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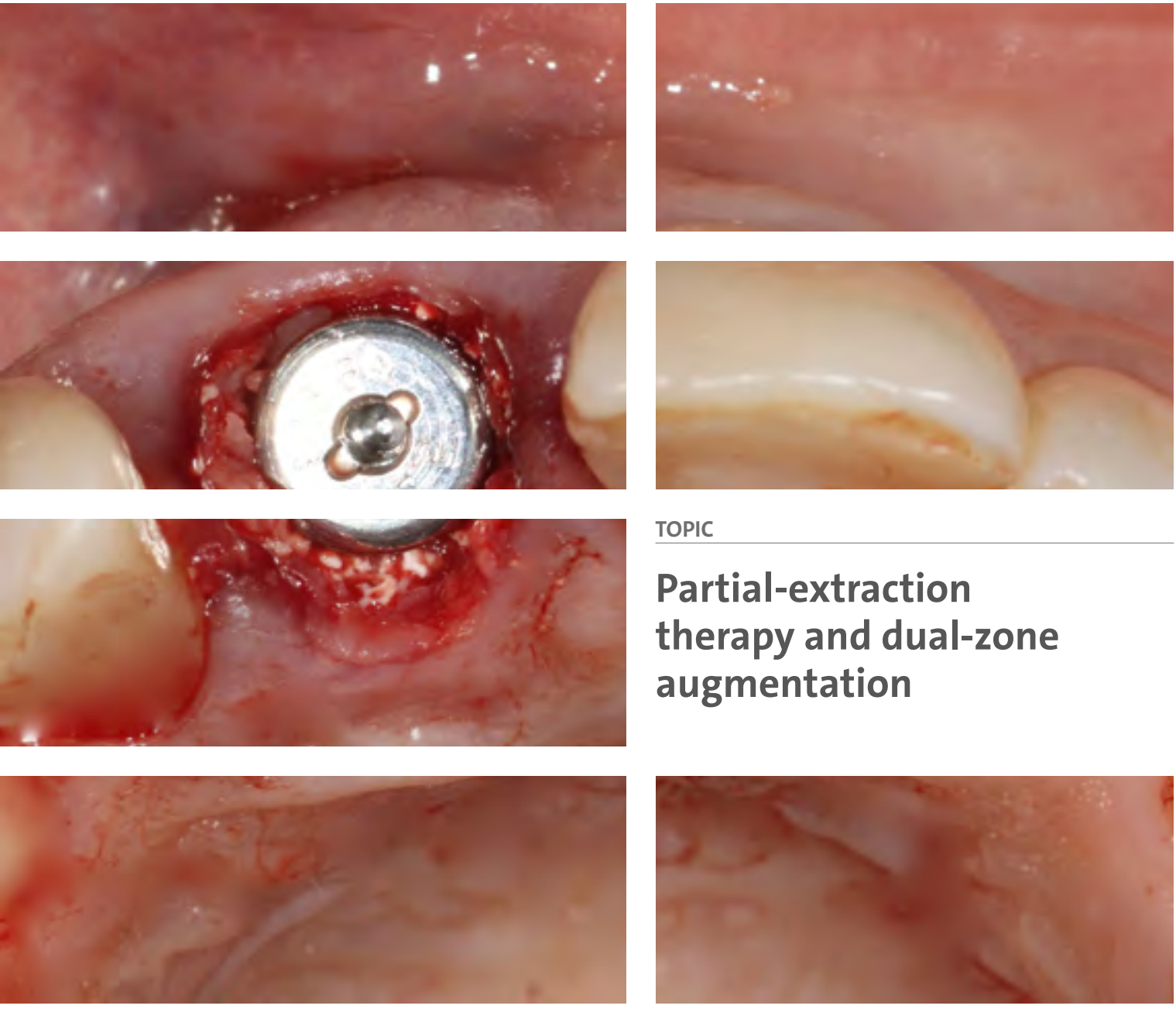
EDI JOURNAL



TOPIC

Partial-extraction therapy and dual-zone augmentation

BDIZ EDI

Bundesverband der implantologisch tätigen Zahnärzte in Europa e.V.
European Association of Dental Implantologists

»EDI News: 11th European Symposium of BDIZ EDI: European joint venture · What is the standard in dental medicine? · Important for dental clinicians in Europe: Background information and views on the EU Services Package · FDI World Dental Congress Madrid **»European Law:** ECJ rules on dental advertising **»Clinical Science:** Individual prophylaxis for implant patients · Healing of deliberately exposed membranes after tooth extraction

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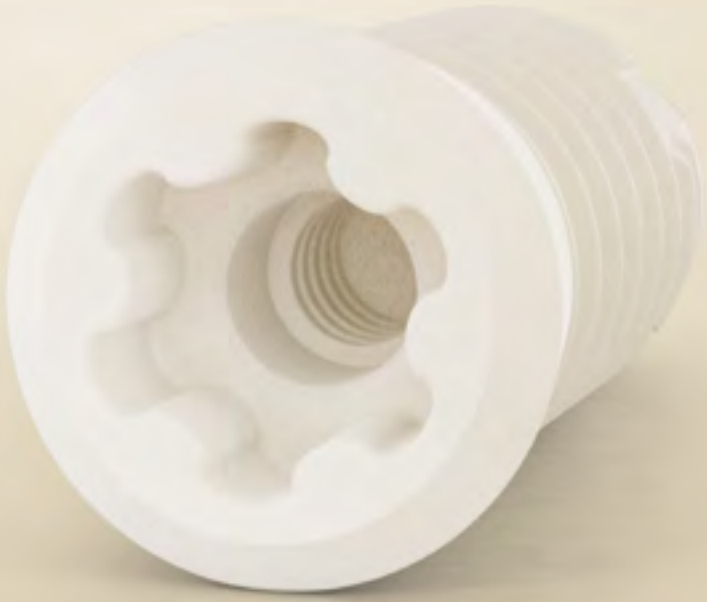

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"Levelling down" is dangerous

Democracy is the rule of voters who are ill-informed or not-at-all-informed, says US political scientist *Jason Brennan*. In his book, "Against Democracy", he calls for the right to vote to be restricted to those with knowledge. The justification of his undemocratic – even radical – approach goes as follows: Voters often do not know what is good for them or whether the votes they cast really serve their own interests, as *Brennan* explained in an interview. One of his example refers to *Trump* voters: "They are probably not yet aware of the fact that they have shot themselves in their feet." This was also evident in the case of the Brexit proponents. Their estimate of the number of immigrants was off by a factor of six, and that of the cost of welfare programmes by a factor of four hundred! *Brennan*: "The Remain voters – those who wanted to stay in the EU – were also wrong about certain facts, but their error magnitude was not quite as great. They were simply better informed." *Brennan* attests the average voter a striking lack of knowledge: "They often simply lack the facts ..." So what remedy does he propose? "This is about a cultural change that we should really press for. As things stand, voters are not induced in any way to inform themselves about what the other side thinks or what their arguments are."

But let us return to our own reality. And to what the health professions want, what dentists want. To earn a lot of money, treat patients well, enjoy an elevated status in society, practise without regulatory interference? Legitimate enough. But politicians, society and institutions such as the European Commission tend to forget that the profession of physician or dentist is not a trade, such as the one practiced, for example, by a craftsman. While the Hippocratic Oath is not mandatory to take, it is considered a supreme guideline or code of honour in the field of medical ethical discussions. It contains several elements that are still an integral part of medical ethics today, such as the "primum nil nocere" principle – first, do no harm – as well as the confidentiality of the patient-doctor relationship, and much more.

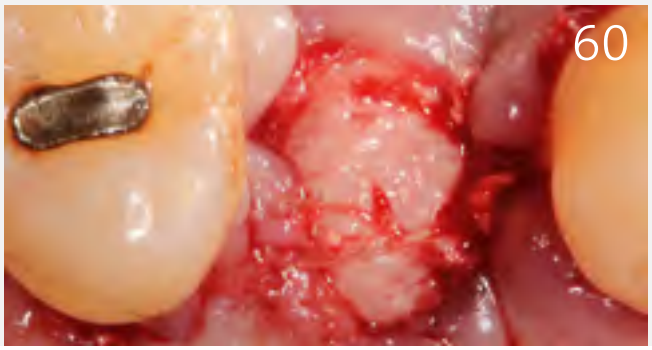
The bureaucrats in the EU Commission would presumably prefer not to be reminded of this. Attempts to integrate health care services into the EU Services Directive have failed not just once but several times. Nevertheless, the Commission keeps renewing its attempts and accuses its opponents of being protectionist reactionaries.

The individual dentist in private practice is usually not interested in what is happening in Brussels. They rely on the organizations that represent dentists – from dental associations and their on-site representations to the Council of European Dentists (CED), the umbrella organization of the dentists' chambers of all EU member states in Brussels.

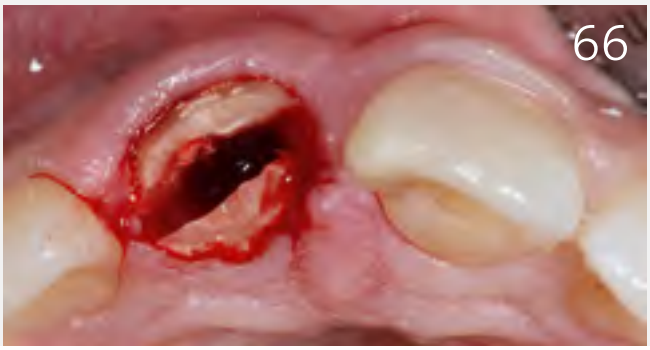
This edition of the EDI Journal also addresses the EU Services Package that the EU Commission has proposed, using the concept of proportionality testing to ensure that health care will be integrated into the Services Directive, after all. A major obstacle along the route are the rules that govern the access to and the practice of the professions in different countries. To understand the EU Commission's motivation in this matter, we must realize that it sees precisely these country-specific regulations as potential obstacles to growth for the EU internal market. But egalitarianism has its risks. If everything was levelled, the dental profession would soon be undistinguishable from any commercial endeavour. Health would become a commodity, which would reflect on the health care system and ultimately on the patients themselves.

The editorial team of EDI Journal has attempted to shed some light on these issues for our readers – as with all the other topics covered in this issue, whether implantological or political or related to practice organization. We have given stakeholders, experts and politicians the opportunity to voice their views, and hope you will feel well informed after your reading!

Sincerely,
Anita Wuttke
Editor-in-Chief



Situation after closure of the socket with a membrane and repositioning the flap with cross sutures.



Socket-shield technique: The root is separated in a mesiodistal direction. The palatal part of the root with the apex is taken out.

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Partner Organizations of BDIZ EDI

Association of Dental Implantology UK (ADI UK)

ADI UK, founded in 1987, is a registered charity committed to improving the standards of implant dentistry by providing continuing education and ensuring scientific research. It is a membership-focused organization dedicated to providing the dental profession with continuing education, and the public with a greater understanding of the benefits of dental implant treatment. Membership of the ADI is open to the whole dental team and industry, and offers a wealth of benefits, education and support for anyone wishing to start out or develop further in the field of dental implantology.

Ogolnopolskie Stowarzyszenie Implantologii Stomatologicznej (OSIS EDI)

OSIS EDI, founded in 1992, is a university-based organization of Polish scientific implantological associations that joined forces to form OSIS. The mission of OSIS EDI is to increase implant patients' comfort and quality of life by promoting the state of the art and high standards of treatment among dental professionals. OSIS EDI offers a postgraduate education in dental implantology leading to receiving a Certificate of Skills (Certyfikat Umiejętności OSIS), which over 130 dental implantologists have already been awarded.

Sociedad Espanola de Implantes (SEI)

SEI is the oldest society for oral implantology in Europe. The pioneer work started in 1959 with great expectations. The concept of the founding fathers had been a bold one at the time, although a preliminary form of implantology had existed both in Spain and Italy for some time. Today, what was started by those visionaries has become a centrepiece of dentistry in Spain. SEI is the society of reference for all those who practice implantology in Spain and has been throughout the 50 years, during which the practice has been promoted and defended whereas many other societies had jumped on the bandwagon. In 2009 SEI celebrated its 50th anniversary and the board is still emphasizing the importance of cooperating with other recognized and renowned professional societies and associations throughout Europe.

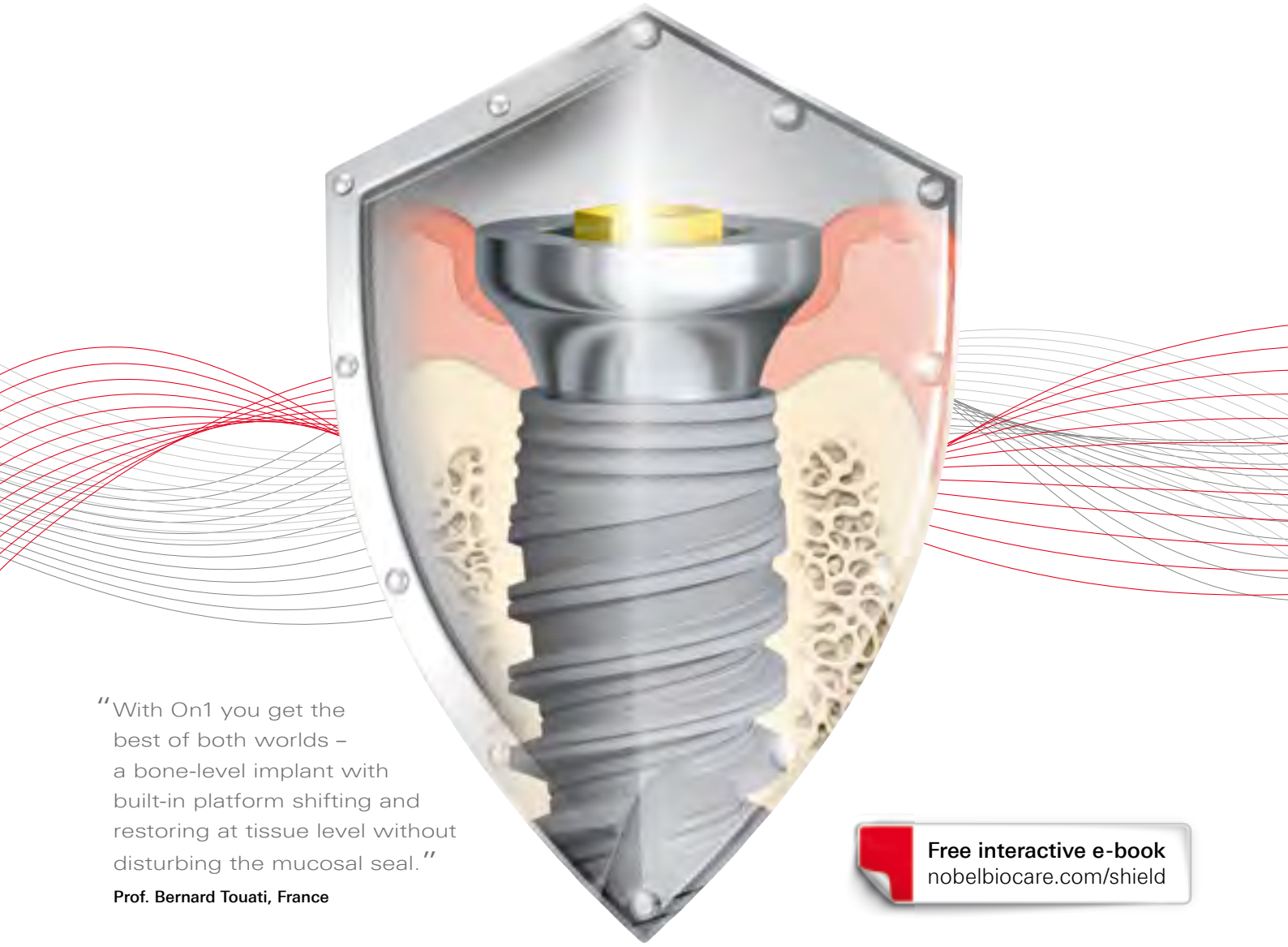
Sociedade Portuguesa de Cirurgia Oral (SPCO)

The SPCO's first international activity was the foundation – together with their counterparts in France, Italy, Spain and Germany – of the European Federation of Oral Surgery (EFOOS) in 1999. The Sociedade Portuguesa de Cirurgia Oral's primary objective is the promotion of medical knowledge in the field of oral surgery and the training of its members.

