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Dr Georg Bach

President of the DGZI



The second half of this year will be crucial

Dear readers,

The crisis in the first half of 2020 has forced considerable challenges upon us, which are here to stay for the months and probably years to come. As is the case with many crises, however, there are also opportunities and positive aspects, in contrast to the economic damage and the structural disruptions. We as dentists, together with our teams, are currently doing everything we can to re-establish regular practice routines and to get our patients back into dental care—in accordance with the necessary infection prevention measures, of course. Recent weeks have shown that dentistry has a clear obligation regarding the general health of the population. There is no other medical profession that provides the population in all its variety with such regular care, through dentists working in public clinics and private practices. Especially within the German healthcare system, patients in risk groups, the old and the young, the chronically ill and emergency patients receive reliable dental treatment of the highest standard. After all, oral health plays a crucial part in maintaining the systemic health of patients. Untreated inflammation in the oral cavity, denture pressure points, caries, periodontal disease and other conditions can cause not only adverse situations in the masticatory apparatus but also damage to the entire body.

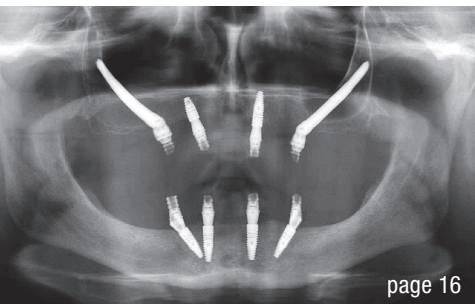
Dental implantology plays a key role here, being the only dental therapy capable of treating patients of nearly all age groups with a myriad of prosthetic possibilities and

surgical protocols in such an individually tailored and sophisticated way. Undoubtedly, there is a medical necessity for and effectiveness in rehabilitating masticatory function with dental implants, even in high-risk patients. We as professional implantologists should thus continue our efforts with great courage to educate our patients regarding the best possible treatment options even in these challenging times. The second half of this year will be decisive in terms of not only crisis management but also further implantological training. In this light, it is my great pleasure to cordially invite you, on behalf of the German Association of Dental Implantology (DGZI), to Bremen in Germany on 6 and 7 November, for our 3rd Future Congress for Dental Implantology and a celebration of 50 years of DGZI.

With this in mind, I wish you an enlightening read with this new issue of *implants* and a healthy late summer and autumn. I look forward to welcoming you to our special anniversary congress in Bremen, the founding city of DGZI!

Yours,

Dr Georg Bach



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Er:YAG laser scanner for **implant site** preparation

Drs Norberto Berna, Giovanni Olivi, Luca Marigo & Massimo Cordaro, Italy

Introduction

Numerous studies have reported the ability of mid-infrared lasers (Er:YAG laser with a wavelength of 2,940nm and Er,Cr:YSGG laser with a wavelength of 2,780nm) to ablate hard biological tissue without creating thermal damage.¹⁻⁵ Among the various applications, the possibility of preparing the implant site entirely with laser irradiation was originally illustrated *in vivo* by Dr Berna, one of the authors of this article, in 2003. A patent for this form and method was issued and registered at that time. The first group of 62 patients received this method of treatment, using an Er,Cr:YSGG laser, between November 2001 and December 2002. Since then, another larger group of patients have been treated with this method. An Er:YAG laser and a dedicated laser scanner handpiece have never been used in human patients for this proce-

cedure, however. The major obstacles to the wide use of this technique are the time to create the osteotomy,⁶ the low energy capability of the devices previously available and the time required to learn to use a handpiece that works in no contact. In the present study, a high performance Er:YAG laser was used with a tipless laser scanner handpiece that allows more precision, a higher energy output and a shorter pulse duration in comparison with the previously used device.

Materials and methods

A 67-year-old patient, a non-smoker without any systemic diseases, was examined using CBCT (PaX-i3D Smart, Vatech) in order to assess the surgical area, the bone volume and the bone density in the edentulous area, region #15 (Fig. 1). Before the surgery, the patient

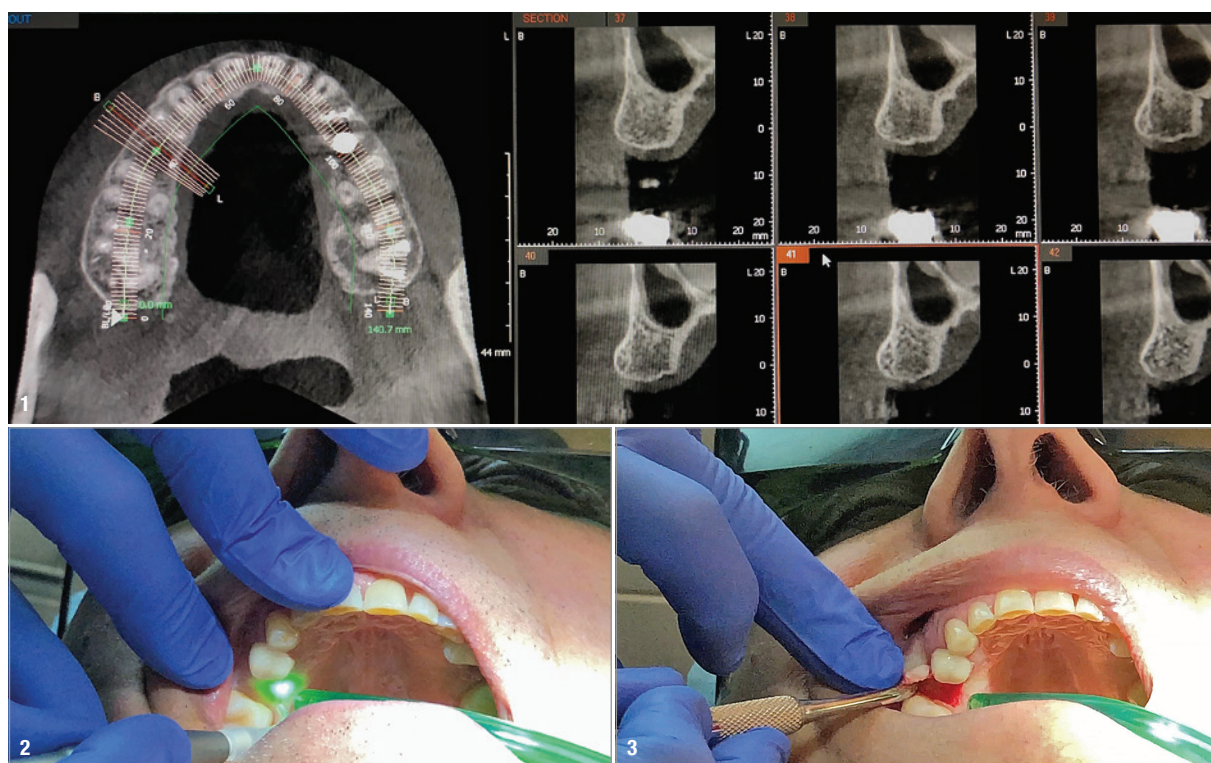


Fig. 1: A CBCT scan was taken pre-op. **Fig. 2:** Flap incision using a LightWalker Nd:YAG laser head (200 µm diameter fibre, 3W, 70Hz, MSP). **Fig. 3:** Flap reflection was carried out with a Prichard elevator.

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Fig. 4: The stabilised laser preparing the osteotomy, operated at 380mJ, 20Hz and 50 microseconds. **Fig. 5:** The Osstell handpiece detecting primary stability. **Fig. 6:** Determining the ISQ value. **Fig. 7:** Clinical situation post-op. **Fig. 8:** Radiograph taken immediately after surgery. **Fig. 9:** Radiograph taken after eight months of loading.

had received all the information regarding the treatment and the possible alternative treatment through a personalised informed consent form. The implant insertion axis has been planned for the best functional result of the prosthesis. A customised dental resin holder was created to support the laser scanner handpiece intra-orally, in the correct position according to the insertion axis of the implant. Local anaesthesia was administered using articaine (1 : 100,000). A full-thickness incision was performed using an Nd:YAG laser (1,064nm wavelength; 200µm diameter fibre; MSP: 3W, 70Hz; LightWalker AT, Fotona) on the palatal paramedian line; two mesial and distal releasing incisions were also performed without involving the papillae (Fig. 2). The access flap was then reflected with a Prichard elevator (Fig. 3).

An Er:YAG laser with a wavelength of 2,940nm (LightWalker AT) equipped with a laser scanner handpiece (X-Runner, Fotona) was used (Fig. 4). The laser parameters used were 380mJ and 20Hz, delivered with a super-short pulse (50 microseconds). An external source of sterile saline solution stored at 5°C in a refrigerator was used, and the saline was delivered via a peristaltic pump to promote photothermal ablation and to reduce the temperature in the surgical site. The scanner allows one to program and precisely perform a circular osteotomy of 3.5mm in diameter, the same diameter as the implant manufacturer's final drill. During the osteotomy, the insertion depth was checked using a millimetre probe, until the preset depth of 12mm was reached. The author prefers to place implants 2mm deeper sub-crestally to prevent angular resorption and to manage the emergence profile of the prosthesis more effectively. A tapered screw implant made of Grade IV titanium and with a sandblasted and acid-etched surface (HELI, IDC) was inserted. It had a maximum diameter of 4.2mm on the external thread and a length of 10.0 mm. Once inserted, the implant stability quotient (ISQ) was determined using the Osstell handpiece (Osstell; Figs. 5 & 6). The flap was sutured (Fig. 7), a postoperative radiograph was taken (Fig. 8), and after five days, the sutures were removed. At that time, the patient was asked to assess the postoperative pain he had experienced by assigning a numeric value of between 0 and 10 on a verbal numeric scale.

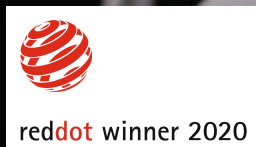
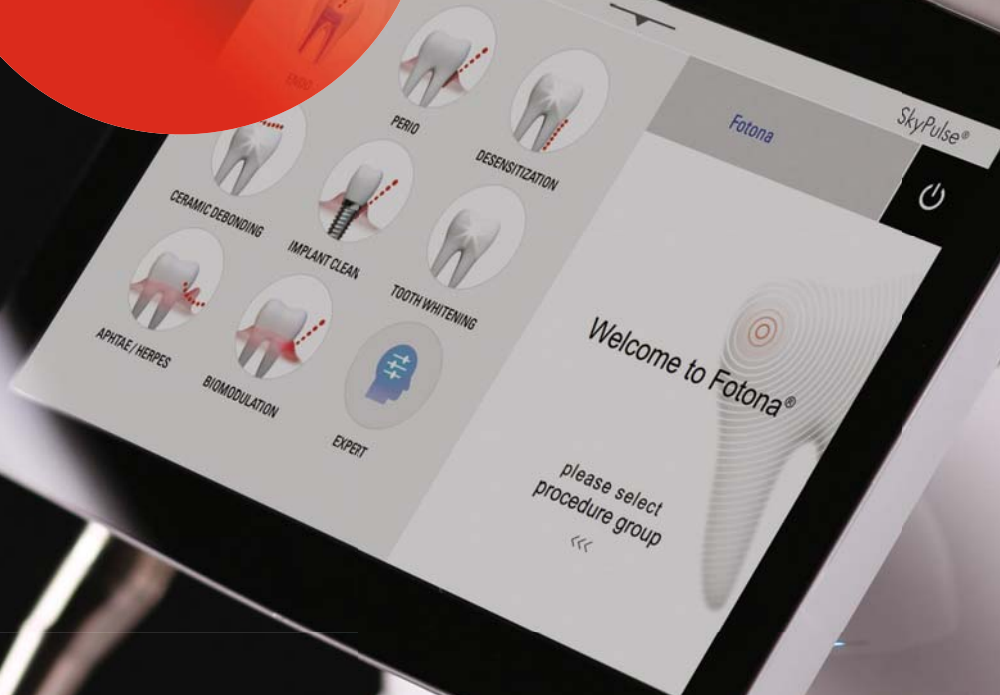
Results

The total clinical time for preparing the osteotomy was approximately 7 minutes. The implant had a high primary stability value at the time of insertion: the ISQ score measured in the buccolingual direction was 84 and the score measured in the mesiodistal direction was 81. The reported numeric value of postoperative pain was 1. At the second stage of the implant treatment, which was performed after 40 days, new ISQ values of 84 buccolingually and 82 mesiodistally were determined. After three months, the values had increased to 86 buccolingually

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and 84 mesiodistally. The radiographic control image taken after eight months of loading showed complete osseointegration of the implant with very good healing of the bone around the neck of the abutment (Fig. 9).

