EAO
EUROPEAN ASSOCIATION FOR OSSEOINTEGRATION
CONGRESS

EAO Congress 2019

26–28 September 2019
Venue: Lisbon, Portugal
www.eao.org

DGZI

49th DGZI International Annual Congress— Visions in Implantology

4–5 October 2019
Venue: Munich, Germany
www.dgzi-jahreskongress.de

implants
international magazine of oral implantology

Imprint

Publisher
Torsten R. Oemus
oemus@oemus-media.de

CEO
Ingolf Döbbecke
doebbecke@oemus-media.de

Members of the Board
Jürgen Isbaner
isbaner@oemus-media.de

Lutz V. Hiller
hiller@oemus-media.de

Chief Editorial Manager
Dr Torsten Hartmann
(V. i. S. d. P.)
hartmann@dentalnet.de

Editorial Council
Dr Rolf Vollmer
info.vollmer@t-online.de

Dr Georg Bach
doc.bach@t-online.de

Dr Suheil Boutros
SMBoutros@aol.com

Editorial Office
Georg Isbaner
g.isbaner@oemus-media.de

Johannes Liebsch
j.liebsch@oemus-media.de

Executive Producer
Gernot Meyer
meyer@oemus-media.de

Product Manager
Timo Krause
t.krause@oemus-media.de

Art Director
Alexander Jahn
a.jahn@oemus-media.de

Designer
Sandra Ehnert
s.ehnert@oemus-media.de

Theresa Weise
t.weise@oemus-media.de

Customer Service
Marius Mezger
m.mezger@oemus-media.de

Published by
OEMUS MEDIA AG
Holbeinstraße 29
04229 Leipzig, Germany
Tel.: +49 341 48474-0
Fax: +49 341 48474-290
kontakt@oemus-media.de

Printed by
Silber Druck oHG
Am Waldstrauch 1
34266 Niestetal, Germany

implants **international magazine of** oral implantology is published in cooperation with the German Association of Dental Implantology (DGZI).

DGZI
DGZI Central Office
Paulusstraße 1
40237 Düsseldorf, Germany
Tel.: +49 211 16970-77
Fax: +49 211 16970-66
office@dgzi-info.de

www.dgzi.de
www.oemus.com
www.implants.de

EXCELLENCE IN IMMEDIACY

Straumann® BLX

Confidence beyond Immediacy.

DYNAMIC BONE MANAGEMENT™

Makes immediate protocols achievable and predictable in all bone types.

ESTHETIC EASE CONCEPT

One connection and under-contoured prosthetics to deliver esthetics with ease.

REAL CONFIDENCE

Straumann solutions you can depend on and that are predictable in all clinical situations.

BLX unifies groundbreaking functional design with our high-performance Roxolid® material and the clinically proven SLActive® surface to provide you with confidence for all clinical situations. Innovations like the VeloDrill™ system, Dynamic Bone Management™ and Esthetic Ease Concept are designed to significantly improve surgical and restorative workflows.
Contact your local Straumann representative or visit: **www.confidence-in-you.com**

Roxolid®

SLActive®

A0016/en/A/00 12/18

straumann


COMING SOON
to be announced on 12 March