Udruženje Stomatologa Implantologa Srbije-EDI (USSI EDI)

USSI EDI was founded in 2010 with the desire to enhance dentists' knowledge of dental implants, as well as to provide the highest quality of continuing education in dentistry. The most important aims of the organization are to make postgraduate studies meeting the standards of the European Union available to dentists from Serbia and the region; to raise the level of education in the field of oral implantology; to develop forensic practice in implantology; and to cooperate with countries in the region striving to achieve similar goals.

A shield never to be broken



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11th European Symposium of BDIZ EDI

European joint venture

"Competitiveness in dental medicine – International congress of new procedures in the oral rehabilitation of patients". This was the motto for the two-day joint congress of the Croatian and then Bavarian Dental Chamber in Dubrovnik in mid-May, where speakers on oral implantology and aesthetics found themselves vying for the attention of approximately 150 participants from different parts of Europe.

The congress of the two dental chambers was held in cooperation with the European Association of Dental Implantologists (BDIZ EDI) and the European Society of Cosmetic Dentistry (ESCD), which played a significant part in the programme design. The first speaker, *Dr Marcío García dos Santos* (Bremen, Germany), set out to describe the path that the digital transformation is taking. Digital dental dentistry, he said, is no longer a vision but an everyday reality in more and more dental practices. 3D diagnostics and 3D implant planning, guided implant surgery using drilling template, intraoral scanning and CAD/CAM restorations can no longer be ignored. The speaker gave an overview of the possibilities of implant treatment in the digital age.

Technical challenges

The use of short implants to avoid bone grafting was the subject of *Dr Vincent J. Morgan* (Boston, USA). The efficacy and reliability of the implant design regarding biocompatibility is an important technical challenge that must be mastered when occlusal forces are transferred to the surrounding bone by a prosthetic restoration. For *Morgan*, therefore, all the aspects necessary for integration must be considered, not just a few isolated ones such as the surface structure. This is particularly true of short implants because of their minimal length and crown-to-implant ratio, which can result in less than favourable loading conditions. *Morgan* presented an implant design that, according to the manufacturer, allows for a locking-taper implant/abutment connection that provides a tight bacterial seal and permits universal 360° abutment positioning for restorative flexibility and gingival aesthetics.

*Professor Stefan Koubi (*Paris, France) is convinced that to master the difficulties in the aesthetic zone, the dentist must develop a plan just as an architect does. For dentitions with strong abrasions and severe aesthetic defects (which in his view require implant treatment), he proposed a strict protocol for an analogue treatment planning of the abrasion and a digital treatment planning using CAD/CAM for the aesthetic defects. It is important, said *Koubi*, that the clinical implementation is based on the expected treatment result.

Dr Marcío García dos Santos

Dr Vincent J. Morgan

Dr Nadim Aboujaoude

Photo: fotolia/lukaszimilen

Resin infiltration technique

Aesthetic solutions for carious and non-carious lesions by means of caries infiltration were presented by *Professor Zafer Cehreli* (Ankara, Turkey). Originally successful as a minimally invasive approach to the treatment of initial proximal caries lesions, the resin infiltration technique is now also used to treat white-spot lesions after orthodontic procedures, in molar/incisal hypomineralization and in mild to moderate dental fluorosis. *Cehreli* presented several clinical cases to show how the infiltration method can be implemented to achieve an aesthetic treatment outcome.

This report can only provide a brief overview of the two-day programme. So here are a few more highlights in short: The presentation by *Professor Dubravka Knezović Zlatarić* (Zagreb, Croatia), winner of the Croatian Science Prize for young researchers in biomedicine in 2004, complemented the aesthetic part of the congress on the use of different shade guides and on digital procedures for determining tooth shades. *Professor Luca Dalloca* (Milan, Italy) spoke on the importance of visual perception in the field of minimally and non-invasive restorations, concluding that aesthetic dentistry was a balancing act. The practitioner must accommodate a variety of factors – teeth, soft tissue, lips, facial features, patient personality – to achieve an aesthetic result. *Professor Vitomir Konstantinović* (Belgrade, Serbia) explained the philosophy of "strategic" or "basal" implantology – a term borrowed from orthopaedic surgery. All available facial bones, such as the zygomatic bone, the tuberopterygoid region, and the sphenoid, said *Konstantinović*, can be drafted to pay their part in the effort to achieve bicortically or multicortically supported implant placement.

Dr Stefan Liepe, BDIZ EDI Managing Director

The "implantological" day

The lecture by *Dr Jörg Neugebauer* (Landsberg, Germany) on surgical concepts for delayed or immediate loading of implants in the partially and fully edentulous jaw as guided by prosthetic considerations was presented by *Dr Stefan Liepe* (Hannover, Germany) – both are members of the BDIZ EDI Board. The speaker presented concepts for implant-supported fixed restorations without bone augmentation. Specifically, angulated implants are increasingly used today to rehabilitate edentulous jaws with limited vertical bone height, offering an alternative to the complexities of hard-tissue augmentation This requires highly detailed preoperative planning, he said, to minimize the risks of complications, especially in the case of immediately loaded implants. Immediately restored angulated implants should exhibit adequate primary stability. Anatomically and prosthetically correct implant placement should be performed by means of 3D diagnostics, and the implantologist and prosthodontist should have sufficient experience working with angulated implants to avoid complications.

Dr Nadim Aboujaoude (Beirut, Lebanon) focused on veneers as a means of aesthetic rehabilitation,

Dr Hrvoje Pezo, CDC President

Professor Robert Ćelić

Christian Berger, BDIZ EDI President

with special regard to no-prep veneers, which he considers a viable alternative to the conventional veneer technique. Given an appropriate pretreatment, veneers can be provided even without preparation, which helps preserve the hard tissues of the tooth.

Together with the President of the Croatian Dental Chamber, *Dr Hrvoje Pezo*, *Professor Robert Ćelić* (Zagreb, Croatia) shaded an interesting approach to implant-prosthodontic treatment. The two presented a 3D printing method for implant-supported restorations as exemplified by a clinical case. This method is suitable for producing cemented as well as screw-retained titanium/ceramic bridges. The latest digital technologies are employed to this end, from intraoral scanners to 3D printers – even the titanium framework is 3D-printed.

The contribution of *Professor Joachim Zöller* on surgical concepts of implant placement in the atrophic jaw was presented by *Christian Berger*, President of the Bavarian Dental Chamber. Based on clinical cases, he showed a two-stage procedure including vertical reconstruction/augmentation with heterogeneous bone material – depending on the availability of autologous bone and the number of missing teeth. The presentation focused on the right choice of the augmentation method, the pros and cons of immediate loading and the best prosthetic attachments for an aesthetic as well as functional rehabilitation.

BDIZ EDI Guidelines

Christian Berger then returned to the scene – this time wearing the hat of BDIZ EDI President and speaking on success criteria in oral implantology. He presented two Guidelines issued by the European Consensus Conference (EuCC) on oral implantology, developed in Cologne under the auspices of BDIZ EDI – the Cologne ABC Risk Score for implant treatment and the Cologne Defect Classification for standard treatments with bone augmentation. Using a simple ABC system, visually appealing in different colours, the ABC Risk Score should allow the practitioner to evaluate planned implant treatments with respect to the patient's general medical status, local findings, surgery and prosthetics. Each partial score is given a summary rating. It uses the same colour-coded classification key as for the criteria, namely A = Always (green, low risk) , B = Between (yellow, medium risk) and C = Complex (orange, elevated risk). According to *Berger*, the Cologne Classification of Alveolar Ridge Defects (CCARD) uses three-part codes to describe the defect of the alveolar ridge as comprehensively as possible with a view to existing therapeutic options. The CCARD classifies volume deficiencies of the alveolar process, regardless of their aetiology, as vertical, horizontal or combined defects, possibly in conjunction with a sinus defect. Both papers are available on the BDIZ EDI website: www.bdizedi.org > English > Professionals > European Consensus Conference.

Conclusion

This joint congress of two dental chambers in co-operation with two specialist associations offered almost everything that the disciplines of oral implantology and aesthetics currently offer in the area of continuing professional development. A transnational approach that should be emulated.

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27th BDIZ EDI Legal Expert Conference on short implants

What is the standard in dental medicine?

"Is this an established standard in the dental field?" This question from the bench can be "feared" by dental experts testifying in court. The question is aimed at the reliable application of scientifically based treatment methods in dental practice. A tightrope walk for every expert witness, because in dentistry nothing is carved in stone. Dentistry continues to develop, and its principles must be constantly refined and improved. Studies become outdated. Guidelines are not always up to date. Evidence-based dentistry cannot be practiced over the patient's head, ignoring the patient's needs and wishes. The major conclusion one might draw from the results of the BDIZ EDI Legal Expert Conference in Munich: Patients clearly prefer the less invasive short implants to longer implants with complex augmentative procedures.

It is true that the BDIZ EDI Legal Expert Conference, convened on behalf of the Consensus Conference on Implantology, was to focus on short, angulated and diameter-reduced implants. The cases presented, however, sent some of the attending experts thinking. What procedures are evidence-based? And what procedures are not yet standard?

Most speakers at the Legal Expert Conference had contributed to the 2016 BDIZ EDI Guideline on this topic. The consensus was that the use of short implants (length ≤ 8 mm, diameter ≥ 3.75 mm; length of ultra-short implants < 6 mm), angulated implants or diameter-reduced implants (≤ 3.5 mm) in patients with reduced bone availability is a reliable therapy option in many cases, compared to the risks associated with standard-dimension implants in combination with augmentation procedures. However, according to the Guideline, the specific treatment parameters must be observed and practitioners must have had appropriate training. This was confirmed by the dental speakers at this year's Legal Expert Conference.

Questions and answers at the BDIZ EDI Expert Conference in cooperation with the Bavarian Dental Chamber (left to right:) Dr Jörg Neugebauer, who spoke on surgical aspects of short, angulated and diameter-reduced implants; Professor Norbert Schmedtmann, who addressed prosthetic care; and Professor Rolf Ewers, who together with presenter Christian Berger reported how he became a "believer" in short implants.

Not even a weathered proponent of bone augmentation such as *Professor Rolf Ewers*, discussing the thesis of "from iliac crest to short implants", can close his eyes to new findings. His presentation was an example how difficult it is for an expert witness in court to draw reasonable conclusions. After all, these implants have proven successful in suitable indications, as demonstrated by *Ewers* and his own prospective study on short implants, as well as by *Dr Wolfgang Bolz*, who summarized the results of a prospective study on 380 patients over seven years. Of course, the question of citable randomized trials from the participating reviewers did not fail to materialize, and a discussion flared up about what the current standards are in dental medicine. Presenter *Christian Berger* referred to a decision by Germany's Supreme Court clarifying that each individual patient treatment must be based on what are considered acceptable therapeutic decisions at the time. The answer to the judge's question about dental standards is therefore an easy one: "Yes, this is a treatment option that should be part of the repertoire of an experienced implantologist today." This is also one of the reasons for BDIZ EDI to issue its annual Guideline on different aspects of oral im-

plantology in conjunction with the European Consensus Conference.

Quite in line with this train of argument was the fundamental criticism by BDIZ EDI legal counsel *Professor Thomas Ratajczak* directed at various studies with regard to smoking as contraindication for implant treatment. Some of those studies, he said, were never intended to examine the effects of smoking or did not distinguish between the individual effects of different risk factors. Also, some studies were too narrow or included too few patients to deliver meaningful results. And more often than not, "smoking" as a factor was undefined or unexplored, so reliable conclusions could not be drawn.

Conclusion

Particularly with more recent methods, such as the use of short, angulated and diameter-reduced implants, preferred by many patients as a treatment option, the dental standard must be aligned not only with the patients' expectations but also with the knowledge and abilities of the practitioner.

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In the second session, BDIZ EDI board member Dr Jörg Neugebauer (left) presented the prosthetic aspects of short, angulated and diameter-reduced implants. Dr Stefan König (centre) highlighted possible therapeutic uses of ultra-short implants with a plateau-anchor geometry. Dr Felix Drobig (right) provided data on clinical long-term experience.

Background

This year's BDIZ EDI Legal Expert Conference discussed the Guideline of the 11th European Consensus Conference (EuCC). The Guideline is available on the BDIZ EDI website via the QR code to the left.

"Standards are a moving target"

On the occasion of this year's BDIZ EDI Legal Expert Conference on oral implantology, the Dental Online Channel of Deutscher Ärzteverlag spoke with BDIZ EDI President Christian Berger, who also served as presenter at the one-day event attended by 60 experts.

To what extent are dental experts already confronted with short, angulated and diameter-reduced implants?

This has been going on for some time now, because short, angulated and diameter-reduced implants are a treatment alternative to standard implants with elaborate augmentation procedures – something that patients demand. Many practitioners have used them quite successfully. BDIZ EDI had published a Guideline on the clinical maturity of short and angulated implants as early as 2010. At that time, the practical viability had not yet been clear. Our update in 2016 had come significantly further. The European Consensus Conference 2016 under the auspices of BDIZ EDI has established in its recommendation that the use of short, angulated or diameter-reduced implants in patients with reduced bone volume has become a reliable therapeutic option, compared to the risks associated with standard-dimension implants in combination with augmentation procedures – provided that both the implant surgeon and the restorative dentist have had appropriate training.

What is the long-term clinical experience with short implants?

There have been review papers, meta-analyses and randomized controlled trials as well as other systematic clinical trials. Our Guideline cites 54 references. Notably, however, we have not found sufficient evidence to support ultra-short implants (< 6 mm). Five studies with observation periods of 16 to 18 months showed survival rates of 99.5 per cent for long implants in combination with sinus floor elevation, compared with 99 per cent for short implants. A retrospective comparison showed no difference between short and long implants over a period of five years.

What were the most important take-home messages in BDIZ EDI counsel Professor Thomas Ratajczak's presentation?