Discussion

The Er:YAG laser technology used in this study allowed a reduction of bone preparation time compared with the laser system used previously. Also considering the absence of pauses needed to replace the drills, the total time for preparing the osteotomy was very close to that of the conventional method.⁷ However, there are other advantages of using a laser for preparing osteotomies. Besides a comparable preparation time, the higher energy delivered through a tipless stabilised laser scanner handpiece to the target, with a super-short pulse and efficient water spray, reduced the minor thermal damage to the bone cells adjacent to the osteotomy site and avoided the smear layer typically associated with conventional drill preparation.^{8,9} This could reduce the time necessary for osseointegration.¹⁰ The laser site preparation is very precise and compatible with different implant geometries, owing to the absence of micro-movements and skidding induced by the impact of drills on the bone, especially for large-diameter final drills.¹¹ Such a scanner technology is of major significance for developing laser use in implantology further, as it allows osteotomies of different sizes and shapes (circular and possibly oval) to be created with very high precision and compatibility with new implant geometries.

The ISQ score analysis used in this clinical study reports the values of resonance frequency analysis using the Osstell handpiece. The scale of values ranges from 0 to 100, and the lowest threshold value for single implant loading, even in cases of immediate placement, corresponds to 70. This is the only non-invasive method accepted by the international scientific community for clinical evaluation of osseointegration.¹²⁻¹⁵ In the clinical case described in this article, the high primary stability value increased postoperatively over the course of 40 days, indicating the absence of bone damage during the laser procedure and that cell healing had started promptly and successfully. Indeed, erbium laser bone irradiation has been reported to increase release of bone morphogenetic protein, suggesting quicker osseointegration and stability as a result.¹⁶ Among the other advantages of laser osteotomy preparation, the lack of contact, vibration and pressure made for a more comfortable experience for the patient during the intervention. Finally, the immediate postoperative period, as reported by the patient, was free of pain and complications.

Conclusion

This first clinical case highlights the many advantages of the use of the Er:YAG laser to perform an implant oste-

otomy without drills. The absence of postoperative pain and complications and the very high value of primary implant stability described in this case report suggest that the use of an Er:YAG laser and a dedicated laser scanner handpiece is a viable treatment alternative for creating osteotomies. These positive results support the realisation of a pilot study with a greater number of implants.

about the authors



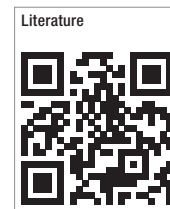
Dr Norberto Berna graduated in Medicine and Surgery and specialised in dentistry and stomatology. He holds an MSc in Odontology and Forensic Science. Since 1987, he has been working in his private office with lasers of different wavelengths. He holds three patents and is frequently invited to speak at international conferences.

He is a joint scientific coordinator of the master's degree in laser dentistry at the Università Cattolica del Sacro Cuore in Rome in Italy. Between 2012 and 2018, he was an adjunct professor at the University of Genoa in Italy.



Dr Giovanni Olivi graduated cum laude in Medicine and Surgery (MD) and in Dentistry (DDS) from universities in Rome. He obtained a postgraduate diploma in laser dentistry from the University of Florence in Italy in 2002 and master status from the Academy of Laser Dentistry in Coral Springs in Florida in the US in 2009. Since 2007,

Dr Olivi has been a contracted professor and a joint scientific coordinator of the master's degree in laser dentistry at the Università Cattolica del Sacro Cuore. He is the author of over 70 peer-reviewed articles, several chapters in dentistry textbooks and four books on laser dentistry.



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Successful restoration of the maxilla and mandible

Case report of a heavy smoker

Drs Branislav Fatori & Inge Schmitz, Germany

Introduction

Dental implants represent the most cost-effective and long-term solution for the replacement of missing teeth and have a high average life expectancy. Presently, the failure rate of implants is higher among smokers than in non-smokers. There seems to be a correlation between the implant failure rate and the number of cigarettes smoked daily—the higher the number of cigarettes smoked daily, the higher the implant failure rate. One of the authors of this article has extensive experience in treating smokers and has more than 30 years of experience in inserting dental implants with a low implant failure rate. To achieve a satisfactory result regarding implant survival, a variety of factors need to be taken into consideration, such as bone type and quality, bone density, placement and location of the implants, patient motivation, and the patient's financial situation.

On smoking

In general, smoking is considered to be one of the main risk factors for implant failure. Reports in the literature

show a lower survival rate of dental implants in smokers as opposed to non-smokers. One possible mechanism by which smoking may affect osseointegration is lowering of the blood flow rate owing to increased peripheral resistance and platelet aggregation. Tobacco smoke directly affects osteoblast function.

Materials and methods

Patient

The patient was male and aged 65. He was a heavy smoker, smoking 60 cigarettes a day. In addition, he suffered from severe periodontitis (Fig. 1).

Implants

The implantation was carried out with six implants in the maxilla and ten implants in the mandible (Figs. 2–5). The implants used were OKTAGON DENTAL RATIO implants (DRS International) of 4.1 mm in diameter and 13.0 mm in length. The implants had a tapered bone-level design. Before insertion, each implant was wetted with either hyaluronic acid or the autologous blood of the patient.

Preoperative medication

As for premedication measures, Augmentin was given for a duration of one week. After microbiological examination, an antibiotic (Clindamycin Aristo 600, Aristo Pharma) was prescribed (first one tablet three times a day and then one tablet twice a day until the day of surgery). In addition, the patient was instructed to rinse with Chlorhexamed (GlaxoSmithKline). Local anaesthesia was achieved with Ultracain D-S forte (Sanofi-Aventis Deutschland), and 40 mg Dexamethasone (Dexa-ratiopharm (ratiopharm)) was administered intramuscularly at the same time.

Augmentation

Augmentation was carried out using NanoBone granules (Artoss) and a Geistlich Bio-Gide membrane (Geistlich Biomaterials). NanoBone is a synthetic calcium phosphate. Its structure results in extremely quick bone formation.

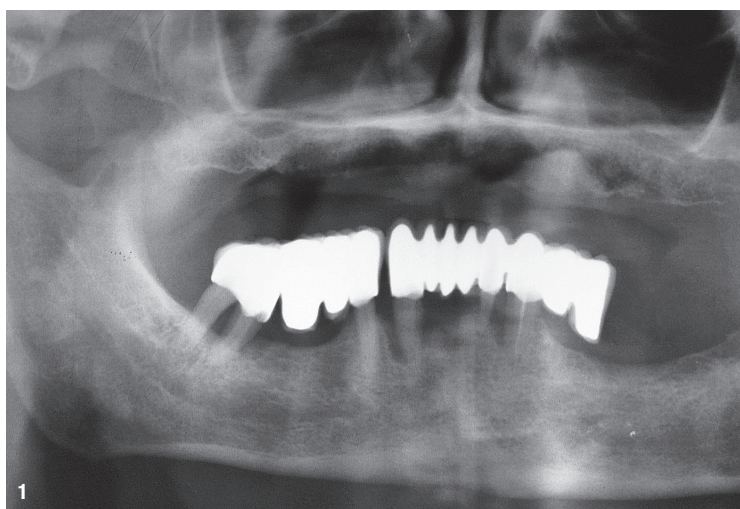


Fig. 1: Radiographic evaluation of the mandible of the male patient, who was a heavy smoker and suffered from severe periodontitis.

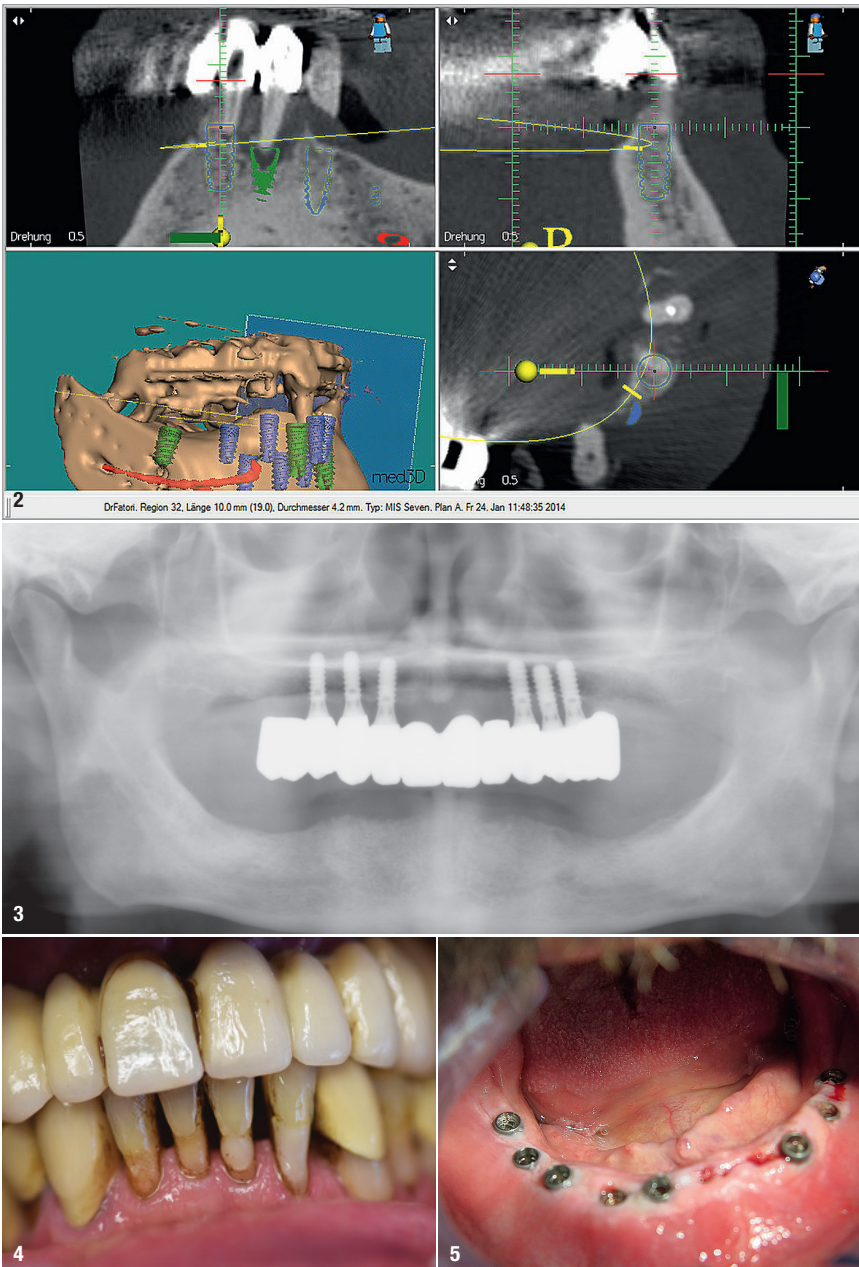


Fig. 2: Diagnostic procedures. **Fig. 3:** Radiograph of the maxilla showing the situation after the placement of six OKTAGON DENTAL RATIO implants. **Fig. 4:** Frontal view showing the restorative situation of the maxilla and the mandible prior to tooth extraction. **Fig. 5:** Situation after implantation of ten implants in the mandible. Guided bone regeneration was necessary (with NanoBone and Geistlich Bio-Gide).

Surgical technique

Implant placement was performed under local anaesthesia. The osteotomies were extended gradually, according to the intended implant diameter, with the sequential order of drills that is recommended by the implant manufacturer. Thereafter, the oral cavity was cleaned and necrotic or inflamed tissue was removed. The implants were then inserted

into the prepared sites to an insertion torque of 45 Ncm. Adequate primary stability was obtained. Resorbable 4/0 sutures were used for wound closure.

Postoperative treatment

Postoperative intra-oral periapical radiographs were taken, and these confirmed the accuracy of the implant placement. As for postoperative medication, an-



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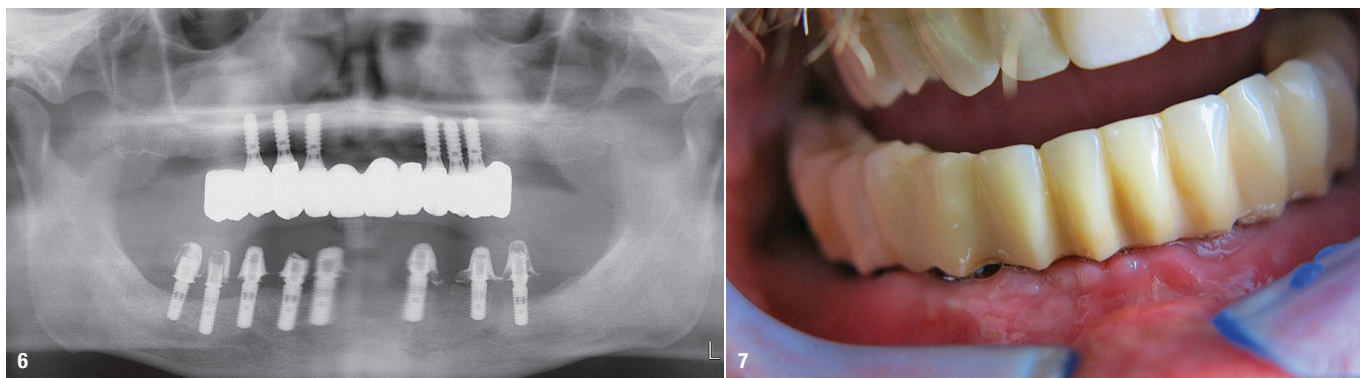


Fig. 6: Early loss of two implants in the mandible due to primary instability. **Fig. 7:** Provisional restoration of the mandible.

tibiotics were prescribed. In addition, 20mg prednisolone was prescribed (first one tablet three times a day, then half a tablet three times a day and finally a quarter tablet three times a day). Five arnica globules were also prescribed daily to minimise swelling. Radiographs were taken digitally at the time of surgery, after 24 hours and after one month in order to evaluate implant success (Fig. 6).

Follow-up examination

Follow-up examinations employed the criteria of Albrektsson et al. and Buser et al.^{1,2} These criteria for implant success are widely cited and generally accepted. According to these, implant success is defined by the absence of persistent subjective complaints, including pain, foreign-body sensation and/or dysesthesia; the absence of recurrent peri-implant infection with suppuration; the absence of mobility; continuous radiopacity around the implant; and the possibility of prosthetic restoration. Ahead of the definitive restoration, a provisional restoration of the mandible was fabricated and inserted (Fig. 7).

Results

Fourteen of the 16 inserted implants osseointegrated. During the healing phase, periosteal tests were performed (Periotest, Siemens), and the average values achieved ranged from 0.55 to 0.67 (on the plaque, gingival and papillary bleeding indices).

Discussion

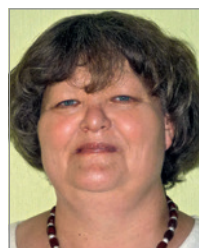
The healing process of the implants in the case described was good. Only two implants were lost. In conclusion, it can be argued that smoking tobacco is not a contra-indication for replacing missing teeth with dental implants. However, providing the smoker with detailed information about the smoking-related risk of implant failure is a rational consensus from the vantage point of both patient and dentist.

Editorial note: Dr Inge Schmitz declares that she has no conflicts of interest in relation to this article. Dr Branislav Fatori would like to thank Ulf-Christian Henschen of DRS International (Langenfeld, Germany) and Dr Walter Gerike from Artoss (Rostock, Germany) for their support.

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Dr Branislav Fatori has more than 41 years of experience in implantology and has placed more than 8,000 implants. He was trained at prominent clinics around the globe. Also, he has worked as a long-term training consultant for professional societies and implant manufacturers.



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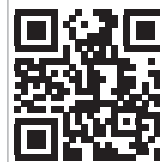
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New **zygomatic** implant design

Adapting to the anatomy

Drs Sepehr Zarrine, France; Carlos Aparicio, Spain & Edmond Bedrossian, USA

Introduction

This article introduces and explains the rationale for the two different designs of the Straumann zygomatic implant, which is the result of a collaboration between the authors and engineers over the last several years. It is based on many years of the application of evidence-based clinical principles and clinical outcomes using this zygomatic implant and on common fundamental values.

The evidence-based principles began with Per-Ingvar Brånemark in 1977 in severely atrophied maxillae caused by trauma, congenital conditions or tumour resection. Over the past three decades, many studies have reported a high success rate for rehabilitation with zygomatic

implants. Furthermore, retrospective studies span many years,^{1,2} and many take into consideration implant survival, patient satisfaction, and success and function of the prostheses.³ A recent systematic review in 2016, which included 68 studies and a total 4,556 zygomatic implants placed in 2,161 patients, reported a cumulative survival rate of 95.21 % after 12 years of follow-up and concluded that zygomatic implants can be placed in patients with a high predictability of success.⁴ Therefore, zygomatic implants in combination with conventional implants in the anterior maxilla (Figs. 1 & 2) can be considered a valid alternative to grafting procedures in the atrophic maxilla (Figs. 3 & 4). The efficacy of this type of implant has also been highlighted in cases where total absence of the maxillary alveolar bone does not al-

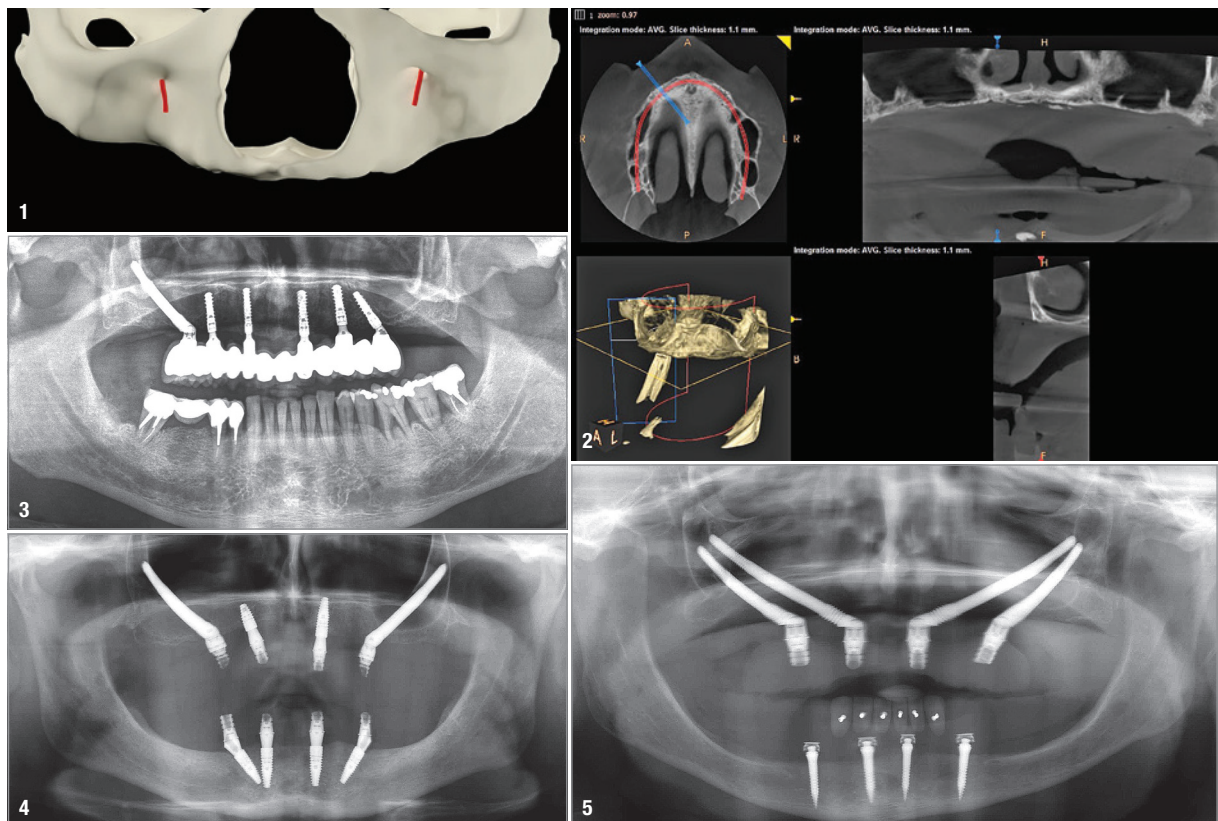


Fig. 1: Extremely resorbed maxilla visualised via 3D printing. **Fig. 2:** Severe alveolar bone resorption and maxillary sinus pneumatization. **Fig. 3:** One zygomatic implant in combination with conventional implants placed where the bone quantity was sufficient. **Fig. 4:** Two zygomatic implants with two conventional implants. **Fig. 5:** Four zygomatic implants in extremely resorbed maxilla.

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low for the placement of axial implants in the anterior maxilla; instead, the “quad zygoma” concept is considered (Fig. 5). Implant teams should bear in mind that the use of zygomatic implants is considered an advanced procedure, and surgeons placing this type of implant should be aware of the potential complications and the management of such complications.⁵

The common fundamental values are the importance of the patient, the service being provided to him or her, and the complications that we wish to avoid. The ultimate goal is to rehabilitate the masticatory function and aesthetics of the atrophied maxilla using a surgical and prosthetic procedure that is as safe and sustainable as possible. Implant design is crucial, and the key elements of success must be fully understood. An effective zygomatic implant requires multiple strategies, and each of its constituent parts must have a benefit, increase success and reduce risks. Changes to the original design include thread design and distribution, surface enhancement, implant diameter, angulation of the implant platform and modifications to the middle portion of the implant, resulting in two different zygomatic implant designs: round and flat.

Threads and primary stability

Primary stability must be obtained in cases of severe alveolar bone resorption and maxillary sinus pneumatization combined with poor bone quality.^{6–8} This crestal bone situation does not allow for the placement of a conventional dental implant without bone augmentation techniques such as sinus floor elevation or onlay bone grafting from an intra-oral or extra-oral donor site. Zygomatic implants are fixtures inserted through the residual alveolar crest, the final entry being into the base of the zygomatic bone and the exit of the apex of the implant at the lateral cortex of the zygomatic bone. Depending on the anatomy of the maxilla, the contour of the lateral maxillary sinus wall determines whether the middle portion of the implant is inside or outside of the sinus.

Thus, an optimised thread pitch is needed in the portion of the implant that crosses the zygomatic bone, and a coronal thread and micro-thread are needed for the crestal part. In the crestal bone, being D4 bone, achieving sufficient primary and secondary implant stability can be challenging. We must therefore achieve the highest possible osseointegration in the zygomatic bone. That is why the apical portion of the implant is tapered and sandblasted (Fig. 6) for better bone-to-implant contact. The tapered design provides good grip and anchoring and is an important factor in primary stability, allowing for an immediate loading protocol. Freedman et al. showed in their 2013 and 2015 finite element analysis studies that the primary support of occlusal loads is the crestal bone, which is preferred.^{7,8} To enhance the stability of the zygomatic

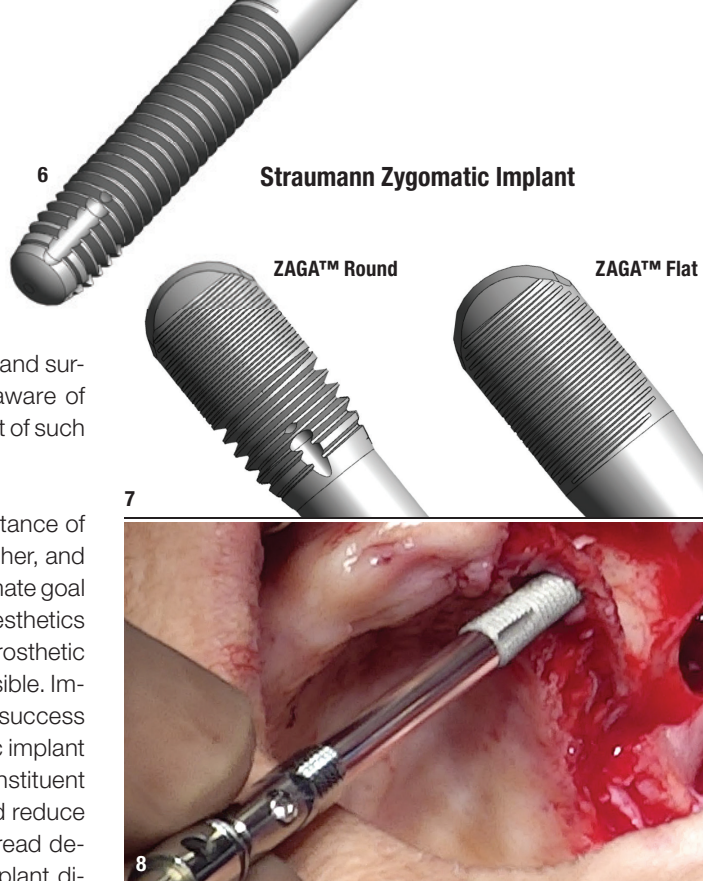


Fig. 6: Tapered design and sandblasted surface. **Fig. 7:** Coronal threads and micro-threads. **Fig. 8:** The combination of the two surfaces.

matic implant at the maxillary crest, coronal threads and micro-threads are present (Fig. 7). These stabilise the implant at the crest and stabilise the final bone level in line with the threads. In cases where the minimal crestal bone resorbs over time, the potential for peri-implantitis is minimised by the machined surface of the crestal threads.