That was a highly interesting lecture, which basically raises the question of whether we should not examine all those guidelines and studies much more critically. Using the example of smoking as a contraindication to implantation, *Ratajczak* found that some of the studies cited were never intended to examine the effects of smoking. He showed that some studies have been too narrow or included too few patients to deliver meaningful results. And more often than not, "smoking" as a factor was undefined or unexplored, so reliable conclusions could not be drawn. *Ratajczak* also raised the questions whether or not guidelines actually made sense. Our journal has published his interesting observations on the topic. He concludes that the first question to ask – well ahead of time, before drawing up a guideline and imposing it on the field – is this one: Who actually benefits from a guideline?

What discussions resulted from the Legal Expert Conference in Munich?

The question of the judges concerning standards in dental medicine naturally drives the experts. Some lectures presented new treatment approaches that are certainly not yet standard procedure. How does an expert handle that situation? At the core, this is the old question about evidence-based dentistry. In dentistry, nothing is carved in stone, especially when it comes to new procedures; progress is necessary and inevitable. Standards in dentistry are a moving target, and experts have to decide, on a case-by-case basis, whether a specific treatment of a specific patient at a specific time constituted a reasonable treatment decision.

What are your own conclusions from the conference?

We feel that we are on the right path as we publish our annual Guidelines – which are intended, I should add, as practical guidelines for the clinician, not as a set of rules in any prescriptive sense. We do not tell treatment providers what to do but give them some leads regarding a current topic in oral implantology, ensuring that they approach the treatment with greater confidence. Incidentally, we are up to the 12th Guideline by now. All Guidelines are freely accessible on the internet.

What are the results for the implantological practice?

Looking at the topic on hand, one result is the realization that – especially with more recently developed approaches such as the short, angulated and diameter-reduced implants preferred by many patients as a treatment option – the dental standard must be aligned not only with the patient's expectations, but also with the knowledge and abilities of the practitioner.

This interview was conducted by Stefanie Hanke of Deutscher Ärzteverlag and made available as a podcast on the DÄV's Dental Online Channel.

Save the date: 11 February 2018 in Cologne

13th BDIZ EDI Expert Symposium

For the 13th time now, BDIZ EDI invites participants to attend its Expert Symposium in Cologne. The symposium's motto "Patient-oriented restorative concepts: Patient expectations? Number of implants? Minimally invasive?" covers surgical, prosthetic and legal aspects as well as patient communication. If you are interested, you should make a note of the date: Sunday, 11 February 2018 – once again in Cologne, at the Dorint Hotel on Heumarkt. The one-day continuing professional development (CPD) event traditionally takes place on Carnival Sunday.

Possible topics will include: determining the scope of therapy, consultations and treatment planning, informed consent, documentation, handling of data. The day before, the European Consensus Conference (EuCC) under the auspices of the EDI BDIZ will elaborate a corresponding guideline.

The BDIZ EDI Guidelines published in the past date back to 2006 and have been partially revised. Following are the Guidelines of the last five years:

2017: Digital workflow in oral implantology
2016: Update on short, angulated and diameter-reduced implants
2015: Peri-implant inflammation: Prevention – Diagnosis – Therapy
2014: Avoiding implant malpositioning
2013: Cologne classification of alveolar ridge defects (CCARD)
2012: ABC risk score for implant treatment

More information on the event will soon be available on the BDIZ EDI homepage: www.bdizedi.org

All BDIZ EDI Guidelines are also available in digital form under www.bdizedi.org > English > Professionals > European Consensus Conference

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Save the date

13th Expert Symposium of the BDIZ EDI

Sunday, 11 February 2018 in Cologne

Topic: "Patient-oriented restorative concepts: Patient expectations? Number of implants? Minimally invasive?"

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PLANMECA

The European Commission's proposal on the Services Package also affects dentists

"Levelling down" in health care

Getting the EU Services Package on its way is a tough struggle. The European Commission is keen to include all professions into the Services Directive in order to create more transparency in the single market and to reduce competition. The affected medical professions accuse the EU Commission of being short-sighted. The health care sector had until recently been excluded – and rightly so, as Professor Anne Schäfer, who specializes in social law, believes (see following interview). With this focus on the EU Services Package, the EDI Journal's editorial team wants to shed some light on a complex topic that will have a profound impact on the so-called regulated professions, including physicians and dentists.

Professor Anne Schäfer of Fulda University is not the only one who is opposed to attempts to include the health care sector within the scope of the Directive. The EU Services Package proposes a requirement to perform a proportionality test ahead of adopting new professional regulations. This means that the EU could engage in regulation at the national level. The direction is clear: Clamouring for more competition is tantamount to dismantling the concept of the regulated professions, with the health care professions drifting off in a direction where they are organized just like any other trade. According to the European Commission, 700,000 new jobs in the EU could be created by relaxing the restrictions embedded in national professional law. The German Dental Association (BZÄK) is fighting this attempt.

Background

On 10 January 2017, the European Commission published a proposal for proportionality testing before adopting new professional regulations as part of the so-called EU Services Package. The Commission pursues the goal of removing barriers to the mobility of service providers and to their providing cross-border services. The purpose of the Directive is to establish rules for a common legal framework for the implementation of proportionality testing prior to the introduction of new laws, regulations and administrative provisions restricting access to regulated professions or their practice, or amending existing rules. The Directive therefore also includes the adoption or amendment of professional rules in the fields of dentistry and medicine, directly affecting the preconditions for access to, and practice of, these professions. The Commission believes that regulatory decisions are "not always based on sound and objective analyses". It intends to remedy this through uniform proportionality testing by the member states. The Directive includes a comprehensive list of criteria that member states must apply before new professional regulations are adopted or existing rules are amended. The proposal, according to the Commission, is intended to codify the ECJ's established case law on proportionality testing.

Source: National Association of Statutory Health Insurance Physicians (KBV)

Photo: fotolia/Der Knipser

"Rules governing the access to and the exercise of the medical professions ensure the high quality of medical and dental treatment. If current levelling attempts are allowed to prevail, consumers and patients will end up paying the bill!" said *Dr Peter Engel*, president of the German Dental Association.

Not the first attempt

This is not the first time the EU Commission is attempting something along these lines. In 2006, health care was excluded from the "Directive of the European Parliament and of the Council on services in the internal market of 12 December 2006 (Directive 2006/123/EC, also referred to as the European Service Directive or the Bolkestein Directive).

In the same year, the EU Commission has initiated a consultation process for a separate Health Services Directive in the European single market. Associations and organizations were invited to participate in this process. BDIZ EDI has also issued its own statement of opinion on this subject after consulting with its European partner associations. The BDIZ EDI statement can be summarized as endorsing a separate health directive if that directive codified the case law of the European Court of Justice (ECJ), according to which the principles of free movement are applicable to health care services.

German Chancellor *Angela Merkel* pointed out at the time that the EU does not wish to take control of the health systems, leaving them under the continued jurisdiction of the member states. But the point was to create links between the systems, and to "simplify the interfaces for patients". "Everyone wants to be treated where they live", *Merkel* said. But sometimes patients have to go somewhere else, because the services they require are not available in their own country or because there are long waiting lists for procedures. The EU Health Directive intends to create the legal framework for this.

At their Council meeting in Luxembourg on 1 June 2006, the health ministers of the then 25 EU member states adopted "Council Conclusions on common values and principles in EU Health Systems". These Conclusions emphasized the importance of protecting "the common values and principles that underpin the health systems in the member states of the European Union" and called for an appropriate initiative on health care services. Community action on health services does not mean harmonizing national health or social security systems, as the consultation paper clarifies. The benefits that different health and social security systems provide and their organization remain the responsibility of the member states, in accordance with the principle of subsidiarity.

Key topic: The European Commision's proposal on the Services Package

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A new dimension

The notification procedure initiated by the EU Commission has now entered a completely new dimension. There is therefore reason to wonder how the European Parliament will vote. The IMCO (Internal Market and Consumer Protection Committee) and the ENVI (Environment, Public Health and Food Safety Committee) have called for the exclusion of the health care professions from the scope of the Directive in their provisional opinions. The Council of European Dentists (CED), the umbrella organization representing well over 350,000 dentists across Europe, is fervently opposed to proportionality testing. The proposal, the CED declared, interfered with the national law of the EU member states; in addition, the existence of the regulated professions was based on "reasons of substantial public interest".

AWU

Professor Anne Schäfer is critical of the proportionality test

“A lot remains to be done”

On 10 January 2017, the European Commission published its proposal for proportionality testing before adopting new professional regulations as part of the so-called EU Service Package. The aim of the Commission is to eliminate barriers to cross-border services. These advances have been rejected by regulated health care professionals and by the liberal professions overall. Professor Anne Schäfer, Professor of Social and Health Law at Fulda University of Applied Sciences, Germany, criticized the proportionality test in her keynote address at the European Day of the German Dental Association in Brussels. In this interview, she outlines her position.

The EU Services Directive once excluded health care, but the German healthcare professions are now “threatened” by the EU Service Package. Why the EU Commission’s renewed move?

Of the components of the Service Package, the initiative for a directive on proportionality testing ahead of the adoption of new professional regulations is of particular interest for the medical professions. The Commission’s proposal for a draft directive clearly sets out the reasons why the Commission feels a need for an additional European directive to transform national professional law covering dentists and other regulated professions. On the whole, there are two such reasons.

Could you explain these reasons for us?

On the one hand, the Commission would like to prevent new disproportionate regulations. Legislators in the member states (such as the dental chambers) already have to apply the proportionality test before issuing new regulations. A new feature proposed by the draft directive is that a catalogue of criteria for the proportionality test is to be established by law and that statistical or other scientific ››

Professor Anne Schäfer

- Professor of Social Law and Health Legislation at Fulda University of Applied Sciences, Germany
- Scientific assistant at the European Centre for the Liberal Professions, University of Cologne (EuZFB), Institute of Labour Law and Business Law
- Attorney at Law in medical and international law firms

Legal education

- Law studies at Heinrich Heine University Düsseldorf and the University of Cologne, Germany; two state examinations
- Scientific assistant at the Institute for Public Law and Public Administration and the Research Centre for the Law of Health Care, University of Cologne
- Preparatory service at the Higher Regional Court, Cologne
- Doctorate in law at the University of Cologne

Social science education

- Studies of sociology, political science and sports science at Heinrich Heine University, Düsseldorf; MA degree
- Student and scientific assistant at the Chair of Sociology II of Heinrich Heine University, Düsseldorf

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evidence is required of the member states in certain contexts. The extent of the evidence required is defined by the Commission.

The second reason for the new directive lies in the manner in which proportionality tests are currently applied to professional law for the regulated professions. The Commission complains that after the last major reform of the Professional Qualifications Directive, many member states had not reviewed their professional law in a timely manner, or at all, and did not apply uniform criteria for the tests. Moreover, the Commission held that the tests carried out so far were too "weak". Approximately 70 per cent of the tests performed resulted in a decision to stick with the existing regulatory practice.

Can you explain in layman terms how the decision-making process works with regard to proportionality testing?

The purpose of the proportionality test is to balance two objectives: the European single market and its purpose as defined by European fundamental freedoms, such as the freedom to provide services and the freedom of establishment, and the objectives pursued by the member states in their national regulations. The relative weight of these two objectives must be carefully considered. Proportionality testing also applies to regulations relating to access to and practice of the profession. It is carried out in four steps, which I would like to present here:

Step 1: Which effects may the measure in consideration possibly have?

The first step is to examine whether a national legal or administrative measure has a restrictive effect on access to or practice of the profession. Such a restriction exists if the provision (such as a regulation under professional law) may prevent, hinder or make less attractive the activity of a service provider (such as a dentist) who is established in another member state and lawfully provides such services in the member state where the regulation applies.

An example: A dentist wants to temporarily provide services in a different member state. In that state, dentists are prohibited by an advertising ban from advertising their services. Dentists may feel prevented by the advertising ban from offering their services in the other member state, as they cannot make themselves known to potential patients. For a restriction to be considered to exist, it is sufficient that the regulation is capable of preventing, hindering or making less attractive a given activity in the other EU member state. It is not relevant whether such an effect actually occurs.

Step 2: Is there a legitimate aim for the measure in consideration?

There may be good reason for a member state to pass a restrictive measure. The European legislature and the European Court of Justice (ECJ) have recognized a number of objectives of public interest (so-called "protected objectives"). Therefore, in a second step, the proportionality test examines whether the member state is pursuing a protected objective with the proposed restrictive measure. Accepted public interests include, for example, the protection of health, the preservation of the financial equilibrium of social security schemes, or the dignity of the dental profession – but not purely economic reasons.

Step 3: Is the measure suitable for achieving the aim?

Once it has been established that the objective pursued by the member state is an accepted public interest, the question is examined, thirdly, whether the measure is specifically suitable for achieving the protected objective. Thus – as the ECJ recently confirmed – intensive, possibly even aggressive, advertising that might even be capable of misleading patients regarding the offered treatment is detrimental to patients' health and to public confidence in the dental profession. A national advertising ban is a suitable way to counter this risk.

Step 4: Are there any less intrusive measures that might be similarly effective?

Under European law, the member state is only allowed to uphold a measure if, simply speaking, there is no less intrusive means than the measure under consideration for achieving the desired protected objective. In our example, protected objectives include the dignity of the dental profession and public health, in the case of advertising measures. However, advertising that is not detrimental to these objectives is fully conceivable. A general prohibition is therefore disproportionate and contrary to European law.

But which aspects of this proportionality test are actually new?