Surface and efficiency

Each surface, whether machined or rough, has a specific benefit.⁹ Straumann® Zygomatic Implants combine the two, depending on their usefulness in each part of the implant (Fig. 8). The sandblasted rough surface inside the zygoma improves bone apposition on to the titanium surface and ensures higher osseointegration values in shorter healing times during the crucial transition between initial mechanical stability and secondary biological stability. This surface, combined with a high-grip design, allows for safer and faster osseointegration. However, it is important to wait six months for osseointegration before placing the definitive prosthesis, as a severely atrophied maxilla is being rehabilitated.

Bacterial adhesion and biofilm formation on the implant surface are often early steps towards peri-implantitis. This consideration led to the choice of a machined surface for the crestal part, which has threads and micro-threads to reduce bacterial colonisation and bone loss around the implant neck. All implants are clinically integrated and stable in the bone tissue; however, the machined surface requires more osseointegration time, but will have less bacterial adhesion. Moreover, immediately above the ma-



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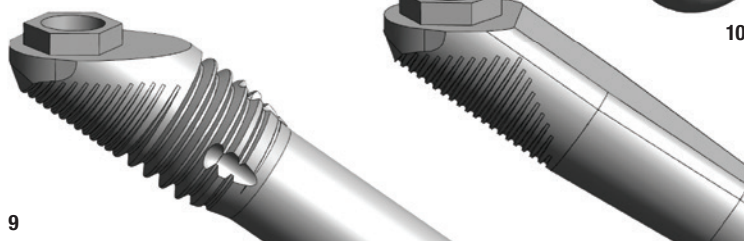
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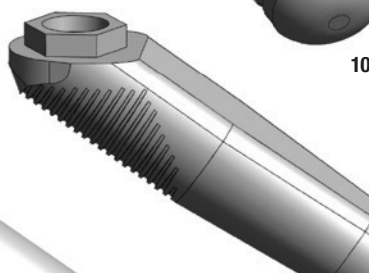
Straumann Zygomatic Implant

ZAGA™ Round



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ZAGA™ Flat



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Fig. 9: Tissue-level neck for periodontal stability. **Fig. 10:** The tip of the Straumann® Zygomatic Implant is round and smooth.

chined part with threads within the bone, the platform of the implant, which is in contact with the gingiva, forms a neck-like tissue level that is smooth and without threads. Literature has confirmed that the source of sinus infections is not the presence of titanium within the sinus, but the introduction of bacteria into the maxillary sinus from the peri-implant sulcus in cases where crestal bone is absent.

The machined surface of the implant collar has resulted in the periodontal success of Straumann® Tissue Level implants. The same surface has been reproduced on the new Straumann® Zygomatic Implant, for which stability of the peri-implant soft tissue is essential to avoid oral-antral communication at the implant platform (Fig. 9). By the same token, the tip of the Straumann® Zygomatic Implant is round and smooth to help minimise the risk of soft-tissue irritation (Fig. 10). Subperiosteal infections, swelling and skin irritation are caused by an overextended apical portion due to incorrect measurement and excessive implant length, or the creation of particles and a lack of cleaning and irrigation during osteotomy preparation.⁵ The correct surgical procedure must avoid this problem, and the apical portion of the implant must transfix the zygomatic bone for quadricortical stabilisation, but must not protrude outside. The smooth and round tip of the Straumann zygomatic implant comes close to the zygomatic bone surface and will not cause damage.

Diameter and safety

When the flap is raised and the zygomatic bone is visualised, we can see that the surface for anchorage of the

implants is not particularly large. Indeed, it is necessary to consider placing two zygomatic implants on each side. There are two positions for the placement of zygomatic implants (Fig. 11). The upper position is for the anterior implant in quad zygoma cases, and the lower position is for posterior zygoma cases in all other cases. Therefore, the surgeon should be conscious of the apical position of the zygomatic implant, even in cases where quad zygomatic implants are not planned. By keeping the apex of the zygomatic implant in the lower position, if needed, additional zygomatic implants may be placed in the upper position in cases where the anterior implant fails and there is no residual bone. Furthermore, the tip should not be set too low so as not to fracture the zygomatic bone, nor should it be set too high so as not to penetrate the orbit or the infratemporal fossa.

Owing to the long length of the implant and the complicated maxillary-zygomatic structure, it is crucial to have total mastery of the surgical procedure, meaning experienced surgeons with comprehensive training are required. To prevent penetration into the orbit or the infratemporal fossa, the basic surgical factor is direct visualisation of the tip of the drills as the osteotomies are prepared and of the tip of the implant as the fixture is inserted. As a result, the larger the implant, the greater the difficulty and risk. The size of the Straumann® Zygomatic Implant is ideal for improving patient safety: 2.6 mm at the apex and 3.4–3.9 mm for the tapered and threaded apical portion.

Two designs and different anatomical situations

The ZAGA (Zygoma Anatomy-Guided Approach) anatomic description takes into account the various relationships between both the implant platform and the middle portion of the zygomatic implant with the crest and the lateral maxillary wall (Fig. 12).^{10,11} The anatomical classification ranges from ZAGA 0—straight lateral maxillary wall with the platform on the crest and the middle portion of the zygomatic implant inside the sinus—to ZAGA 4—the most extreme resorption of the maxillary sinus with or without significant concavity of the lateral maxillary sinus wall. The presence of bone around the implant platform allows for better occlusal force distribution and connective soft-tissue fibre insertion. This buccal bone has a crucial influence on the stability of the facial gingival margin. In this case, the Straumann® Zygomatic Implant ZAGA™ Round should be used (Fig. 13). Indeed, the coronal threads and micro-threads stabilise the implant in the residual crestal bone, as well as at the bone level in line with the threads, and at the gingiva level in a sustainable manner.

However, in cases of extreme maxillary resorption and concavity of the sinus wall such as ZAGA 4, or in cases of total or partial maxillectomy, the zygomatic implant



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Fig. 11: Placement of two tips in the zygomatic bone.

Straumann Zygomatic Implant

ZAGA™ Round

ZAGA™ Flat

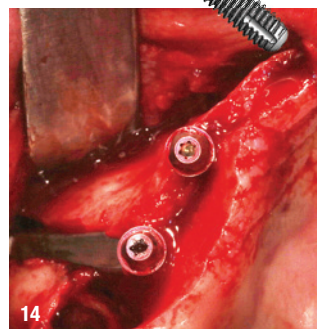
will be immediately below the soft tissue of the vestibule. Vestibular dehiscence is difficult to prevent. This exposure of the platform and the threads is due to muscle pull on the unattached soft tissue. To minimise this risk in these cases, the ideal implant is the Straumann® Zygomatic Implant ZAGA™ Flat because the flattened shaft allows the neck and the body to be as submerged in the bone crest as possible (Figs. 14 & 15). The partial distribution of the coronal threads helps to attain maximum bone-to-implant contact and completely seal the bone wound. Therefore, this implant, being firmly seated in the bone, allows for high anchoring despite severe atrophy. The flattened middle part and flattened coronal part without vestibular threads do not compress soft-tissue vascularity. Therefore, they do not cause irritation over the subperiosteal portion of the implant, and they avoid exposure and minimise long-term soft-tissue response.

A 55° platform, screw-retained abutment and prosthetic versatility

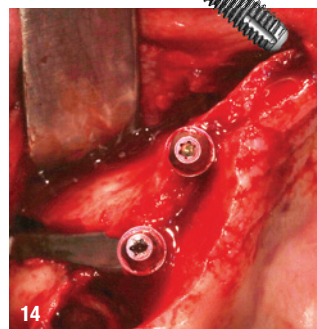
Zygomatic implants are inserted from the residual alveolar or basal bone to the frontal portion of the zygomatic bone. The axis between the bone crest and the zygomatic bone is upwards and outwards. Furthermore, the emergence position of the zygomatic implant can be at a more medial position compared with standard maxillary implants. There must be angulation between the body of the implant and the head. An angled head is preferred to a straight implant head offset by a highly angled abutment for mechanical reasons. The one-piece angled head with an external hex connection increases mechanical strength, guaranteeing long-term mechanical behaviour. The 55° platform provides a higher angle and versatility for the restorative occlusal table, allowing for its location and emergence in the prosthetic arch (Figs. 16 & 17). In most cases, despite resorption, all screw access holes come out on the occlusal aspect, and the implant neck in the bone crest, and are surrounded by bone as far as possible. The skills and abilities of the surgeon are necessary to achieve this and place a Straumann® Zygomatic Implant ZAGA™ Round.

Unfortunately, severe resorption of the maxillary crest is centripetal and decreases in the sagittal plane and can be similar to pseudo-prognathism in extreme cases. This discrepancy between the two jaws creates problems in rehabilitation because placing the implant head in the anatomical dental position means that it exits alveolar bone. In this ZAGA 4 anatomy, the zygomatic implant is placed outside of the crest and has lateral bone support at the implant platform. In this case, the bone is not sufficient to cover the middle portion or neck of the implant. It is important to perform an osteotomy, ensuring maximum coverage of the middle body and neck, and to place a Straumann® Zygomatic Implant ZAGA™ Flat, as

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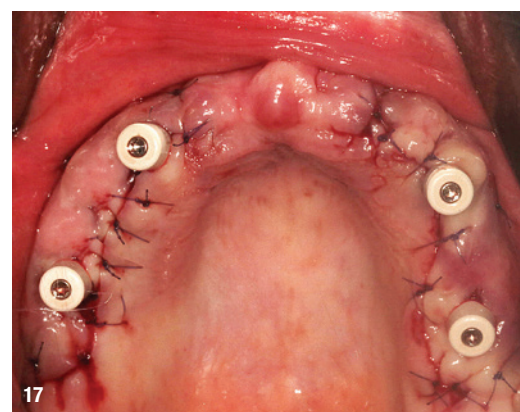
Fig. 12: Two designs for different anatomical situations. **Fig. 13:** Straumann® Zygomatic Implant ZAGA™ Round with coronal part surrounded by bone. **Fig. 14:** Straumann® Zygomatic Implant ZAGA™ Flat submerged as far as possible into bone crest. **Fig. 15:** The flattened middle part does not compress soft-tissue vascularity.

its coronal design and coronal micro-thread are adapted to this situation.

The optimal abutment height of between 1.5 and 4.5 mm can be chosen at the end of surgery, and the abutment will be torqued to 35 Ncm (Fig. 18). A specific zygomatic screw-retained abutment was developed to ensure compatibility with the Straumann bone-level (BL, BLT, BLX) prosthetic portfolio for fixed prostheses (Fig. 19). This



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Fig. 16: The 55° platform provides a higher angle and versatility for the prosthesis. **Fig. 17:** Healing caps on the screw-retained abutments and crestal emergence on the prosthetic arch.