The requirement of the member states to provide evidence to the Commission, and especially the criteria to be evaluated in Step 4, have now been legally formalized as part of the Directive. While some of the wording in the pertinent article of the Directive has been amended from the Commission's draft, the overall requirement for objective evidence still stands. According to the Council, the proportionality test must be carried out "objectively and independently, taking account of objective ››

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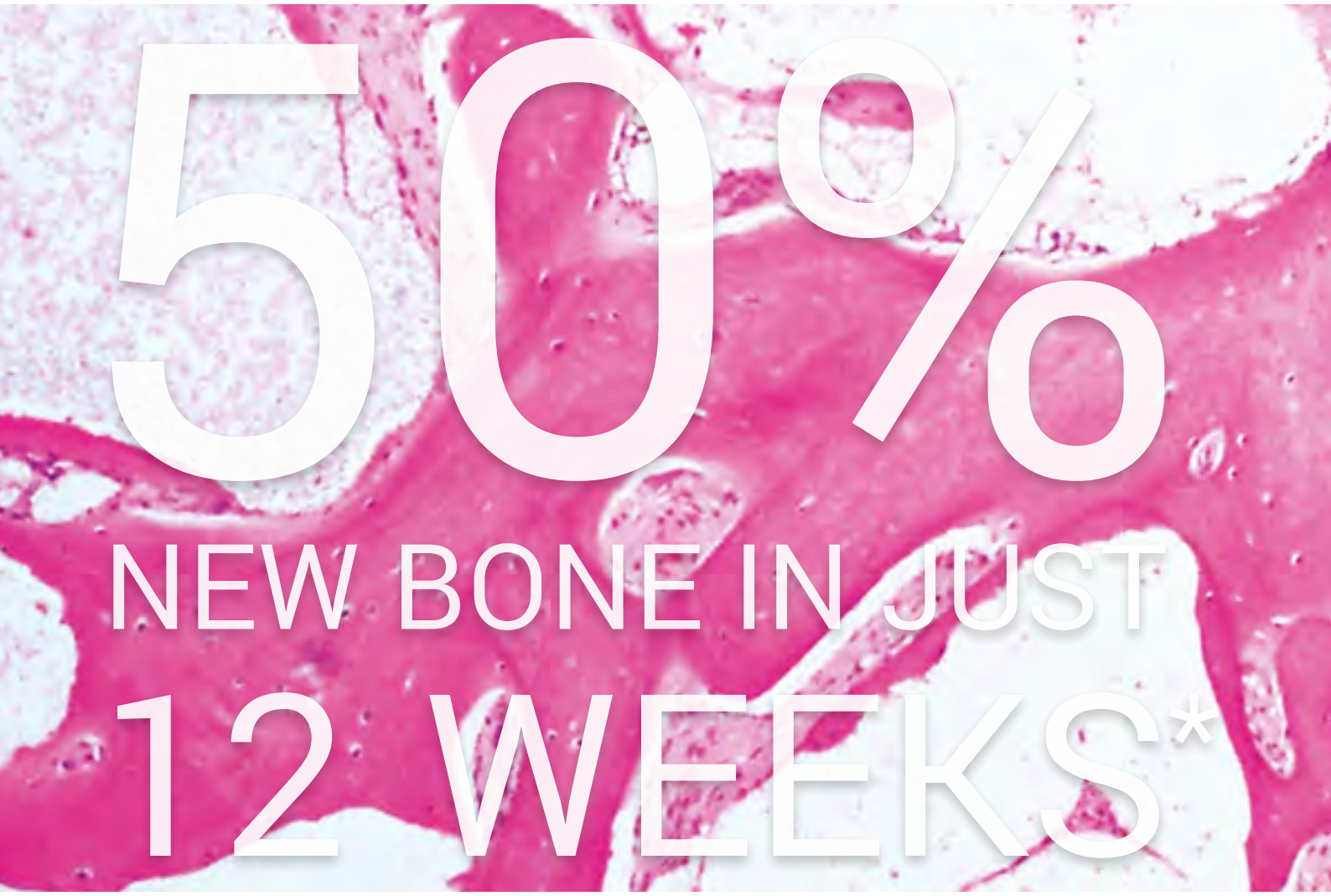

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evidence". What is meant by "objective" requires further specification. This requirement might imply that the member states are obliged to supply pertinent scientific studies to the Commission of their own accord. Recital 9 of the draft Directive refers to the member states' obligation to provide evidence in support of their arguments. Conversely, the Commission will present previous studies to support its own ideas.

The dental umbrella organization, the Council of European Dentists (CED), voiced its opinion on the Service Package at its General Assembly in Malta. Are there any EU member states whose health care system is similar to that in Germany?

As already stated, all member states have their own social security systems that ensure health care. They differ in their funding principles and, in some cases, in their individual structures. Any regulation of the health professions should consider this link – even if it is not a matter of social law – because of the possible consequences for these systems, which may be indirectly affected. In professional law, three types of countries can be distinguished with regard to the classical medical professions of physician and dentist.

First, there are those countries where the professions are regulated directly by the state, rather than by any councils or chambers. These include above all the Scandinavian countries, but also the Netherlands or Estonia and Latvia.

Second, there are – especially in Central Europe – member states with a system of chambers, such as Germany, Austria, Slovenia, Poland, Croatia, Portugal and Spain. In these countries, the chambers have the right of (self-) regulating the profession.

Third, there are a few member states that have established councils in health care. These include the United Kingdom with its territories, as well as Malta and Cyprus. Common to all member states is the fact that the health professions, together with the social professions, represent between about 26 and 77 percent of the regulated professions, according to the EU database of regulated professions. These professions are therefore of great importance throughout the EU.

At the European Day of the German Dental Association, you were highly critical of the EU Commission's procedures with regard to proportionality testing. What is going wrong?

It is understandable that the Commission is disappointed about the results of proportionality testing in the past few years, but it is in part also their own fault. One reason for the inconsistent application of the testing requirement could lie in the Commission's way of surveying the member states. The questionnaire used did not meet the international methodological standards for questionnaires, even though the relevant expertise (Eurobarometer) would be readily at the Commission's disposal. It is probable that the experts were never consulted. For now, I cannot think of any other reason to explain why the questionnaire looks the way it does. Survey research has shown that the quality of survey results depends on several factors. One central factor is the quality of the questionnaire. The answers to the questions can therefore only be as good (and uniform) as the questionnaire itself. There is a lot here that remains to be done.

You said you were afraid that including the health professions in the Service Package will damage the legal fabric and compromise health care in a way that will cost the social system dearly. Would you care to explain?

The health professions – and this is the only thing I have tried to make clear – are guardians of a very special legal interest that differs from other legal interests (such as road construction, tax advice or real estate) in several ways. The latter activities are also covered by the Directive, depending on what the regulatory situation looks like in the individual member states. For example, the remedy of monetary compensation is always available in the case of incorrect advice. But in the case of compromised health, depending on the kind of damage inflicted, sometimes no amount of money will be an adequate compensation. Insurance payments cannot help, either.

In addition, the regulation of the health professions and the provision of health care are closely linked to the social security schemes in all European countries. Health damage caused by improper regulation can result in consequential expenditures for the social systems if successful claims are made based on faulty treatment. This link does not exist in any professional group other than the health professions. Therefore, no valid conclusions for the health professions can be deduced from the results of scientific studies proclaiming the beneficial effects of reducing the regulatory burden in other regulated professions.

Thank you, Professor Schäfer, for your interesting explanations!

The interview was conducted by Anita Wuttke, Editor-in-Chief.

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Experts express their opinion on the EU Services Package

BDIZ EDI question time

If you read the interview with Professor Anne Schäfer, you cannot have missed the complexity of the EU Services Package discussions. The editors of EDI Journal decided to talk to those presumably in the know: an EU parliamentarian, the European representative of the German Dental Association in Brussels and the Council of European Dentists that represents the dental profession in the EU. The representative of the European Commission has not responded to our request.

Dr Alfred Büttner

What would be the implications for physicians and dentists of including health care in the EU Services Package?

The Services Package as presented in January 2017 is one of the European Commission's political top priorities. This package, designed to promote economic growth, contains four legislative proposals aimed at deepening the single market. For example, it includes plans to introduce a European service card and to ensure a more faithful implementation of the Services Directive adopted in 2006.

In addition, there has been a proposal for a Directive requiring proportionality testing ahead of the adoption of new regulation of professions, a proposal of particular importance for the dental profession because it also applies – unlike other proposals in the package – to the health care sector. The draft provides for a comprehensive audit mandate: a national legislature proposing to adopt new regulation of professions or to change the existing one must now show that the proposed legislation is proportionate, taking the objectives of the overall economic growth policy into account.

The idea to introduce proportionality testing was triggered by an assumption on the part of the European Commission that regulating access to and the practice of a profession constitutes a market intervention. Specifically, national rules such as fixed minimum fees for the liberal professions, limits on cooperation with professionals in other fields or provisions that restrict equity investments by non-professionals have caught the Commission's attention.

The German Dental Association (BZÄK) is highly critical of this approach. This economically motivated view of professional regulation threatens to obliterate other important parameters that require regulation, such as the protection of patients' health and well-being. Working with representatives of other German health care professions, BZÄK is committed to having health care excluded from the scope of proportionality testing. In order to counter the growth-related argument put forward by the European Commission, the German Federal Association of the Liberal Professions (BFB), at the instigation of BZÄK, has commissioned a scientific expert opinion that refutes the business-centric thinking of the Commission.

Dr Alfred Büttner
Head of the Department European and International Affairs of the German Dental Association (BZÄK), Brussels, Belgium

Markus Ferber

What is your opinion as an MEP on the EU Services Package? A curse or a boon for health care?

The European Commission's proposal regarding the EU Services Package unfortunately overshoots its aim. Specifically, the proposals about proportionality testing constitute a problem for the health care professions. Proportionality testing means that a professional regulation to be passed by a member state must be checked against a list of criteria to see whether it complies with the principle of proportionality or whether it constitute a barrier to trade that compromises the proper functioning of the single market. ››

However, with this instrument of proportionality testing, the European Commission has set out to undermine the existing discretionary powers of the member states. And that is a problem – especially in the sensitive area of health care. After all, regulation in healthcare is not just a matter of business and competition, but also of ensuring patient well-being, public health and the availability of care. Given this complex situation, the member states need some scope for individual variation in the field of professional regulation, but that is not reflected by the European Commission's proposals.

It remains undisputed that general legal principles such as suitability for a given purpose and the principle of non-discrimination, which are derived from European Union law, apply to the health professions as well as to everyone else. However, these principles have already been established by the Professional Qualifications Directive, which already provides for a high degree of mobility for health care professionals. As proposed, the Commission's draft tends to be a step backwards from the status quo. What I am actively advocating in the European Parliament is to leave more room for the member states' own decision-making powers to put more weight on the quality of the services provided. This is something the health professions in particular will benefit from.

Markus Ferber
Member of the European Parliament , First Deputy Chairman of the Committee on Economic and Monetary Affairs, Speaker of the Parliamentary Group for Small and Medium Enterprises, Brussels, Belgium

What is the position of the Council of European Dentists (CED)?

The CED welcomes the basic direction taken by the Services Package to intensify the common internal market. However, the CED takes a very critical view of the Directive on a proportionality test before adoption of new regulation of professions (COM(2016) 822), which is part of the Services Package.

The planned introduction of an obligatory proportionality test would have considerable effects on all regulated professions within the European Union and would greatly limit the margin of discretion and scope for decision-making available to national law-makers. The instrument of Directive, chosen by the European Commission, interferes extensively in the exclusive competence of EU member states to regulate professions and has therefore already been criticised as infringing on the principle of subsidiarity that is laid out in Article 5 of the Treaty on European Union. EU case law has repeatedly highlighted that member states have the right to determine the level of protection that they want to afford to public health and the way in which that level is to be achieved.

Recent economic studies have shown that professional regulation cannot be seen as a general obstacle to economic development but instead that it is helpful in economic terms. It is alarming that the European Commission places the adoption of new or amending existing professional regulation under general suspicion of slowing down economic growth. However, this economy-only approach, which the Commission has been pursuing for some time, cannot be the defining benchmark for assessing national professional regulation. Professional regulation is based on the need to protect essential public interest.

Finally, the draft Directive does not do justice to the special nature of the health professions. According to Article 168 paragraph 7 of the Treaty on the Functioning of the European Union, the regulation of health professions must continue to remain a competence of member states. The CED categorically rejects the attempt by the European Commission to influence national health systems through the Directive on a proportionality test. Rules governing access to and practice of the health professions serve to protect public health and the health of patients. They also safeguard the quality of patient care. In fact, the CJEU has, on numerous occasions, stated that protecting health is an appropriate ground to implement restrictions on the freedom to provide services. The provision of health services thus differs substantially from the provision of other services. General assumptions about the advantages of free competition do not apply to the provision of health services. Health services rightly occupy a special position among services. At a European level, this is expressed clearly, both in Directive 2011/24/EU on the Application of Patients' Rights in Cross-Border Healthcare and in Directive 2006/123/EC on Services in the Internal Market. Furthermore, the European Court of Justice recently made reference to the special relationship of trust that must exist between dentists and their patients.

Against this background the CED proposes that the health professions are excluded from the scope of the planned Directive on a proportionality test to bring it into line with the approach to health enshrined in the EU Treaties, relevant EU legislation and EU case law.

FDI Annual World Dental Congress 2017

The dental world in Madrid

In 2017, the FDI World Dental Federation held its Annual Meeting in Europe again – in Madrid, Spain, to be exact. The FDI's World Dental Congress is one of the world's oldest international events under the auspices of one of the world's oldest medical-sector organizations. It is one of the "must-attend" international meeting points for sharing policy, information and ideas on dentistry and oral health. The Congress welcomed more than 8,000 participants and featured courses in all fields of dentistry and oral health delivered by 130 experts from over 30 countries.

Due to the extensive course programme, the event is a highly reputable source of continuing education allowing dentists and other oral health practitioners to stay abreast of the latest technologies and practices. Other congress features include the World Oral Health Forum, which provides an opportunity to debate hot topics in oral health and related issues.

This year, FDI returned to Spain to hold its World Dental Congress. It was certainly an exciting prospect to be hosted by a founder member and active supporter of the FDI: the Spanish Dental Association (CGCOEE). Madrid has already played host to three WDCs, including one of the earliest Annual Sessions in 1903, on the invitation of *Dr Florestan Aguilar* of Spain. He was an FDI founding father, former President and Secretary-General, and towering presence for over 30 years in the federation's early work.

General Assembly with delegates from all over the world.

The main elements of the World Dental Congress:

- the Scientific Programme
- the General Assembly and other business meetings of the FDI World Dental Parliament
- the World Oral Forum
- the FDI World Dental Exhibition.

FDI General Assembly

The FDI WDC is the time of year when the General Assembly meets. Over 300 FDI delegates get together during five days to debate and take decisions that will influence the future of dentistry. It is also at this occasion that the five standing committees get together to further progress on the projects they work on throughout the rest of the year. This is also when the annual meeting of the FDI sections and regional organizations takes place. Key opinion leaders from the world dental community get together in a single location once a year at the FDI WDC.

Each of these sessions is addressing global issues relevant to dentists, but also more generally to society. The aim is to educate FDI's members and confront them with ideas that are not discussed in dental congresses, meeting with people who might not regularly attend dental events. The concept was launched in Hong Kong for the first time. Panels consist of (and may vary depending on topics):

- one representative from an international organization (WHO, UN, UICEF, etc) or from a political body (Minister of Health, Environment, Economy etc)
- one representative from the dental and oral health industry
- one or two representatives from FDI membership
- one representative from a non-dental organization (cardiologists, IT etc).

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President-elect Dr Gerhard Seeberger, Italy. He was speaker of this year's General Assembly in Madrid.

New President: Dr Kathryn Kell, USA, takes over presidency from Dr Patrick Hescot, France.

This year's presented topics included:

- FDI Vision 2020
- Green Dentistry and sustainable development
- Caries – a silent epidemic.

The FDI World Dental Federation serves as the principal representative body for more than one million dentists worldwide, developing health policy and continuing education programmes, speaking as a unified voice for dentistry in international advocacy and supporting member associations in global oral health promotion activities. It is the leading global body committed to oral health and develops educational programmes, awareness campaigns, congresses and initiatives aimed at progressing the field of dentistry. It also advocates for oral health to be prioritized in global health and development agendas and pushes for their integration in chronic disease prevention programmes. In Madrid, the FDI launched a three-year campaign for World Oral Health Day (WOHD) under the theme "Say Ahh". Combined with different sub-themes each year, the 2018 WOHD campaign "Say Ahh: Think Mouth, Think Health" will encourage people to make the connection between their oral health and their general health and well-being.

Oral health day 2018

"'Say Ahh' is a phrase that is commonly used by dentists and doctors during check-ups. It invites people to open their mouths for examination and brings to life the notion of the mouth serving as a mirror to the body and reflecting overall health. We want people to understand the mouth and body connection because the more informed they are about the impact of oral health on their general health, the more likely they will be to engage in preventive oral care routines", said *Doardo Cavalle,* WOHD Task Team Chair. The WOHD 2018 campaign aims to educate people that keeping a healthy mouth is crucial to keeping it functioning correctly and for maintaining overall health and quality of life. It highlights associations between certain oral diseases and noncommunicable diseases (such as diabetes, cardiovascular disease, respiratory disease and some cancers), raises awareness of common risk factors, and promotes good oral hygiene habits.