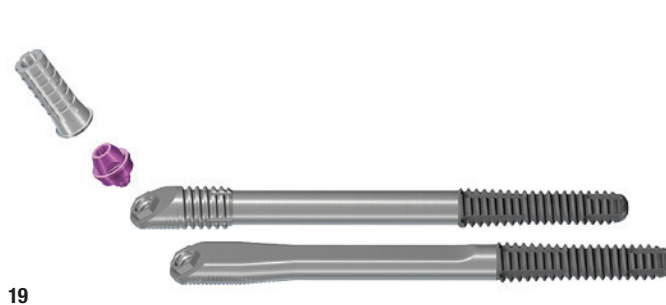
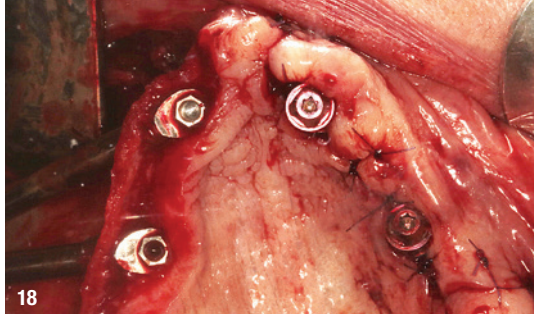


Fig. 18: One side with screw-retained abutment and one side before screwing on the abutments. **Fig. 19:** Specific zygomatic screw-retained abutment developed to ensure compatibility with the Straumann bone-level prosthetic portfolio. **Fig. 20:** CAD/CAM high-precision milled titanium bar (Createch Medical). **Fig. 21:** A prosthetic design without any concavity that might trap food and with spaces for cleaning.

means that the prosthetic steps, whether for a temporary or definitive fixed restoration, are managed using existing products: Straumann screwdriver, impression copings, provisional titanium copings, and CAD/CAM high-precision milled titanium bar or cobalt–chromium framework (Createch Medical). Prosthodontic rehabilitation also plays an important role, and it is important to emphasise the design of a prosthesis without any concavity that could trap food and with cleaning spaces (Figs. 20 & 21).

Conclusion

When fixed rehabilitation for completely edentulous patients cannot be achieved using conventional implants only owing to bone resorption, there are two surgical alternatives: grafting and a graftless solution. Bone grafting is a long process in cases of severe atrophy, and sometimes the intra-oral donor sites are not sufficient and an extra-oral donor site is needed. Moreover, grafted bone resorption is common and unpredictable. A graftless solution using zygomatic implants is an effective option in atrophic jaws, and according to substantial data, it is a safe option in the management of severely resorbed edentulous maxillae. It decreases the time between surgery and fixed restoration, allows for a quick return to normal life thanks to immediate loading,¹² and increases comfort and quality of life for patients.¹³ Obviously, the use of zygomatic implants by surgeons who are not comfortable with the maxillofacial anatomy, the specific surgical protocol and the prosthetic vision is not recommended.

The Straumann® Zygomatic Implant ZAGA™ Round and Straumann® Zygomatic Implant ZAGA™ Flat designs are the result of the work and collaboration of three surgeons and engineers. Usually, the Straumann® Zygomatic Implant ZAGA™ Round is inserted through the maxillary crestal bone and is apically stabilised in the zygomatic bone. Individual anatomical differences mean

that there can be various relationships between the zygomatic implant and the ridge and the lateral maxillary wall. Moreover, each side may be different in the same patient. When the bone volume and the sinus are not sufficient to maintain close contact between the crestal bone and the implant (ZAGA anatomy Type 4), the implant body and neck must be as submerged as possible in the bone crest in order to avoid soft-tissue compression and dehiscence. In such cases, the Straumann® Zygomatic Implant ZAGA™ Flat implant is indicated. Each implant has been designed to adapt to the patient's anatomical situation, and each part of the implants has been designed to be effective and safe.

Literature



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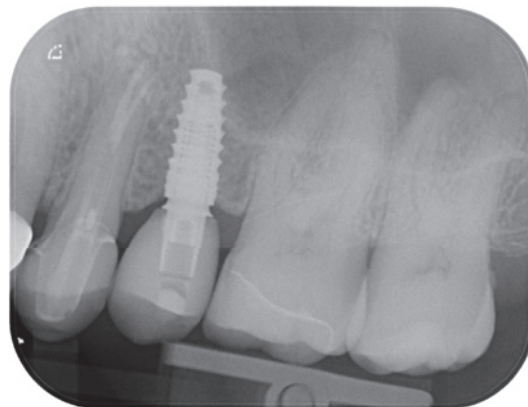


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Marginal bone level six months after abutment placement.

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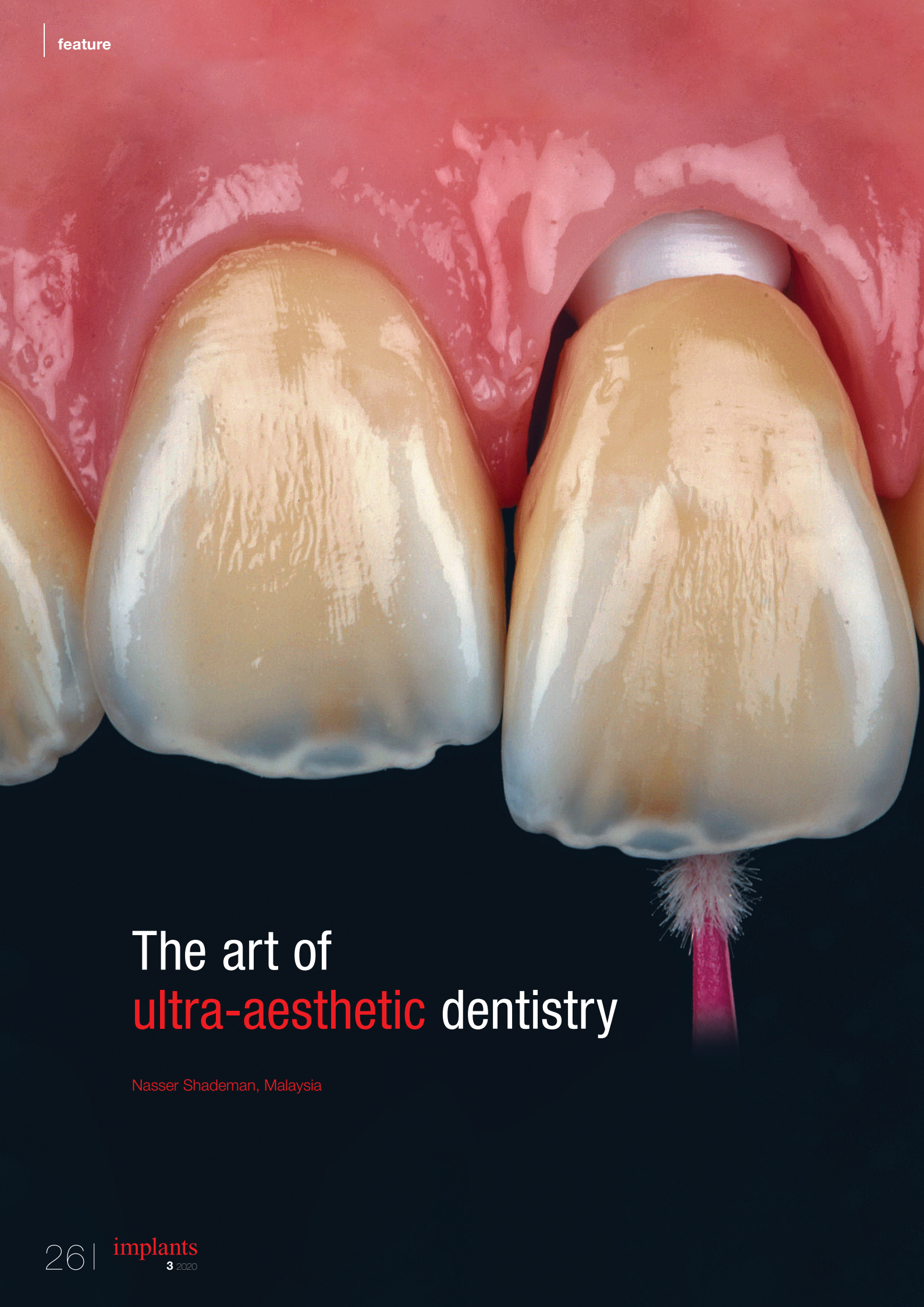
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A close-up photograph of a dental implant. The implant features a natural-looking, off-white crown with a glossy finish and a realistic root structure. The crown is set against a vibrant red, textured background that resembles gum tissue. A small, pink, feathery detail is visible at the base of the crown, adding a touch of artistic flair. The overall composition is clean and professional, highlighting the aesthetic quality of the implant.

The art of ultra-aesthetic dentistry

Nasser Shademan, Malaysia



about the author

Nasser Shademan is a certified dental technologist and an internationally renowned smile designer, professional dental artist and ceramist with extensive knowledge and technical skill in the fields of aesthetic dentistry and micro-dental technology. He is the founder of micro-aesthetic dentistry and the developer of the “20-minute smile design” concept. He is currently a visiting professor at Goethe University in Frankfurt am Main in Germany. Shademan is an international speaker and conducts hands-on courses on different aspects of natural aesthetics and micro-dental artistry. He frequently publishes articles in dental journals throughout Asia, Australia, Europe and the US.

There are times when we copy the natural teeth of patients and fabricate an identical yet improved version of them. This means that we apply improvements on many different levels, including colour or smile arrangements, in order to turn the old, misaligned and broken natural smile into an almost identical but beautified version. Natural smiles are not always aesthetically suited to the individual face of a person, and if a patient agrees to undergo aesthetic treatment, then we have a good opportunity to turn something good into something even better. There are sometimes instances when a patient has anterior teeth that are relatively large in size and their anatomy, arrangement and texture do not particularly support the patient's facial make-up, sex or age. In addition, there are situations where the patient has lateral incisors which are somewhat large in size or are deformed, or has poorly shaped canines.

In many cases, we are able to improve the colour arrangements of teeth. Naturally, we do not follow the previous colour map of the patient's natural teeth, but we recast it into a new, more aesthetic tooth colour map. You might come across a patient who is very slim and small in size and has a tiny feminine face, but who has a surprisingly masculine smile owing to a relatively large set of anterior teeth. This is, of course, natural, but it might create an unpleasant impression regardless. Once aesthetically enhanced, the smile will actually appear more harmonious and therefore even more natural-looking.

Reproducing natural aesthetics is an uncompromising journey, which is best completed

when we pay close attention to detail in every step. I always produce the highest aesthetic provisional restorations and test these closely for ultimate colour, form, texture and tooth arrangement with my type of most superior aesthetic provisional restorations, which I call “ultra-aesthetic provisional restorations”. This is very helpful in guiding me and the entire aesthetics team towards understanding all possible aesthetic challenges that may lie ahead, so we can plan the most natural and best-fitting solutions accordingly. Achieving highly aesthetic outcomes is only possible when dentists, ceramists and patients team up in a sincere way in order to achieve individualised ideal outcomes.

Techniques and materials

This case shown in the image presented a number of aesthetic challenges, including discoloured natural abutments. Hence, a medium-transparency zirconia core was used with a multilayer ceramic build-up (according to the technique used to create ultra-aesthetic provisional restorations). The finest details were produced under 6–8× magnification.

contact

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Bringing titanium and zirconia together in one implant

In 1992 Prof. Günter Heimke proclaimed in Hamburg: "The goal is to have an implant body made from titanium on the inside, whereas the neck and the over-all shape on the outside are made of ceramics." Now, after more than 25 years, this vision has finally become reality in the form of the hybrid implant from TIZIO Hybrid Implants. But how do you actually bring titanium and zirconia together in one system? And what role do glass solders play here? These are some of the questions that Hamburg-based implant specialist Dr Anders Henningsen, M.A., answers in the following interview with implants.

Dr Henningsen, the hybrid implant from TIZIO Hybrid Implants contains a grade IV titanium implant body with an outer shell made of alumina toughened zirconia (ATZ). In which ways is such an implant different from conventional titanium or ceramic systems? A hybrid implant combines the advantages of both materials. For example, zirconia provides high aesthetics owing to its white tooth-like colour. Additionally, the hybrid



Dr Anders Henningsen



The TIZIO implant system is available in two versions: as classic two-piece system (TIZIO F3), which enables implant placement at bone level and covered healing, and as a system with an extended neck made of ceramics (TIZIO H6), which allows implant placement at tissue level. In general, TIZIO offers a wide range of products for a variety of indications.

“[...] the hybrid implant possesses an improved tensile strength and it is able to absorb shear forces more effectively than conventional ceramic implants.”

implant possesses an improved tensile strength and it is able to absorb shear forces more effectively than conventional ceramic implants. Thanks to the outer ceramic layer, a significantly higher biocompatibility is achieved compared to conventional implants. Apart from that, the roughness of the implant surface is not achieved by substance removal, as is the case using sand-blasting, for instance. Instead, a glass layer is applied to the surface, which is fired. Using this method, the implant surface is roughened, which promotes osseointegration and tissue healing. The glass matrix adheres to the surface, does not peel off during insertion and is very biocompatible.