New presidency

The FDI membership welcomed two new regular members: the Mauritanian Dental Association and Uzbekistan Dental Association. The FDI governance also underwent changes, starting with the handover of the presidency to *Dr Kathryn Kell* from the American Dental Association. She began her two-year mandate on 1 September and succeeds *Dr Patrick Hescot* from the French Dental Association. *Dr Gerhard Seeberger*, Italian Dental Association (AIO), was elected president-elect and also began his two-year mandate on 1 September.

The General Assembly re-elected three Council members for another mandate: *Dr Ashok Dhoble*, Indian Dental Association; *Professor Takashi Inoue*, Japanese Dental Association; and *Dr Edoardo Cavalle*, National Association of Italian Dentists (ANDI). The General Assembly also welcomed two new members: *Maria Fernanda Atuesta Mondragon*, Colombian Dental Association; and *Young-Guk Park,* Korean Dental Association; as well as the new FDI Speaker *Dr Susie Sanderson*, British Dental Association.

Among FDI Standing Committees, the Dental Practice Committee re-elected *Dr Roland L'Herron*, French Dental Association; the Membership Liaison and Support Committee re-elected *Dr Georgios Tsiogas*, Hellenic Dental Association; the Public Health Committee elected *Professor Elham Kateeb*, Palestine Dental Association; and the Science Committee re-elected *Dr Philippe Calfon*, French Dental Association.

Policy statements are declarations laying out current FDI thinking on various issues related to oral health, oral health policies and the dental profession. This year, the General Assembly adopted six new policy statements: Advertisement in dentistry, CAD/CAM dentistry, Lifelong oral health, Odontogenic pain management, Quality in dentistry, and Sustainability in dentistry; and adopted three policy statements that have undergone extensive revision: Continuing dental education, Dental practice and third parties, and Promoting oral health through fluoride.

The next FDI World Dental Congress will take place from 5 to 8 September 2018 in Buenos Aires, Argentina. *AWU*

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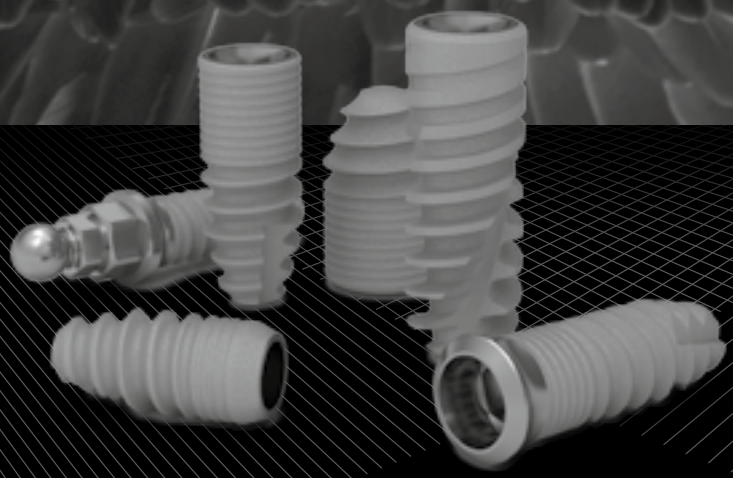

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German fee schedules:
BDIZ EDI criticizes unequal treatment

Dogs before humans?

Germany has fee schedules for the regulated professions, such as physicians, dentists, veterinarians, that set minimum and maximum rates for medical services. It is called GOZ and is issued by the legislator, that is, the German federal government with the approval of the Bundesrat (upper chamber). Now the veterinarians have received an increase in their fee schedule. The simple-fee rates were raised by a flat 12 per cent. There is a 30 per cent increase for consulting services. The last increase was in 2008. BDIZ EDI is astonished at the apparent imbalance between humans and animals when it comes to medical treatment. While the 1988 amendment of the fee schedule was "cost-neutral" at the time, legislators approved a 6 per cent greater treatment volume in the 2012 version. The monetary value of each fee point was not increased.

BDIZ EDI legal counsel Professor Thomas Ratajczak

"This is an example of double standards", says BDIZ EDI legal counsel *Professor Thomas Ratajczak*. "When it comes to animals, it seems self-evident that the service provider should be compensated for inflation. But when it comes to the dental treatment of people, the federal budget seems to be more important than an equitable approach to remuneration."

Frozen fees

For years now, BDIZ EDI has been calling for an upward adjustment of the monetary value of the fee points defined by the fee schedule, something that has not happened in 30 years. Or in plain language: Cost increases that have accumulated over the past three decades in terms of personnel expenses, lease expenses or the cost of complying with increasing hygienic standards have been completely ignored by the legislators. In response to their failure to increase the fee point value, frozen since 1988, BDIZ EDI in 2012 initiated legal action by six dentists against the fee schedule, brought before the highest German court, the Federal Constitutional Court in Karlsruhe.

BDIZ EDI continues to criticize the fact that the 2012 fee schedule is not based on a description of modern prevention-oriented dentistry and that the existing relationship between the remuneration for different types of dental services as broken down into its components by the fee schedule has largely remained the same. As a result, services that were undervalued in the previous 1988 version of GOZ are still undervalued in the 2012 version.

No grudge

"It is not as if we were simply envious of the veterinarians' increased fees. It is, however, a health policy scandal that the legislator has stubbornly ignored economic developments for decades and neglected to update its regulations to represent the current state of the art in dentistry. Many new dental procedures have been developed in recent years that are not, or only insufficiently, represented by the 2012 fee schedule", says BDIZ EDI President *Christian Berger*.

Support from the highest level

The German Dental Association shares the critical view of BDIZ EDI. The current fee schedule is completely obsolete in terms of remuneration, says *Dr Wolfgang Menke*, Chairman of the Fees Committee of the German Dental Association. That a tooth extraction should cost more in dogs than in humans is a pretty strange situation. While it is not necessary to scrap the GOZ completely, a significant revision is clearly indicated.

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Photo: Fotolia/Photographee.eu

Important licensing regulations for dentists in Germany to be amended – after 60 years

Laying the foundation for new ways in dental education

Licensing regulations are legal regulations that regulate admission to the academic healthcare professions of physicians, dentists, veterinarians, psychological psychotherapists, child and adolescent psychotherapists and pharmacists. They stipulate minimum training periods, curricula, compulsory subjects, as well as requirements for state-approved testing and other requirements for the granting or withdrawal of licences. In Germany, the pertinent regulation had last been amended in 1959 and no longer reflected the state of the art and the progress since made in dentistry. Now the German Federal Cabinet finally decided to amend the German licensing regulations for dentists (AppO-Z).

However, the draft legislation has not yet been discussed and approved by all necessary committees as required to implement it in the German federal states. The German Dental Association (BZÄK) has now sent an appeal to the Bundesrat, the second chamber of the German parliament representing the federal states, to finally clear the way for modernizing the licensing regulations by a quick decision: "Young dentists need a licensing scheme that meets current needs, given the increasing scientific complexity of the field. A 60-year-old car will not win a Formula One race today. The BZÄK has been actively involved in the discussions. In the interest of our patients as well as of the next generation of dentists, we are now calling for all those involved to bring this project to a conclusion in order not to jeopardize the present high quality of dental care", said BZÄK President *Dr Peter Engel* in the Association's press release.

Relief – and criticism

Relief is being felt in some quarters, but criticism is also still being voiced. For example, *Professor Ralph G. Luthardt*, president of the Association of University teachers of dentistry, and oral and maxillofacial surgery (VHZMK), urges added investment in student training. He is critical of the fact that the Federal Cabinet's proposal continues to be based on cost neutrality. "Politicians probably believe that the number of students will drop by 6 per cent and that this reduction will compensate for the extra cost. But this assumption is completely unrealistic."

The German Association of Dental Students (BdZM) welcomes the adoption of the AppO-Z by the Federal Cabinet: "From now on, it is in the hands of the federal states to finally adopt the AppO-Z and clear the way for modern dental medicine." The BdZM sees the revision of the AppO-Z as indispensable, as it will lay the foundations for state-of-the-art dental education at the universities.

"With the new AppO-Z, dental education will receive a modern and innovative structure and assume a pioneering role in Europe. We are delighted that most of our core demands have been implemented, such as the built-in clinical training, more favourable teacher-student ratios in the practical courses, problem-oriented courses overall and nursing internships in combination with student traineeships in dental practices before or during their studies", said the BdZM in a press release.

In addition, the association appreciates that it will continue to be possible for all faculties of dentistry to establish a model curriculum independently of the faculties of general medicine. It had been clear to the BdZM from the very beginning that amended licensing regulations for dentist could not be cost-neutral. "We therefore call on the federal states to join the federal government and to promote dental training in Germany with a new AppO-Z and, above all, to provide the necessary financial resources. This is the only way to ensure a bright future for dental education in Germany." *AWU*

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The BDIZ EDI office has moved

BDIZ EDI now in Cologne

After many years in Bonn, the BDIZ EDI has changed its residence. The office is now situated in Cologne. Main reasons for the move were better traffic connections and the vicinity to the University of Cologne, where BDIZ EDI's Curriculum Implantology takes place in cooperation with the University of Cologne and headed by BDIZ EDI Vice President Professor Joachim E. Zöller.

The new premises are smaller and thus less expensive, which is also due to the modern means of communication. Of course, the personal service offered by our staff remains available. All members will still receive support in all matters of membership, courses, congresses and guidebooks. As of 28 August 2017, the address of the BDIZ EDI office is

BDIZ EDI
Mühlenstr. 18
51143 Köln
Germany
Phone: +49 2203 8009339
Fax: +49 2203 9168822

The URL remains unchanged:
www.bdizedi.org
The new e-mail address is:
office@bdizedi.org, *Brigitte Nötzel*
The public relations and editor-in-chief's office of our publications, BDIZ EDI konkret and EDI Journal, can still be reached in Munich: presse@bdizedi.org, *Anita Wuttke*

„We are very pleased that our new office in Köln-Porz is more centrally located and thus much easier to reach for our board and our members", comments BDIZ EDI Managing Director *Dr Stefan Liepe*.

AWU

18th Curriculum Implantology completed

Congratulations to the graduates

Photo: Universität Köln/Thies Schöning

The photograph shows the graduates with their "teachers" Professor Joachim E. Zöller (right in the centre) and Professor Hans-Joachim Nickenig (right).

The 18th Curriculum Implantology of the BDIZ EDI and the University of Cologne ended in June 2017 with a final exam. In the course of one year, the soon-to-be implantologists had to complete eight modules in the field of oral implantology. After having successfully passed the final exam, the participants were rewarded with a graduation certificate, which was handed over during the graduation ceremony at the University of Cologne.

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More information
on the content and modules of the Curriculum Implantology can be accessed directly via the QR code to the right.

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6th USSI EDI International Congress and 8th Congress of Dentists of Vojvodina

Implant dentistry develops well in the Balkans

The 6th International USSI EDI Congress and the 8th Congress of Dentists of Vojvodina were held in mid-May in the modern NIS Centre in Novi Sad, Serbia. The joint congress is traditionally held under the patronage of the Province of Vojvodina and – since the first congress – supported by the BDIZ EDI. Participants included physicians, dentists, dental assistants and dental technicians.

The core of the 6th USSI EDI congress with more than 1,800 participants was a very comprehensive scientific programme with renowned speakers, workshops and poster presentations. The topics covered all aspects of modern dentistry and dental implantology as well as parts of medical disciplines that are closely related to the oro-facial region.

For the sixth time, BDIZ EDI President *Christian Berger* took an active part in the congress, introducing to the audience the success criteria in oral implantology based on the guidelines of 2012 and 2013: the ABC Risk Score and the Cologne Classification of Alveolar Ridge Defects. Both were consented by the European Consensus Conference under the auspices of the BDIZ EDI. *Berger,* who has been President of the Bavarian Dental Chamber since 2014, gave strong support in developing the Serbian implant dentistry. He plays an active role in implementing ideas and goals for postgraduate education in the discipline of implant dentistry.

With the implementation of the European Curriculum for Implantology in the field of general dentistry, the USSI EDI announced that it had achieved its most important goal. Of equally great

Pleased with the outcome of the congress (left to right): Professor Bernhard Giesenhagen, Dr Dušan Vasiljević, Professor Asen Džolev, Dr David Alfaiate, Dr Pedro Araújo, Prim Dr Branislav Kardašević, Dr Budimir Mileusnic, Dr Zoran Marjanović, Christian Berger.

importance to the associated partner of BDIZ EDI is the harmonization of the legislation pertaining to oral implantology with EU standards.

Along with the congress programme, USSI EDI had organized four hands-on workshops in the fields of implantology, prosthetics, 3D diagnostics and planning, as well as aesthetic medicine.

The multidisciplinary character of the scientific programme attracted more than 1,800 participants. In the course of four days, the international speakers team covered all aspects of modern dentistry and dental implantology, as well as a part of medical disciplines that are closely related to the oro-facial region. The curriculum part of the programme was primarily organized by the Scientific and the Organizing Committee, who took care of choosing interesting lectures and current issues, and of satisfying the desire of the expert public to improve and raise the level of knowledge in the different disciplines of dentistry. Eleven poster presentations and the above mentioned workshops completed the multifaceted agenda.

The traditional 8th Congress of the Dentists of Vojvodina organized by the Dental Section of the Society of Physicians of Vojvodina and the Serbian Medical Society was held once again under the patronage of the Government of Vojvodina and their Provincial Secretariat for Health Social Policy and Demography.

With the 6th USSI EDI and the 8th Congress of Dentists of Vojvodina, the city of Novi Sad hosted the two largest international events throughout the year, organized by USSI EDI Vice President *Dr Zoran Marjanović*. "I am very proud that our participants leave with a smile on their face because of our eminent programme and the warm hospitality offered to the guests", he said.

Dr Zoran Marjanović, Vice President USSI EDI

Certification as an EDA Expert in Implantology

Qualification for experienced implantologists

For many years, BDIZ EDI has been catering to experienced and well-versed oral implantologists by offering the certification exam for EDA Expert in Implantology. Jointly with the European Dental Association (EDA), BDIZ EDI regularly invites interested dentists to take the certification exam, which we would like to present in this article.

That quality is of paramount importance to BDIZ EDI is no secret. BDIZ EDI has demonstrated this in many different areas – legal and accounting, materials testing, postgraduate education, the annual Guidelines of the European Consensus Conference (EuCC) on current implantological issues and finally the qualification of court experts. BDIZ EDI also supports dental education with its Curriculum Implantology that introduces aspiring dentists and young implantologists to this dental specialty in eight well-organized modules.

Admission requirements for the certification exam

Certification as Expert in Implantology requires very good to excellent skills and knowledge. Candidates must meet the following admission requirements:

- 250 EDA-recognized continuing education/training hours in various sub-disciplines of implantology
- Submission of ten documented, independently performed implantological treatment cases
- At least five years of professional activity, primarily in the field of implantology

Specific experience and primary activity in the field of implantology must be documented by at least 400 implants inserted and 150 implants restored within the past five years. Candidates who already obtained qualifications in oral implantology (e.g. from other professional societies) may submit the appropriate credentials with their application for certification as EDA Expert in Implantology.

The exam

Candidates meeting all the requirements will be admitted to the examination. The examination board of BDIZ EDI and EDA consists of recognized specialists. The exam has a theoretical and a practical part, both of which must be completed successfully.

The procedure is as follows: The theoretical part of the exam will start with a discussion of the documented cases. In addition, candidates are expected to answer questions related to oral implantology and closely associated fields. The theoretical examination usually takes no longer than 60 minutes; it may be administered to candidates in groups. The practical part of the examination covers one or more recognized, state-of-the-art treatment method or methods and/or treatment plans covering some aspect of oral implantology. Candidates will be informed of the respective topic two weeks before the exam date. Candidates are responsible for providing the required materials and instruments on the day of the exam. The examination as a whole is subject to a fee to cover the cost incurred by the examination board.

New EDA Experts in Implantology are nominated by the president or vice president of the EDA certification committee.

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More information

To register for the next certification exam, please go to www.bdizedi.org and select English > Professionals > Expert or write to the BDIZ EDI office in Cologne at office@bdizedi.org

European Association of Dental Implantologists

Applicant's address:

Full name _____

Full address _____

_____

_____

E-mail _____ Date _____

Forward by mail or fax to:

European Association of Dental Implantologists (BDIZ EDI)
Mühlenstr. 18
51143 Köln
Germany

office@bdizedi.org
Fax: +49 2203 9168822

Certification exam: EDA Expert in Implantology
Application for accreditation

I hereby apply for the EDA Expert in Implantology certification exam (EDA = European Dental Association).

I am qualified for this exam as defined below:

Member of BDIZ EDI ☐ yes ☐ no

Member of the following Societies/Associations: _____

I am: ☐ a dental clinician ☐ an oral surgeon ☐ a maxillofacial surgeon

I meet the training requirement of 250 hours of postgraduate education. ☐ yes ☐ no

Education and experience:

Surgery:

Inserted implants: ☐ less than 400 ☐ more than 400

Sinus lift: ☐ yes ☐ no

Close to nerve: ☐ yes ☐ no

Advanced atrophy of the jaw: ☐ yes ☐ no

Soft-tissue augmentation: ☐ yes ☐ no

Bone augmentation: ☐ yes ☐ no

Prosthodontics:

Implant-supported restorations: ☐ less than 150 ☐ 150 or more

During the exam, I will be able to present documentation for 10 treatment cases. ☐ yes ☐ no

I understand that the examination board will review my qualifications and vote to accept or reject my application. Furthermore, I declare that all images I present are my own and that the implants have been inserted and prosthetically restored by me.

_____ _____

Applicant's signature Date

Having successfully passed the exam and paid the requisite fee, I will be certified as EDA Expert in Implantology.

Implant care instructions brochure for patients in English language

Why is oral hygiene important?

It's been a known fact for many years that healthy teeth in an intact environment are important for our overall health. The European Association of Dental Implantologists (BDIZ EDI) keeps on hand an English edition of its implant maintenance brochure. In easy-to-understand language, the brochure entitled "Long-lasting implants for long-lasting beauty" offers well-illustrated instructions and general information about oral health. Teamwork of patient and the dental office is the most important aspect of the brochure.

This QR code will lead you directly to the online shop of BDIZ EDI.

The maintenance brochure is intended for distribution to patients by dental practices and was written to assist them in teaching their patients to take care of their dental implants in the appropriate manner. The 24-page patient information brochure in A5 format consists of a general section about oral hygiene and a main section on implant maintenance – all about the right cleaning tools and their use with single-tooth implants as well as fixed and removable implant-supported restorations. "Good to know" provides background information on choosing the right toothbrush and using the proper brushing technique, describes the process of professional tooth cleaning and educates readers about risk factors. A detailed checklist serves the purpose of raising implant patients' awareness towards possible changes in the mouth and around the implant.

This is the first English edition of the brochure. It has been completely redesigned and contains large images and short texts in easy language that patients can understand. The preface states: "It is up to you to ensure careful oral hygiene, and this is a prerequisite for a long implant life. Teamwork is of the essence!"

Interested? You can order the brochure in our online shop or via e-mail directly from our Cologne office.

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Contact address

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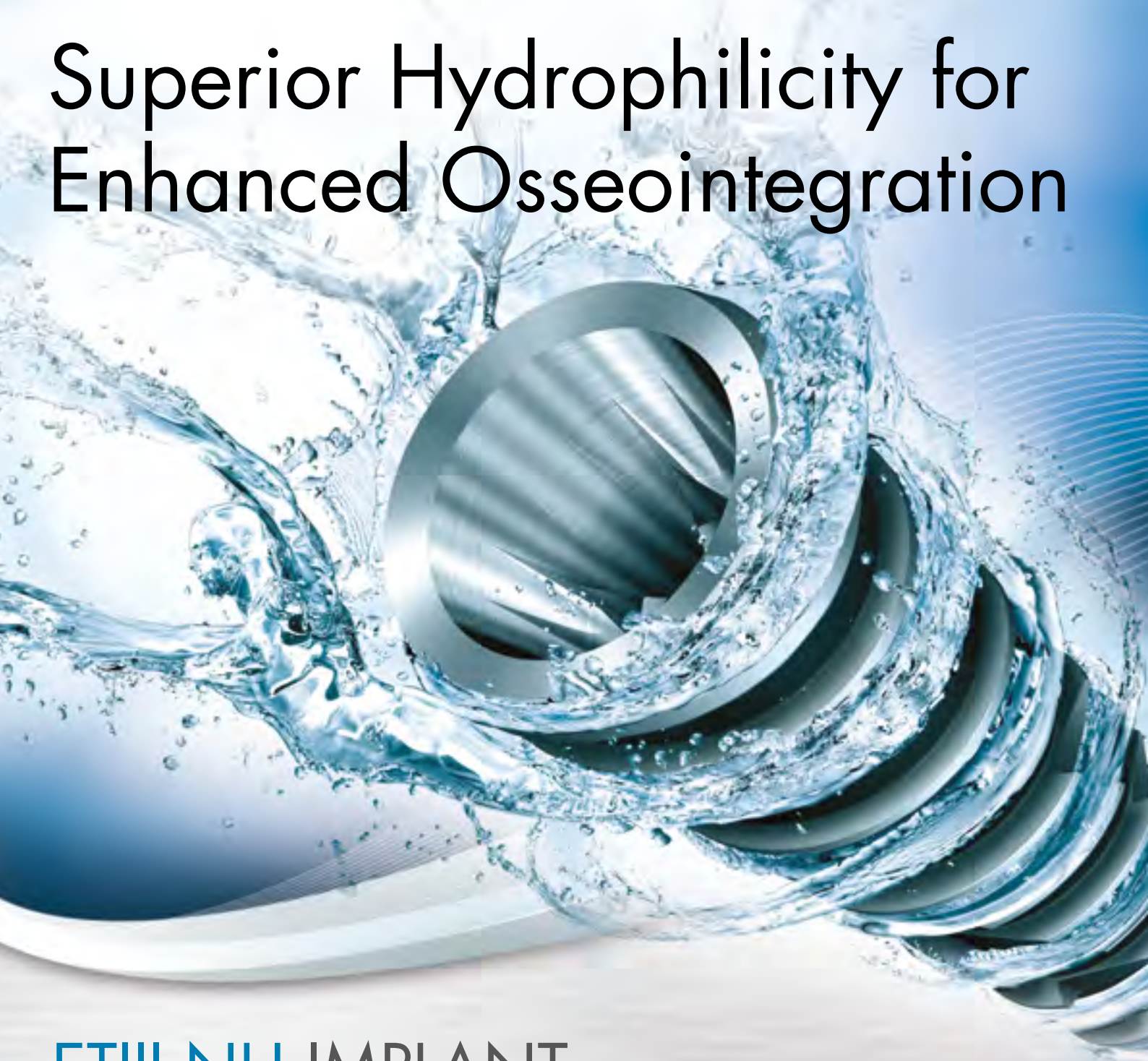

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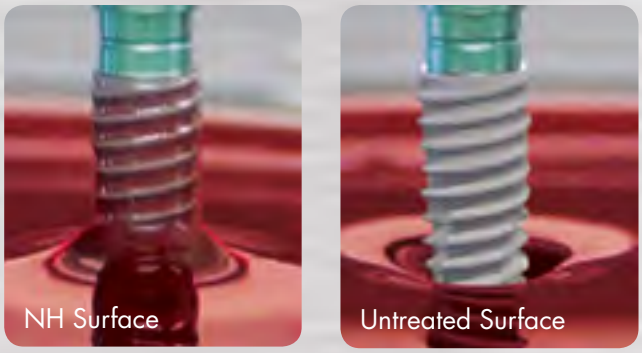

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G20 summit on global health

WHO to receive added financial support

At the G20 summit in Hamburg under the German presidency, there was also a final declaration summarizing the results of the meeting of the G20 health ministers. Under the motto "Shaping a Networked World" they announced closer cooperation in the fight against cross-border health crises and dangerous pathogens. This also included strong and adequately financed world health organizations, support for setting up resilient on-the-spot health care, improved control of antibiotic use in humans, animals and the environment, and additional research and development efforts for new vaccines and medicinal products, stated German Health Minister *Hermann Gröhe* at the conclusion of the G20 health minister meeting in Berlin at the end of May.

The G20 heads of state and government emphasized the importance of the crisis simulation exercise of the G20 health ministers and the need for further close international cooperation in combating cross-border health crises, according to their joint statement. They called on the United Nations to keep assigning top priority to health issues on the global political agenda. The G20 support the WHO's prominent role in combating health crises and in helping to build relief efforts. This also includes the further implementation of the WHO reforms introduced and adequate and sustainable financial resources to be made available to the WHO. Addressing the G20 leaders, *Dr Tedros Adhanom Ghebreyesus*, Director-General of the WHO, underscored the need for a coordinated global approach. "Pandemics of infectious diseases and other threats to health, such as antimicrobial resistance, transcend borders and national interests, so vulnerability for one is vulnerability for all of us." In order to be better prepared for health crises, international programmes for the promotion of research and development of vaccines and medicinal products are to be launched, such as the Coalition for Innovations in Epidemiological Care (CEPI) funded by Germany.

Source: Various

Photo: Russell Watkins/Department for International Development [CC BY-SA 2.0 (http://creativecommons.org/licenses/by-sa/2.0)], via Wikimedia Commons

Director-General of the WHO
Dr Tedros Adhanom Ghebreyesus

Photo: BMG/Jochen Zick (action press)

German Health Minister
Hermann Gröhe

Results of a Spanish study

Implant-supported restorations and OSA

Patients with implant-supported restorations run a higher risk of prosthetic complications if they suffer from obstructive sleep apnoea (OSA), a Spanish study conducted in cooperation with *Dr Eduardo Anitua* has found. The study, which focused on sleep disorders, included 172 patients. A total of 67 patients – 36 women and 31 men – with an average age of 61 years had dental implants and were examined separately for physical problems.

Initial complications occurred on average 73 months after implant insertion. Of the 67 patients, 16 had already experienced earlier problems with their restorations; 13 of these additionally suffered from obstructive sleep apnoea as diagnosed in the sleep laboratory. Overall, these patients wore 22 implant-supported restorations, which gave rise to 30 events: ceramic fractures (14 cases), implant fractures (8), implant/restoration loosening (3) and decementation (5). The reason for this was bruxism, which frequently co-occurs with OSA, and the ensuing heavy compression of the teeth that led to the identified complications.

Based on their apnoea-hypopnoea index (AHI), 49 patients had OSA; 13 of the 16 patients with a prosthetic complication also suffered from OSA. The highest AHI, and thus the most severe OSA, was identified in patients with fractures associated ››

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Europe Ticker +++

with an implant, screw, or ceramic component. The incidence of prosthetic complications was higher in patients with OSA. None of the OSA patients had worn a mandibular advancement device.

However, the researchers pointed out that further studies are required to gain a better understanding of the relationship between implant-supported restorations and obstructive sleep apnoea and to derive practical recommendations.

[Reference: Anitua E, Saracho J, Zamora Almeida G, Duran-Cantolla J, Hamdan Alkhraisat M. Frequency of prosthetic complications related to implant-borne prostheses in a sleep disorder unit. Journal of Oral Implantology. 2017 (Feb); 43 (1): 19–23.]

Source: Zahnärztliche Mitteilungen, Germany

Calling for a global ban on the disinfectant

Triclosan now also in toothpaste?

The disinfectant triclosan is to be banned worldwide, according to the German news magazine Focus. This demand was raised by 206 scientists and physicians as well as nine European health organizations. Triclosan can potentially trigger breast cancer as well as damage human gametes and attack the liver and muscles, the researchers explained in justification of their demand. Triclosan is a potent germ killer that is found in many cosmetics and products in everyday life. But the nowadays ubiquitous substance is also controversial.

Triclosan has for some time now been suspected of promoting various diseases, including cancer. Tests with mice are said to have shown that even small amounts of the chemical affected muscle function and caused liver damage. In a worst-case scenario, contact with triclosan even resulted in cancer. A new study has now found that the biocide triclosan also promotes resistance to antibiotics.

This connection was discovered by *Professor Mark Webber* of the University of Birmingham and his team, who in a study made the following observation: Germs that had become resistant to certain antibiotics due to mutations also developed defence mechanisms against triclosan. The mutations protecting the pathogens against the antibiotic were apparently also effective against the disinfectant. Although it is primarily used in a medical setting for disinfection purposes, the substance is also added to many everyday products, such as toothpaste, cosmetics or deodorants, to kill microorganisms or inhibit their growth. It is even found in functional clothing and plastic cutting boards.

Physicians, scientists and several European health organizations are therefore calling for an immediate ban on the use of this this widespread chemical in household products. 206 physicians and nine organizations have signed the “Florence Declaration”, which was recently published in the specialist journal “Environmental Health Perspectives”.

Source: Focus, Germany

Photo: pixabayde/stocksnap

Study confirms

Dental phobic people more likely to have dental problems

People with dental phobia are more likely to have active caries or missing teeth, a new study from King’s College London has confirmed. The latest study, published in the British Dental Journal, aimed to explore the social and demographic correlates of oral health and oral health related quality of life of people with dental phobia compared to those without dental phobia. The findings showed that people with dental phobia are more likely to have one or more decayed teeth,

and missing teeth as well. In addition, the study showed that those with dental phobias reported that their oral health related quality of life is poor. The study also explored how dental phobia can affect someone's quality of life, impacting on their physiological, psychological, social and emotional wellbeing. People with dental phobia showed higher levels of impact, even when levels of dental disease were controlled.

Source: KCL Dental Institute, UK

Average cost of labour in the EU

Germany tops the list

The cost per hour worked has increased more for companies in Germany than in the rest of the EU. This is the result of an investigation by the Institute for Macroeconomics and Economic Research (IMK) of the Hans Böckler Stiftung, a foundation close to the German trade union movement. On average, employers in the German private sector pay €33.60 for each hour worked, which was a 2.5 per cent increase over 2015. EU-wide labour costs rose by an average of 1.6 per cent. However, this increase was "not yet a threat to competitiveness or price stability", the researchers said. On the contrary: The increase was not even enough to compensate for the overall slower development of labour costs in Germany since the year 2000. EU-wide, the cost of labour has risen by 2.4 per cent annually since the beginning of the century, while the corresponding figure for Germany was 2.0 per cent. In absolute figures, German labour costs represent the middle ground within the EU. Labour costs were higher – up to €43.80 – in Denmark, Sweden, Finland, Belgium, Luxembourg and France.