With titanium and zirconia, the hybrid implant from TIZIO combines the two most prominent implant materials. Which technology is required to bring these materials together in one system?

With the aid of glass soldering, a strong and novel kind of bond is formed between the two materials. Titanium and zirconia are bonded together using glass solders, which diffuse into the materials at high temperatures. The ceramic and metallic materials must meet specific requirements, especially with regard to the CTE value (coefficient of thermal expansion), in order to work in this innovative production method. Alumina toughened zirconia and grade IV titanium have proven to be the most suitable materials.



TIZIO HYBRID IMPLANTS

The Root of the Future

The hybrid implant from TIZIO was designed as two-piece system and is also available with an extended ceramic neck. Which benefits does this offer?

First, there is no need for scalloping or grinding, which is a significant benefit. Moreover, components can be replaced at wish and at any time—when prosthetics need renewing, for example. Additionally, hybrid implants allow clinicians to react flexibly to changes in the patients' clinical situation. Free-hand situations can be mastered easily, crowns are easily removable, bridges can be realised and removable dentures can be anchored. Generally speaking, prosthetic restorations on hybrid implants can be extended or converted at any time.

What are the advantages and challenges with regard to surgical and prosthetic handling?

The implant is easier to handle than a conventional ceramic implant. Thanks to the titanium insert, there is significantly less prosthetic loosening. Additionally, angulation problems can be compensated with abutments, which leads to an increase in stability of prosthetic restorations. During implant insertion, it is important to choose a torque that is not too high. Unfortunately, since reduced-diameter implants are not yet developed to market maturity, the hybrid implant is not suitable for all anatomical situations at this point. There are still technical obstacles to overcome regarding the restoration of narrow tooth gaps with reduced-diameter implants. However, a hybrid implant with a diameter of 3.6 mm is

currently being tested. As for prosthetics, ceramic abutments based on the hybrid principle are already in development, too.

“Thanks to the outer ceramic layer, a significantly higher biocompatibility is achieved compared to conventional implants.”

The hybrid concept from TIZIO Hybrid Implants is quite a novelty. Are there any differences to conventional titanium or ceramic implants regarding long-term stability and implant loss rates?

Concerning long-term stability, there are no factors which indicate that hybrid implants from TIZIO might be not as stable as other implants. Statements about implant loss rates are not yet available, however, and studies are still being carried out. Yet, animal experiments required for approval indicate that the hybrid implants are comparable with conventional implants in terms of osseointegration and tissue integration. There are no significant differences between TIZIO Hybrid Implants and a conventional titanium implant, for example.

contact

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22587 Hamburg, Germany

Phone: +49 40 8669366-0

www.elbe-mkg.de

bredent
group

bredent medical

Highest primary stability—now with conical-parallel connection

The new copaSKY implant line from bredent is particularly distinguished by the stable and retrievable conical-parallel-walled interface, which enables easy removal of the prosthetics. The unique neck design and short implant–abutment connection also allows ultrashort implants. Due to the deposition of bone chips on the backtaper, a subcrestal implant position can also be selected. copaSKY uses the same surgical tray as all other SKY implants. And the enhanced prosthetic offering one connection that fits all diameters of implants, simplifying storage and reducing inventory. The material of choice is BioHPP, which provides a natural chewing sensation and built-in shock absorber effect to

protect implants. Also new is the form-fit connection for bolted bridge components. The high accuracy of fit directs the lateral load directly onto the abutment, i.e. the risk of screw loosening and fractures is greatly reduced. The integrated angled screw channel provides excellent aesthetic results when transversally threaded.

bredent medical GmbH & Co. KG
Weißenhörner Straße 2
89250 Senden, Germany
www.bredent-implants.com

TIZIO Hybrid Implants

Implants made of titanium or ceramic?

Neither dental practitioners, nor patients need to be confronted any longer to this either-or-question. Thanks to the innovative glass soldering technique, it will henceforth be possible to create

a firmly bonded compound between titanium and dental ceramic in order to merge the benefits of both materials. The titanium core inside the hybrid implant gives the usual safety and stability, as well as high prosthetic flexibility and ultimately the required treatment quality. The outer ceramic shell coated with a glass matrix ensures an optimal tissue compatibility, improved aesthetics furthermore less plaque accumulation and thus a lower risk of peri-implantitis. Simultaneously, we constantly aim for innovative solutions in order to give both, patients as well as dental practitioners, the highest possible therapeutic safety and quality. For this purpose, we perform research and development on innovative materials with people from various disciplines, being driven by our guiding principle: TIZIO—The best bonding between man and technology.



TIZIO Hybrid Implants GmbH
Breite Straße 16
18055 Rostock, Germany
www.tizioimplants.com

Straumann

Flapless periodontal regeneration

This year marks the 25th anniversary of Straumann® Emdogain®. The revolutionary technology induces true regeneration, improves wound healing and increases the periodontal procedure predictability. But innovation within the Emdogain® portfolio is only continuing. Thanks to the launch of Emdogain® FL, true periodontal regeneration^{1,2} is now possible in a minimally invasive way. Cleaned pockets of between 5–9 mm* deep can now be treated without a surgical flap. This is possible thanks to Straumann® Emdogain®'s healing properties and a new applicator that is as thin as a periodontal probe. Emdogain® FL helps clinicians treat up to 42% more pockets from the initial phase of periodontal therapy³, which reduces the need for follow-up treatments, including surgery. Emdogain® FL contains Straumann®'s unique enamel matrix protein formulation, which is backed up by over 1,000 studies⁴ and 25 years of clinical experience. Try Straumann® Emdogain® FL and differentiate your dental office with flapless periodontal regenerative therapy.

* Without furcations or recession involvement. A thorough subgingival cleaning is the key to success.

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



MIS

New 16 mm drill kit for conical connection implant procedures

As part of the company's continuing effort to offer comprehensive solutions for guided surgery procedures in all clinical scenarios, this spring, MIS released their new MGUIDE kit for 16 mm conical connection drills used in implant placement procedures. The new kit has already been implemented in MSOFT, the MIS software used for guided procedure planning, and is offered through an automatic update. This new offering extends the existing solution for this range of implant lengths that were not previously available. The kit includes all drills for a complete procedure, as well as the addition of a marking drill which is intended for extraction sites. Orit Kario, MIS Digital Solutions Product Manager, highlights the marking drill, explaining that "it was designed for this specific kit and enables drilling within sockets, providing an added value in immediate placement procedures within extraction sites. The drill's design allows to drill in through the socket wall. In addition, the same kit may be used for both standard and narrow sleeve drills.

MIS Implants
Technologies GmbH
Simeonscarre 2
32423 Minden, Germany
www.mis-implants.com



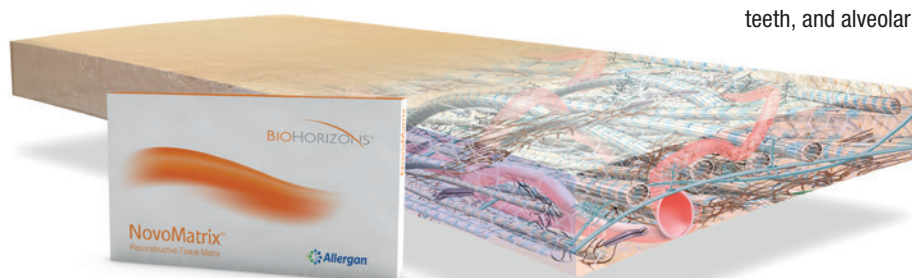
BioHorizons Camlog

The next generation soft-tissue augmentation material

When choosing a biomaterial, there is a strong demand in clinical practice for predictable outcomes. For over 20 years, LifeCell, a leading global medical technology company, has developed innovative products for use in a wide range of applications. BioHorizons Camlog expands its soft-tissue portfolio to bring NovoMatrix, an innovative soft-tissue augmentation material. NovoMatrix is an acellular extracellular dermal matrix consisting of tissue-engineered porcine material. It is a breakthrough in xenogeneic processing

ensuring a structurally intact, undamaged scaffold that supports cell and microvascular ingrowth. The proprietary tissue processing allows for rapid revascularisation, cell repopulation and minimal inflammation. NovoMatrix comes pre-hydrated and ready to use and offers a true alternative to autogenous soft-tissue grafts and current products on the market. The NovoMatrix indications include guided tissue regeneration procedures in recession defects for root coverage, localised gingival augmentation to increase keratinised tissue (KT) around implants and natural teeth, and alveolar ridge reconstruction for prosthetic treatment.

Camlog Biotechnologies GmbH
Margarethenstr. 38
4053 Basel, Switzerland
www.biohorizonscamlog.com

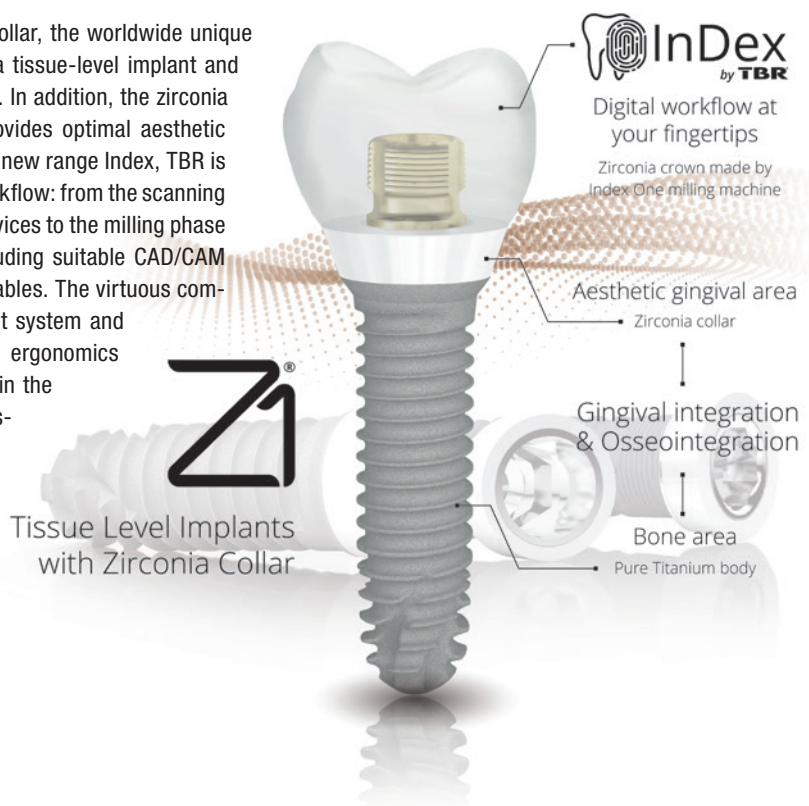


TBR Dental

Tissue-level implant and digital workflow

Combining a titanium body and a zirconia collar, the worldwide unique Z1® implant offers many advantages. It is a tissue-level implant and thus only one surgical procedure is required. In addition, the zirconia collar promotes soft-tissue healing and provides optimal aesthetic results for the patient. With the launch of its new range Index, TBR is now offering clinicians a complete digital workflow: from the scanning phase with intra-oral scanners and CBCT devices to the milling phase with machines adapted to your needs, including suitable CAD/CAM software, associated materials and consumables. The virtuous combination of implantology with the Z1 implant system and the Index digital workflow ensures optimal ergonomics and shorter chair times, which is essential in the daily dental practice. Combine superior aesthetics and digital design with Z1 implants and TBR CAD/CAM Index dental solutions today!

TBR Dental Group
24, impasse René Couzinet
31500 Toulouse, France
www.tbr.dental



PreXion

Special autumn deal for CBCT system

The Japanese CBCT specialist PreXion enters the second half of this year with a special autumn offer for customers based in Germany, Austria and Switzerland. The special price for the PreXion3D EXPLORER includes the CBCT system, installation, instruction, five-year warranty, and a computer running the PreXion Viewer Software. Additionally, customers can opt for the attractive package including the pre-installed SICAT Suite and receive a special discount (66 per cent on the subscription price). With a focal point of 0,3mm and a voxel size of just 74 µm, the PreXion3D EXPLORER brings an extraordinary combination of great image detail and low radiation exposure to dental practices and clinics.

Another highlight is the integrated cephalometric "One-Shot" mode, which allows the work in limited spaces. Interested ones are warmly invited to live demonstrations of the PreXion3D EXPLORER at the PreXion showroom in Rüsselsheim in Germany. Appointments can be made online at www.prexion.eu, via e-mail at info@prexion-eu.de or by phone under +49 6142 407855.

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

Dentsply Sirona Implants

Versatility with the Astra Tech Implant System EV



Dentsply Sirona Implants continues to deliver innovation, versatility and clinical benefits in implant dentistry, based on the needs of customers and centred around well-documented and clinically proven implant systems. With the latest product development, the Astra Tech Implant System—one of the most well-documented implant systems in the market today, documented in over 1,000 publications in peer-reviewed journals—just got even better: Astra Tech Implant EV has a revised implant design change that comes with significant advantages—with a deeper implant thread design apically, it is easier to reach preferred primary stability and the handling experience is enhanced for easy installation. With this new change in design properties also comes the new name—Astra Tech Implant EV. Dentsply Sirona Implants continually strives to increase the application of implant therapy, based on science and without compromising safety and efficacy.

Dentsply Sirona Implants
Aminogatan 1
41321 Mölndal, Sweden
www.dentsplysirona.com/implants

Bicon

More than just an alternative to sinus lift and augmentation

The plateau design, which has been clinically proven for 35 years, and the self-locking tapered implant–abutment connection are the most important success factors of the popular Bicon SHORT Implant™ system. While screw implants can cause bone loss under unfavourable conditions, experts associate the so-called “plateau anchors” with possible bone gain. The plateau design, which offers at least 30 per cent more bone surface than comparable screw implants, makes all the difference. Studies indicate that the unique Bicon design favours the formation of mature lamellar Haversian bone. In addition, the biomechanical advantages of the plateaus optimise lateral force distribution, which supports bone preservation. The self-locking, bacteria-proof connection and the integrated platform-switching additionally promote the long-term success of the system in terms of function and aesthetics. With implant lengths of 5, 6, 8, and 11 mm, Bicon serves the entire range of indications in daily implant dentistry.



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

Fotona

Peri-implantitis treatment with TwinLight

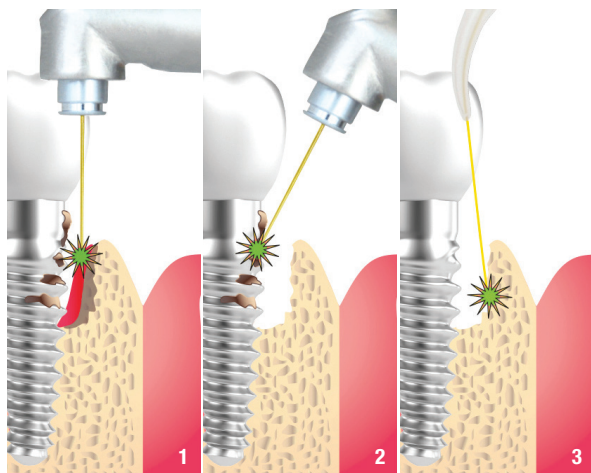


Fig. 1: Removal of the soft-granulation tissue and ablation of the infected bone with Er:YAG. **Fig. 2:** Removal of the bacterial biofilm on the implant surfaces with Er:YAG. **Fig. 3:** Bacterial reduction and biostimulation of the bone tissue with Nd:YAG.

Fotona's dual-wavelength LightWalker dental laser system is the ideal tool for effective minimally-invasive treatment of peri-implantitis. The system's TwinLight (Er:YAG and Nd:YAG) treatment option successfully addresses infection control, detoxification of implant surfaces, regeneration of lost tissues, and plaque-control regimens with no mechanical or chemical trauma, no danger of thermal damage to the surrounding bone and no significant alterations of the implant surface. First, the Er:YAG laser is used to remove microbial composition on the implant and to treat the damaged alveolar bone around the implant. Following Er:YAG treatment, the Nd:YAG laser wavelength is used for bacterial reduction and biostimulation. Inflammation, swelling, and bleeding of soft-tissue lesions, can be handled without surgery, and healthy peri-implant tissue assures greater long-term implant success.

Fotona d.o.o.
Stegne 7
1000 Ljubljana, Slovenia
www.fotona.com

Onward to new horizons

In late 2019, long-standing board member of the German Association of Dental Implantology (DGZI) Dr Georg Bach was elected as new President of the professional society. In this interview, Bach talks about the importance of DGZI, the oldest professional society for implantology in Europe, and what can be expected from the 3rd Future Congress for Dental Implantology, which is set to take place this autumn in Bremen in Germany. The society's 50th anniversary will be celebrated at the congress too.

Dr Bach, there are many other professional implantology associations in Germany. As Europe's oldest professional implantology society, where does DGZI stand in comparison with the others?

One thing upfront: DGZI is well positioned! As a professional society, we are very stable and our members are steadily, albeit moderately, growing in numbers. DGZI is an internationally networked society and over the last decades, strong bonds and friendships have been established on a global scale. Here, I would like to mention our close ties to Japan and the Arab region in particular. Of course, we are not alone in the world. There are

many professional implantology associations. The fact that DGZI is the oldest of all European professional societies is fascinating, but at the same time, it comes with a great deal of responsibility. Mere tradition is not enough to move things forward. A professional society must constantly question and redefine itself. I think that DGZI, by accepting young colleagues on to the board and by being in solidarity with the dental technicians who are also members of the board, has tackled important questions about its future and answered them to a large extent. As far as the other professional associations are concerned, we at DGZI are committed to following the paths that we've previously taken and which have proved to be successful, as we constantly seek to engage in fruitful and harmonious cooperation.

Despite frequent medical and academic collaboration, professional societies are often in competition with one another. Against this background, what distinguishes DGZI?

As is the case with any competition or any market, you can only survive by being appealing and performing well. Every day, you start anew. Yet, what we offer and our

In conversation with Jürgen Isbaner (board member of OEMUS MEDIA AG), Dr Georg Bach (left) reveals DGZI's recipe for success.



range of services seem to have established quite a good reputation for us. Our members are growing in number, and there is a high level of satisfaction among the participants in our training courses and curricula, which speaks for itself. I believe that our highly professional management is the bedrock of DGZI. Here, our board, our office in Düsseldorf and, above all, our business management led by Dr Torsten Hartmann must be mentioned. Moreover, we are making an enormous impact with our German language *Implantologie Journal*. And then there's

“DGZI is an internationally networked society and over the last decades, strong bonds and friendships have been established on a global scale.”

our international magazine *implants*, which is published in 98 countries across the globe and is vital for consolidating our connection with our partners abroad. Internationally speaking, I believe *implants* has a standing that is second to none. I would also like to mention the coaching books by DGZI Vice President and Treasurer Dr Rolf Vollmer, into which he has put an incredible amount of hard work and which have been particularly well received abroad. Lastly, I believe that our Future Congress is something that also sets us apart from the rest.

What in particular makes the Future Congress so special?

It's not easy for professional societies to hold a successful congress every year and we assessed this problem together with our media partner OEMUS MEDIA. The concept of the classic parliamentary seating with a wide variety of parallel podiums has been successful for decades. However, we could see no way of developing this format further. We thus developed the Future Congress—an innovative concept involving first-rate lectures, the transmission of live operations into the conference hall, an extensive range of table clinics and the integrative industry exhibition. At our Future Congress, we raise new questions, try to give satisfactory answers and present new ways of interaction between participants, speakers and the industry. This approach is also reflected in an updated organisational concept in that the original fragmentation of the congress into various different podiums, workshops and side programmes has been eliminated,

and the overall appeal of the conference as an event for practitioners has been more focused. There is now an industry day on Friday and a science day on Saturday. In this way, the event has become particularly attractive to implantologists working in private practice and to the younger generation too.

What can members, scientists and researchers, as well as industry partners, look forward to at your anniversary congress this autumn?

This year, we're celebrating not only 50 years of DGZI but also the birthday of established implantology, thanks to the courage and the visions of the DGZI founders back in the seventies. Back then, our profession was still in its infancy and often even frowned upon, and the formation of a dedicated professional society contributed to establishing implantology in Germany and enabling it to reach the level at which it is today. What we can accomplish today and the techniques we've been able to master are things that even many of us, even though optimistic, would not have dared to hope for back in 1970. I regard our anniversary this autumn as also a birthday for European implantology, and I am pleased that the presidents and board members of other professional societies have accepted the invitation to attend our 3rd Future Congress—the 50th DGZI International Annual Congress—which will be held on 6 and 7 November 2020 in Bremen, the city where DGZI was founded. We are going to reflect on the past and, at the same time, put a strong focus on looking ahead. Indeed, we are facing great challenges: implantology is constantly changing and will be revolutionised in the coming years, owing to rapid advancements made in the field of digitalisation. As a professional society, we'll have to find new ways to guide the next generation on their way forward in the profession. In this respect, we noticed, at our 2019 congress in Munich, that DGZI is becoming increasingly successful in attracting young people. This rejuvenation process has reached the DGZI board too. In addition, last year, we appointed a woman to the board for the first time. As you can see, there's a lot happening at DGZI.

Thank you for these great insights, Dr Bach.

contact

Dr Georg Bach

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Reflect on **50 years** of implantology in Bremen this autumn

OEMUS MEDIA AG, Germany



On 6 and 7 November 2020, the 3rd Future Congress for Dental Implantology/50th International Annual Congress of the German Association of Dental Implantology (DGZI) will take place in Bremen in Germany. Under the theme “Visions in Implantology: 50 Years—From single Implant to digital Workflow”, the professional association will be celebrating its 50th anniversary. It was in Bremen where a group of implantology enthusiasts helmed by dentist Hans L. Grafelmann founded the DGZI in 1970, the first European professional association dedicated to dental implantology. As one of the main highlights of the highly anticipated event, Presidents, chairmen and board members of the DGI, DGOI, BDO, DGZI as well as Past Presidents of numerous other professional societies will hold scientific lectures as part of the main programme.

Being the oldest dental expert society for dental implantology in Europe, the DGZI still breaks the mould today and proves its forward-thinking attitude with a highly modern congress concept. First-rate lectures, the live streaming of surgeries and dental procedures in high

definition into the conference room and online, an extensive range of table clinics with hands-on appeal, an interactive digital poster presentation and a colourful industry exhibition by selected partners are an integral part of the autumn congress.

At the Bremen event, attendees will be given the opportunity to reflect on 50 years of implantology, discuss topical questions and paint a picture of prospective implantology in a fruitful interprofessional exchange with dental enthusiasts, renowned speakers and industry representatives from Germany and abroad. In addition, the organisers have developed a unique and updated congress structure in that the usual fragmentation of the congress into various podiums, workshops and side programmes will be eliminated. On both congress days, all lectures, panel discussions, live surgeries and table clinics will take place on the main podium, which also serves as exhibition area.

Parallel to the Future Congress of the DGZI, the annual meeting of the German Association for Laser Dentistry (DGL) will take place in Bremen. The two professional associations will share the congress infrastructure, industrial exhibition area and facilities for the table clinics. Additionally, there will be a special programme dedicated to oral hygiene.

For more information, go to www.dgzi-jahreskongress.de or contact the organiser at event@oemus-media.de. The DGZI and the organiser OEMUS MEDIA AG are looking forward to welcoming you to the Hanseatic city of Bremen this November.

contact

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 04229 Leipzig, Germany
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50 Years – From single Implant to digital Workflow

VISIONS IN IMPLANTOLOGY

3RD FUTURE CONGRESS FOR
DENTAL IMPLANTOLOGY

6–7 November 2020

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DGZI supports practitioners in

Becoming ABOI/ID Diplomates

In 2019 the American Board of Oral Implantology (ABOI) in the US decided to make the ABOI/ID Diplomate examination available for experienced dental practitioners internationally. The ABOI has an independent examination committee chartered by the American Academy of Implant Dentistry (AAID), the official US partner of DGZI. The DGZI board has defined the necessary conditions. Graduates of the “DGZI Curriculum Implantology”, as well as holders of both “Expert in Dental Implantology” and “Specialist in Oral Implantology” certification are now eligible to apply for this examination to become ABOI/ID Diplomates. DGZI can offer its support on request in preparing for the written and oral examination through a preparatory seminar, in which situations similar to an examination are played through and specific contents



for the oral examination are conveyed. The preparation for the written examination is based on our English language “Guide Book Implantology”, which helps applicants to comfortably prepare for the examination via distance e-learning. The e-learning preparation can be started at short notice at any time.