Source: spiegel.de, Germany

Photo: pixabayde/startupstockphotos

Absolute ban on advertising for dental services contravenes EU law

More information means greater protection

In its current decision of 4 May 2017 (C-339/15), the European Court of Justice (ECJ) ruled on dental advertising, once again calling for the liberalization of overly strict national regulations in favour of European fundamental freedoms.

The case

Criminal proceedings were instigated against a Belgian dentist who had promoted his services by putting up a sign stating his name, his designation as a dentist, the address of his website and the telephone number of his practice. On his website, he informed patients about the various types of treatments he provided. In addition, he placed some advertisements in local newspapers. The criminal proceedings did not target the information in the advertisements or on the website as false or misleading, but the fact that the dentist was promoting his services in the first place.

In Belgium, this area is regulated by the Royal Decree of 1934 on the practice of dentistry and a 1958 law on advertising dental treatments. Dentists may affix to their office building only an inscription or plaque of modest dimensions and appearance, stating the name of the practitioner and possibly his or her legal designation, office days and hours, and the branch of dentistry in which the practitioner specializes. Otherwise, dentists in Belgium may not advertise or provide information about their dental services, as the law of 1958 contains an absolute prohibition on advertising. Apparently, Belgian law has not provided for any exemptions to this absolute prohibition on advertising for dental services.

The criminal proceedings against the Belgian dentist were based on a complaint lodged by a dental professional association. In court, the dentist argued that these rules from 1934 and 1958 were not compatible with European Union law, in particular Directive 2000/31/EC on electronic commerce and Article 56 TFEU (freedom to provide services).

The judgement …

The Belgian criminal court had asked the ECJ for a preliminary ruling on whether the absolute prohibition on advertising, which is being justified in Belgium on grounds of protecting the public health and the dignity of the dental profession, is in accordance with various European regulations. This was denied by the ECJ.

… on advertising on the Internet

Evaluating the advertising content on the Belgian dentist's website, the ECJ relied on Directive 2000/31/EC on electronic commerce. The ECJ made it clear that this directive applied not only to economic activities conducted online but also to services offering online information or commercial communications. "Commercial communications" denotes any form of communication designed to promote, directly or indirectly, the services provided by a person. This directive even contains specific provisions for the regulated professions, such as physicians or dentists. These specific provisions require that the national law of the member states must ensure that commercial communications are permissible in principle. The specific provision of Article 8 of the Directive aims to enable members of a regulated profession to use information-society services to promote their activities.

Member states may impose limits on such advertising on the Internet, in particular to preserve the independence, dignity and honour of the profession, professional secrecy, as well as fairness towards patients and other members of the profession. Nonetheless, national rules must not impose a general and absolute prohibition of any form of online advertising, because otherwise the objective pursued by the EU legislature, namely that for example dentists may use the Internet for promotional purposes, would be counteracted.

The directive also provides that the various professional associations and bodies should establish codes of conduct at the EU level in order to determine what types of information are in conformity with the rules on the use of commercial communications. This also makes it clear that these codes must not prohibit all types of advertising, but rather delineate the types of information that can be given. Advertising on the Internet, therefore, does not have not be allowed without exception, but may be restricted. However, a general and absolute prohibition of advertising on the Internet is contrary to European law. ››

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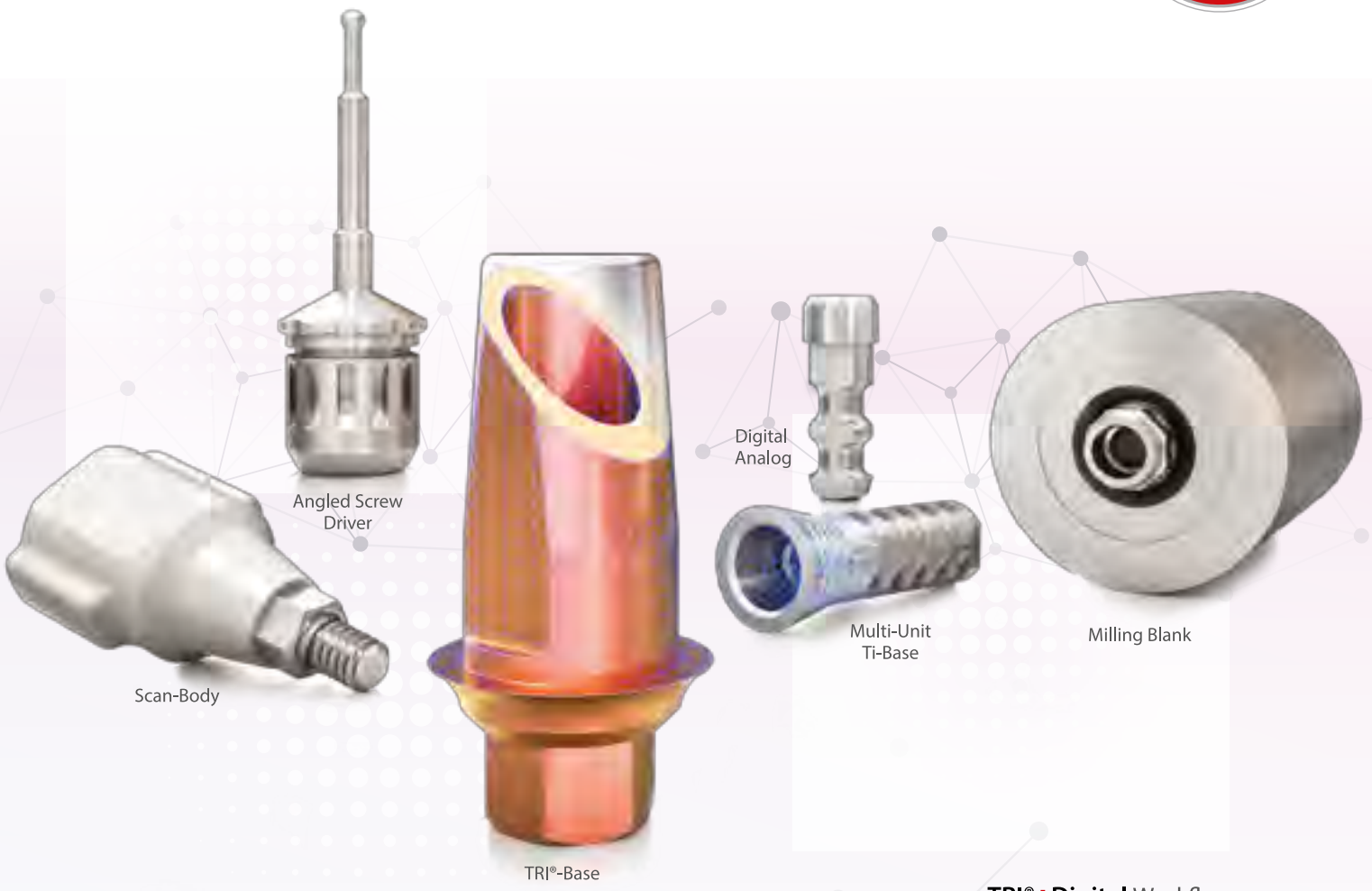

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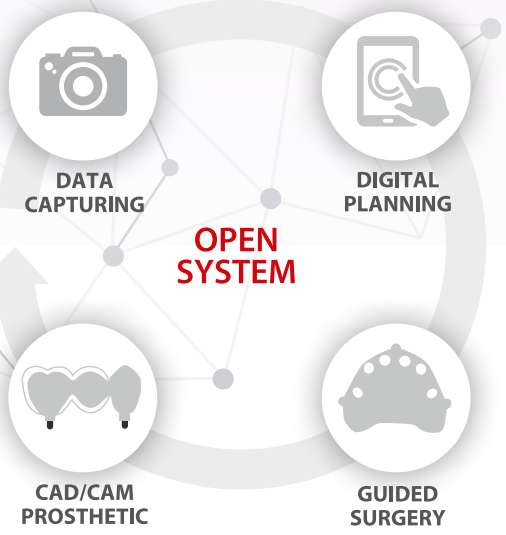

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... on other forms of advertising

In addition, the ECJ addressed the issue of whether the Belgian general and absolute prohibition of all advertising even outside the Internet is compatible with European law, specifically with Article 56 TFEU (freedom to provide services). There is no directive similar to Directive 2000/31/EC that would cover, for example, advertising by members of the healthcare professions, so the ECJ has relied on the basic provisions of the EU Treaty on the freedom of movement in its argumentation.

Pointing to many years of case law, the ECJ argued that all measures that impede or render less attractive the exercise of the freedom to provide services must in themselves be regarded as restrictions on that freedom. Undoubtedly, Belgium's general ban on dental advertising is one such measure that restrict the freedom to provide services. This particularly applies in the case of the Belgian dentist, as some of his patients are from other member states.

It is true that European fundamental freedoms cannot claim unrestricted applicability. Restrictions can be justified if they pursue an overriding objective within the public interest and if the restrictions are not only appropriate, but also necessary for attaining the public-interest objective pursued. There can be no doubt that the protection of health is one of those overriding objectives in the public interest. The ECJ also considers the trust relationship between the dentist and the patient as well as the dignity of the profession to be overriding objectives in the public interest. The court therefore considers it quite permissible to prohibit the extensive use of advertising, aggressive promotional messages or messages that could mislead patients as to the care being offered, as undermining the protection of public health and compromising the dignity of the dental profession.

Exactly what is required to pursue the overriding objectives in the public interest as defined by each member state is subject to definition, which gives a measure of discretion to the member states. However, the ECJ considered this discretion to be clearly exceeded in the present Belgian case: An absolute prohibition of advertising is not necessary to protect both the health of the population and the relationship of trust between the dentist and the patient. According to the ECJ, these objectives could be attained through the use of less restrictive measures. Therefore, the ECJ also considers that the Belgian prohibition on advertising, which does not relate to internet advertising but, for example, to the prohibition against newspaper advertisements or against installing a sign in front of a dental practice, constitutes an unjustified breach of the fundamental freedoms of the EU Treaty and thereby of one of the foundations of European law.

This judgement once again shows that the ECJ will not accept restrictions on European fundamental freedoms to be justified solely on the basis of some vague and generalized statements invoking the protection of public health. If and to the extent that the member states cannot show that their national regulations are indispensable in order to protect lives and public health and that, therefore, the freedom to provide services or other European fundamental freedoms must be restricted, the ECJ will – as it has in the past – weigh in on the side of the European fundamental freedoms. Specifically, it will strike down general prohibitions and restrictions without appropriate exceptions as in violation of EU law.

In an age in which potential patients use the Internet as their primary route to information about treatment methods and alternatives as well as about dentists and dental practices, it would appear to be a more than slightly outdated approach for patients in Belgium to have to find a suitable dentist or dental practice by word of mouth or by accidentally noticing an "inscription or a plaque of modest dimensions and appearance".

Dentists in Belgium do not seem to have been allowed any advertising whatever beyond such a sign – up to this ECJ decision of 4 May 2017. In this case, more information also means greater protection of the public health. The ECJ ruling is also expected to have a positive effect on the criminal case against the Belgian dentist because the national provisions which he was accused of infringing have been declared void under EU law. ■

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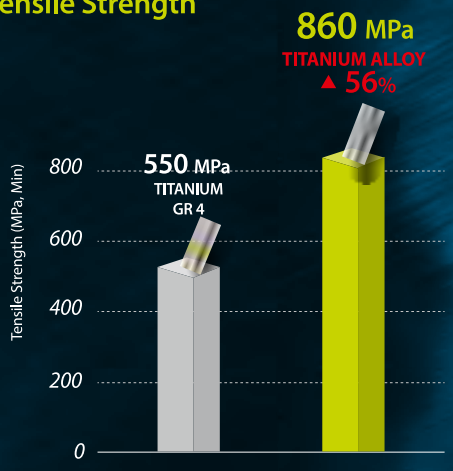
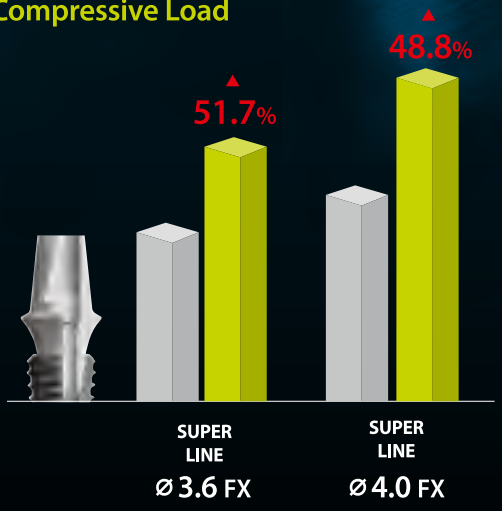


Compressive Load



HIGHER
SELF TAPPING

LESS
INTERNAL GAP

Patient-specific recalls reduce the risk of complications

Individual prophylaxis for implant patients

HERMINE DE WALL[1], CHRISTINA WILLUTZKI[1], HEIDRUN SCHUHOSE[2], DR JÖRG NEUGEBAUER[1,3]

Ever since the beginning of modern implantology, patient-specific recalls of implant patients have been advocated in detecting and treating technical or biological complications at an early stage. Professional tooth cleaning is aimed at removing soft and hard deposits, particularly in areas that are hard to reach for patients.

[1] Landsberg am Lech
[2] Marktoberdorf
[3] Cologne
(all Germany)

Regular professional tooth cleaning, which is also regarded as supporting periodontal therapy, can help protect the microbiological environment from being thrown off balance, reducing the incidence of peri-implant bone loss of inflammatory origin. The course of individual prophylaxis in implant patients should follow a strict and reproducible protocol. Most prophylactic steps can be delegated to suitably trained dental assistants [5]. Compared to dentate patients, additional aspects have to be taken into account when treating denture wearers, since the peri-implant soft tissues are more susceptible to infection than the periodontal tissues [15] (see "Implant prophylaxis step by step").