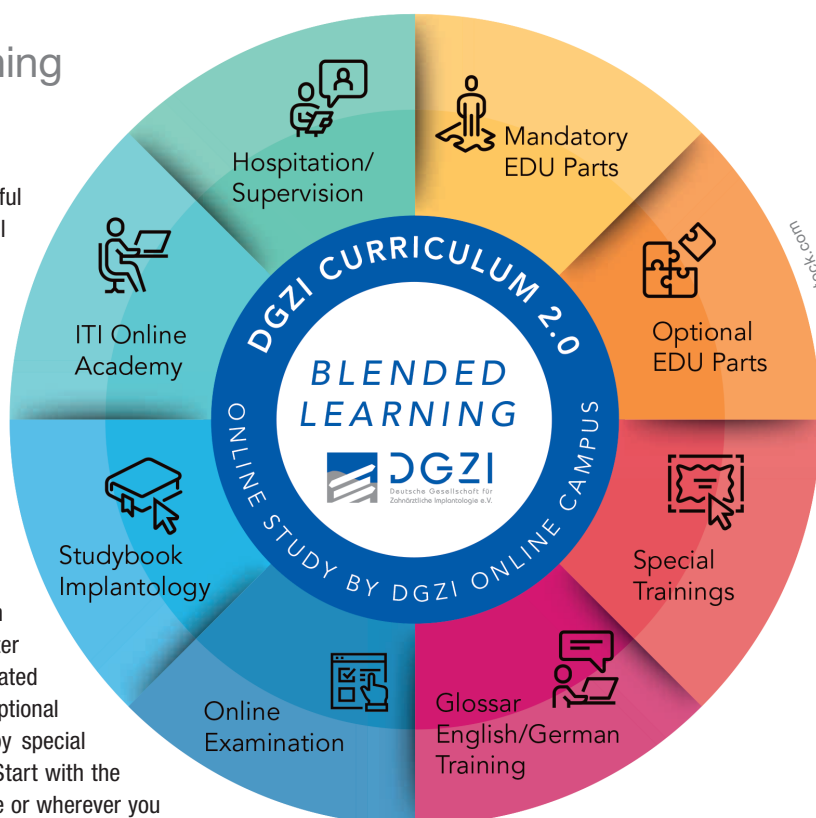
The first oral preparatory examination date is scheduled for the 50th International Annual Congress of DGZI, which will be held on 6 and 7 November in Bremen, Germany, and to which you are cordially invited. The examinations will take place one day ahead of the congress, on 5 November 2020. If you are interested in this new offer, please contact Dr Rolf Vollmer (First Vice President and Treasurer of DGZI) for more information via e-mail at info.vollmer@t-online.de.

Source: DGZI

DGZI Online Campus

International online training wherever you are

The structure and content of DGZI's successful implantology curriculum was revised in 2019. All participants now have 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 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; info.vollmer@t-online.de

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Organisers reveal COVID-19

Safety measures for IDS 2021

IDS 2021 is scheduled to take place from 9 to 13 March next year in Cologne in Germany. "In the past few months, we developed a comprehensive concept for restarting trade fairs in Cologne based on extensive processes and close cooperation with all the relevant authorities," commented Oliver Frese, chief operating officer of Koelnmesse. A joint press release from the Association of the German Dental Industry (VDDI) and its business enterprise, the Society for the Advancement of the Dental Industry (GFDI), explained that Koelnmesse's #B-SAFE4business health measures are grouped into the four sections: SHOW SAFE, MEET SAFE, STAY SAFE and VISIT SAFE. The measures will regulate interaction at the trade fair by providing ample space for spreading large numbers of partici-

pants out safely throughout the exhibition halls, in which a digital signage system will enhance communication. Stands will be allotted more floor space so that the number of visitors at individual stands will not need to be limited, provided that a minimum distance of 1.5m can be maintained. The distribution of trade fair participants and the flow of visitors will be monitored and, if necessary, regulated using technical solutions. Visitors will only be able to purchase tickets online so that the organisers can ensure traceability of all participants. Koelnmesse said that it would review its safety concept on a regular basis and adapt it to changing conditions.

Source: Koelnmesse/Dental Tribune International

COVID-19 and domestic violence:

How dentists can help those in need



According to UN Women, a United Nations body dedicated to gender equality, the outbreak of COVID-19 has been accompanied by a shadow pandemic of increased domestic violence against women. In Argentina, for example, emergency calls related directly to instances of domestic violence have risen by 25% since the

pandemic began. A paper recently published in the *British Dental Journal* (BDJ) sought to clarify what role dental professionals, particularly oral and maxillofacial surgeons, play in such situations and how they can better help patients who have been affected by this form of abuse. As emphasised by the authors, studies suggest that between 65 and 95% of physical domestic violence assaults result in facial trauma for the victim. Therefore, dental professionals have an important duty to identify patients who may have been assaulted in this manner and to refer them to the appropriate local agencies and services. Dr Paul Coulthard, co-author of the study, told Dental Tribune International: "There has been a heightened awareness of the increased risk of domestic violence and abuse because of restrictions on movement and the need for household isolation, so dental professionals and the oral maxillofacial surgery team should be increasing their alertness and commitment to identification and referral." The paper, titled "COVID-19, domestic violence and abuse, and urgent dental and oral and maxillofacial surgery care", was published online on 26 June 2020 in the *British Dental Journal*.

Source: Dental Tribune International

FDI disagrees with

WHO's latest guidance

In early August the World Health Organization (WHO) released interim guidelines regarding dental visits, in which they advised that “routine non-essential oral health care—which usually includes oral health check-ups, dental cleanings and preventive care—be delayed until there has been sufficient reduction in COVID-19 transmission rates.” In response to the guidelines, the FDI World Dental Federation published a statement on their website, in which they argue that “[...] oral healthcare is essential to maintaining good overall health and routine care is necessary for the early detection, prevention, and control of oral diseases.” The statement further reads: “FDI and its approximately 200 member associations in 130 countries have put measures in place to ensure that patients and staff are adequately protected from infection risk to avoid viral transmission [...].” The statement concludes that “contrary to recent media reports, people can safely visit the dentist and utilise oral health services, in the context of COVID-19, if a country's regulations permit this.” The WHO have since released



another statement, arguing that “misinterpretation of the WHO document has led to widespread confusion and the circulation of inaccurate and misleading information in some media outlets.”

Source: FDI World Dental Federation

“CleanImplant Certified Dentists” in 19 countries

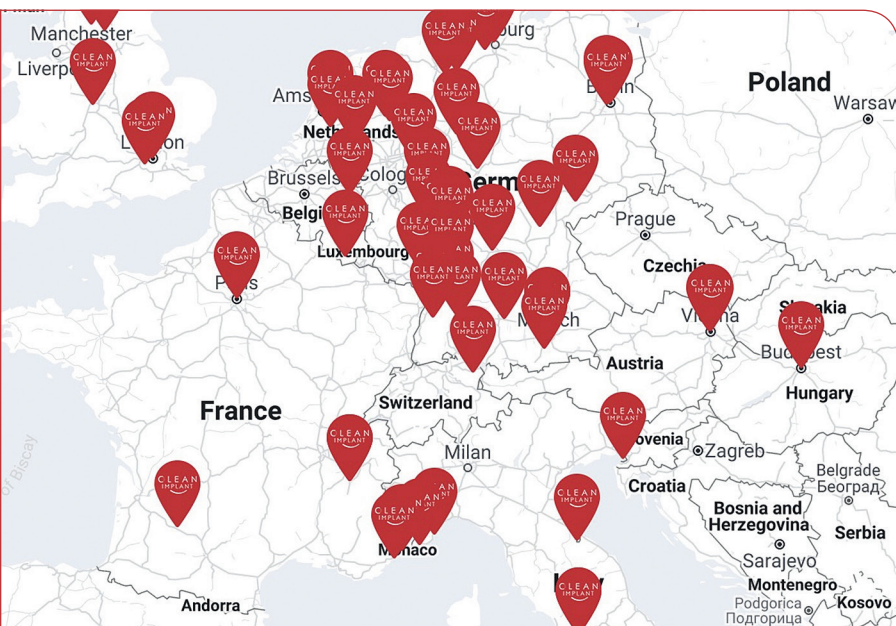
Initiative creates safety for implantologists and patients

For many years, CleanImplant has been performing quality assessment studies on sterile packaged implants in accredited testing laboratories. The “Trusted Quality” seal for clean implants can only be awarded after an independent evaluation of test results has successfully been completed in a strict peer-review process. “Alarming contamination on many other test samples should raise concerns for every practitioner,” says Dirk Duddeck, dentist and founder of the non-profit CleanImplant Foundation. Study results

show quite clearly that neither the exposed market position of manufacturers nor the country of production or the price alone can provide any certainty that the implants sold are actually clean. Significant residues of detergents, silicon compounds or polyacetal—even on ceramic implants—from the production and packaging process have been found on sterile packaged samples. “We’ve also seen metallic particles with nickel- or copper-containing compounds on dental implants. Implant quality seems to be getting out

of hand—and we are no longer alone with this criticism. Three years ago, we launched an initiative for residue-free implants on the internet. We never dreamed that we would have almost 100,000 dental professionals following us on Facebook in such a short time”. In the meantime, implantologists from 19 countries are registered as a “CleanImplant Certified Dentist”. They can be sure that they only use implants that have been tested as clean. On the new website www.cleanimplants4you.org, launched as an information campaign directed at patients, a list of practices that have already joined the initiative can be found. For more information, go to www.cleanimplant.org.

Source: CleanImplant Foundation CIF GmbH



CleanImplant-Certified Practices.

Congresses, courses and symposia



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www.aid.com/Annual_Conference/



6th Annual Meeting of ISMI

7–8 May 2021
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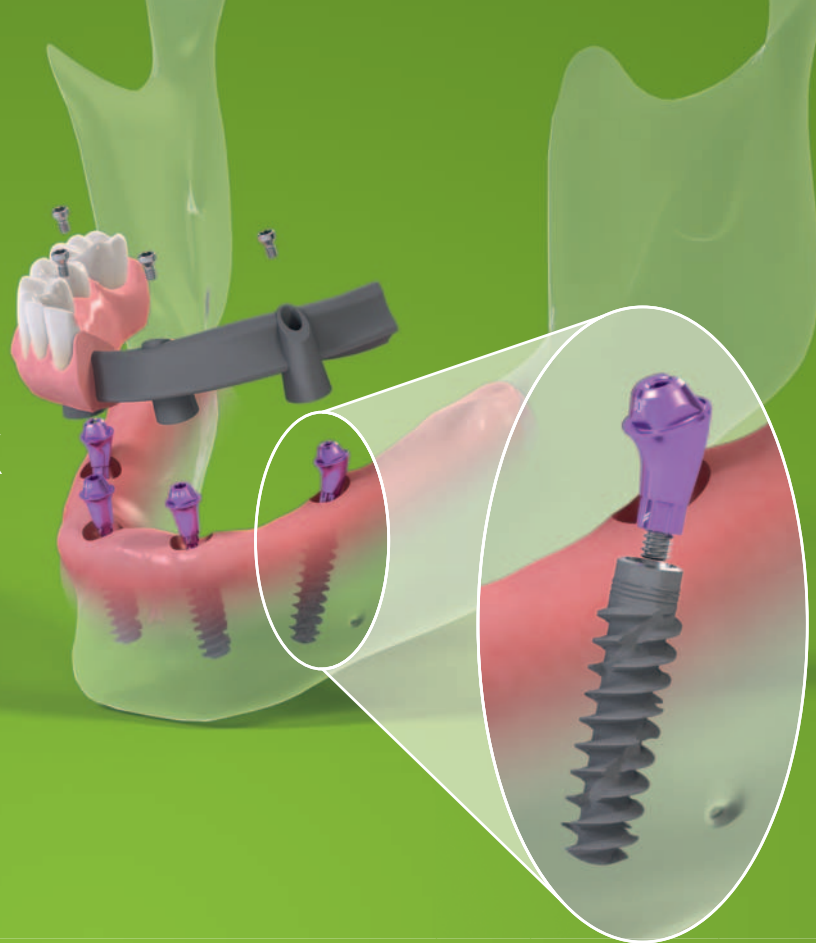
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