Implant prophylaxis step by step

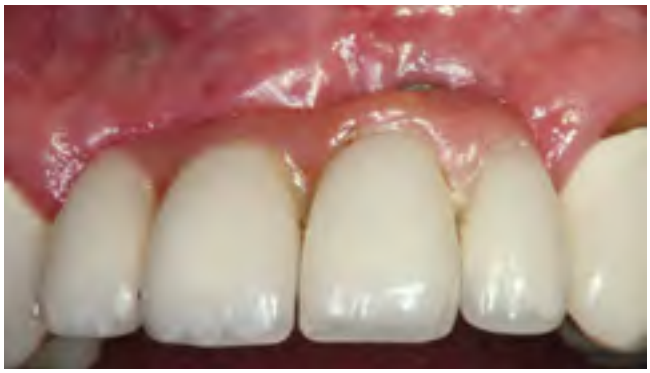
- **Examine the situation***
  - Determine the periodontal bleeding index
  - Measure the periodontal pocket depth
  - Perform X-ray examination if required
- **Define the treatment**
- **Clean the implant(s)***
  - Clean the superstructure (extraorally)*
  - Clean the implants and teeth*
  - Apply anti-infectives if needed*
- **Instruct the patient***
- **Motivate the patient***

*Steps that can be delegated

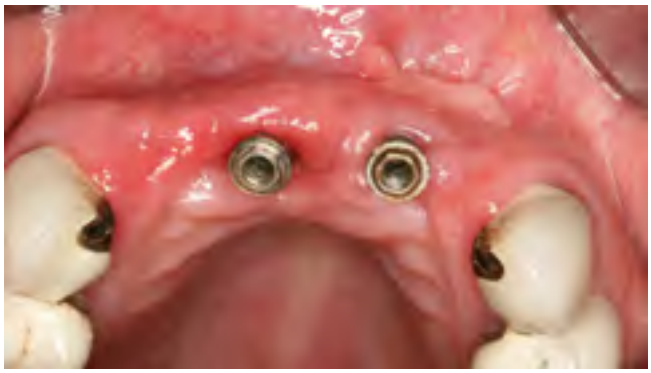
Examining the situation

The initial situation must be recorded to determine the quality of the patient's oral hygiene. This includes probing the pocket depth on the natural teeth and documenting the bleeding points. To protect the hemidesmosomal attachment of the soft tissue, probing of pocket depth next to implants or abutments should be performed only when there is evidence of a pathological process (Figs. 1a to c). In the case of conspicuous mucosal changes, it is also necessary to determine whether a precancerous lesion (leukoplakia), a pyogenic granuloma or a peripheral giant-cell granuloma is involved, which would necessitate further surgical intervention (Figs. 2a to c).

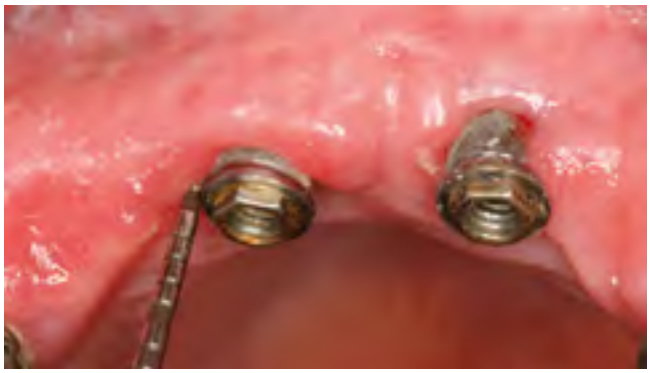
After documenting the initial findings, the scope of the further measures can be decided on. If calcified concrements are present or widespread and intense bleeding occurs in the peri-implant tissue or mobile parts of the mucous membrane, careful probing with a pressure-calibrated probe as well as an additional x-ray control are necessary. Dental films placed perpendicularly to the beam are the best suited for assessing the peri-implant bone level. In the case of extensive rehabilitations, especially in the highly atrophic mandible, an orthopantomograph can also be useful, although the diagnostic significance can be reduced by overlapping structures. A three-dimensional diagnosis is often less useful in the assessment of initial bone loss, since the detail rendition is often impaired by scattering artefacts (Compton effect) and subsequent post-processing (to reduce the effect of metal-related artefacts) [7].



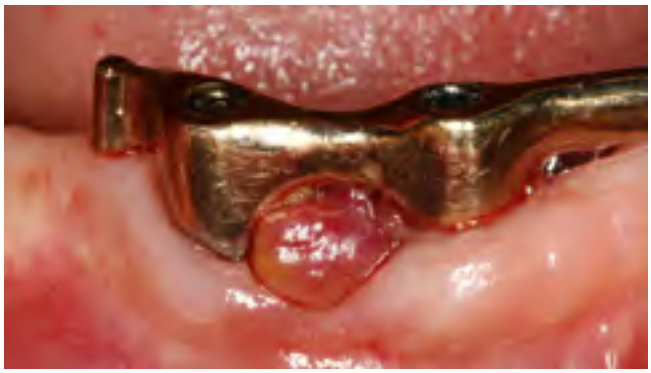
1a I Combination bridge from 12 to 22 on two implants delivered 18 years ago. Baseline situation before professional tooth cleaning.



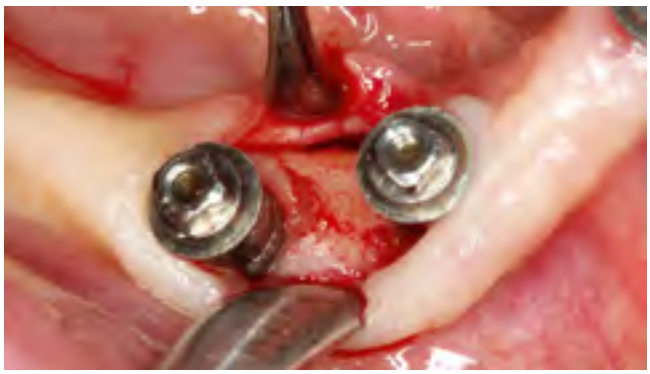
1b I Slight bleeding at implants 11 and 21 after the bridge is removed.



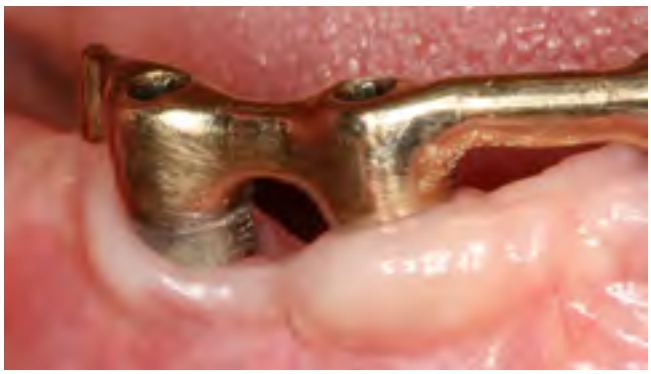
1c I Careful measurement of the pocket depth on implants with a titanium plasma spray (TPS) coating.



2a I Exophytic soft-tissue proliferation at implant 45.



2b I Removal of the neoplasia by bone curettage.



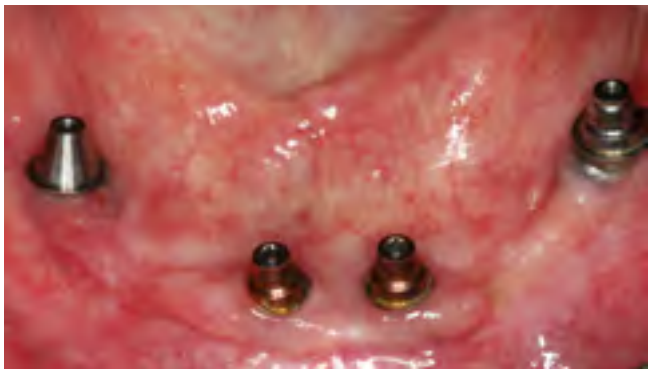
2c I Recurrence-free situation following the complete excision of a peripheral giant-cell granuloma.

Modern treatment concepts such as the "one abutment – one time" concept place emphasis on the hemidesmosomal attachment of the soft tissue; no replacement of abutments should therefore be attempted [1]. Caution is also advisable in patients with a history of peri-implantitis therapy, since the soft tissue will exhibit more scarring than usual and regenerate more slowly.

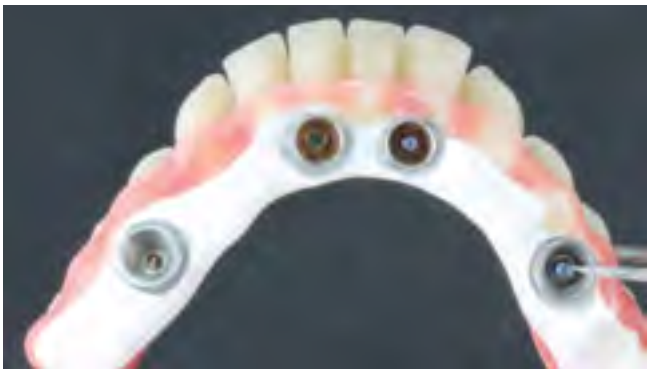
Defining the treatment

If the findings on the implants are inconspicuous, existing soft deposits and concrements on the implants, but also on the teeth, should only be removed supragingivally, for the reasons mentioned. In completely edentulous patients with full-arch rehabilitations, implant prophylaxis will also be indicated regularly. Especially in patients who lost all their teeth early due to periodontal disease, periodontal pathogens will usually persist in the tissue and can increase the risk of peri-implantitis [9,11]. It is therefore important to maintain a stable microbiological environment [3].

In the case of removable restorations attached to abutments, the superstructure should be removed

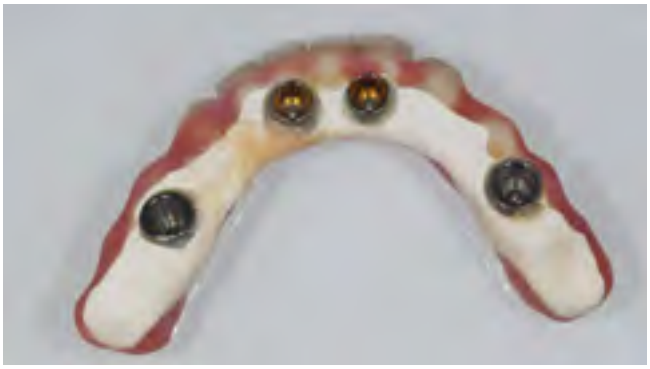


3a I No irritation of the soft tissue at the time of prosthetic delivery.



3b I High-gloss polished superstructure made of PEEK with a composite veneer.

3c I Control radiograph after incorporation of the superstructure in the case of a previously failed implant treatment and periodontally compromised teeth in the maxilla.



3d I Plaque accumulation when removing the superstructure during the implant recall appointment.

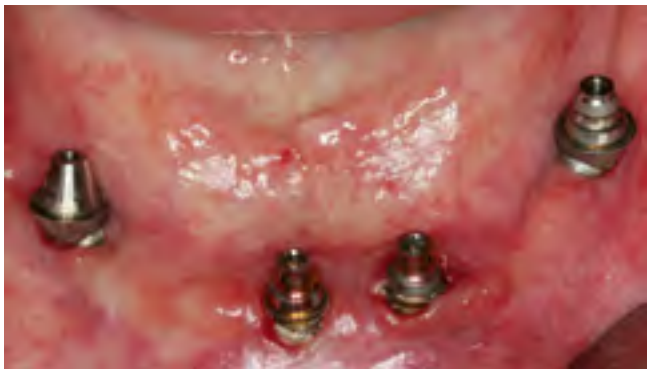
during implant prophylaxis and cleaned extraorally, but without adversely affecting the soft-tissue attachment (Figs. 3a to d). The abutments should be checked for firm seating to prevent micro movements resulting in tissue loss. However, as mentioned above, fixed abutments should be left in place to protect the hemidesmosomal attachment.

Cleaning the implant

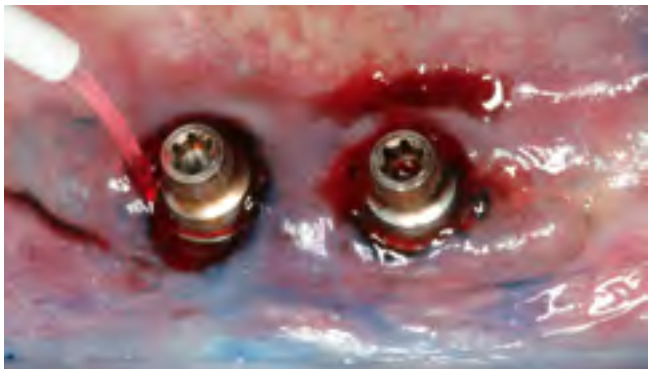
Various instrumentation concepts have been advocated for cleaning implants. In addition to conventional steel instruments, there are instruments made of different plastics and also instruments made of titanium. The benefits of using plastic instruments include the fact that no metallic structures are damaged and no excessive peek-to-valley heights are created that would increase risk of increased plaque accumulation. On the negative side, it will often not be possible to remove hard tissues or concrements, and metal instruments will then have to be used after all. But when used properly, these instruments will not actually scratch the abutment surface [4]. The same applies to titanium instruments, which – because of their mechanical stability – do not permit adequate removal of solid concrements during the cleaning effort. For this reason, the auxiliary use of powder-jet devices has been advocated for more long-lasting cleaning success of the peri-implant tissue [10]. These devices, however, have been controversial, since cleaning with ultrasound instruments and polishing gels was found to reduce mucositis more efficiently than the use of powder-jet devices [6].

Any contact surfaces of implant-supported restorations should be free of gaps and exhibit a perfect fit. However, this will not always be the case if mobility is present, so that reworking at the dental laboratory may be required. In this case, the abutments must be removed to allow precise reworking.

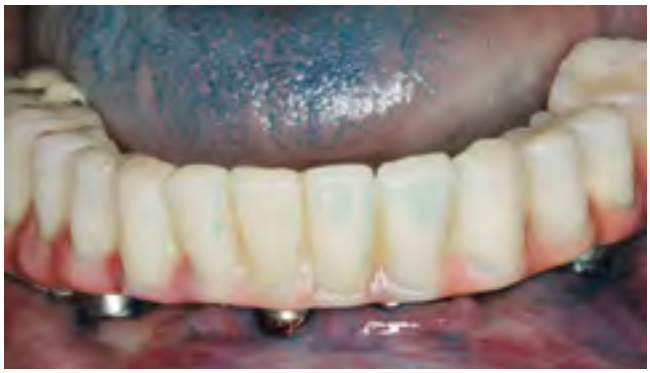
If an inflammatory reaction is present, an anti-infective therapy is necessary. Various topical agents have been recommended for this purpose. For therapeutic efficacy, especially in the initial stages of mucositis, relatively high concentrations of the active ingredient are necessary for an effective dose effect. While this may have a cytotoxic effect on the sensitive peri-implant tissue, the – subjectively – more gentle application of lower concentrations will not achieve a reduction in germ counts and may also lead to microbial resistance.



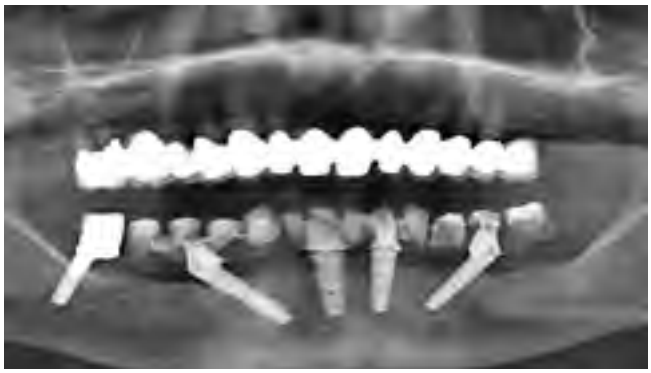
3e I Gingival recession on implant 41 with hyperplasia of the soft tissue.



3f I Anti-infective treatment using antimicrobial photodynamic therapy for spontaneous peri-implant bleeding.



3g I Delivery of the extraorally cleaned bridge after shortening the vestibular resin parts.



3h I Control examinations showing stable bone levels around the anterior implants and the fixed maxillary bridge.

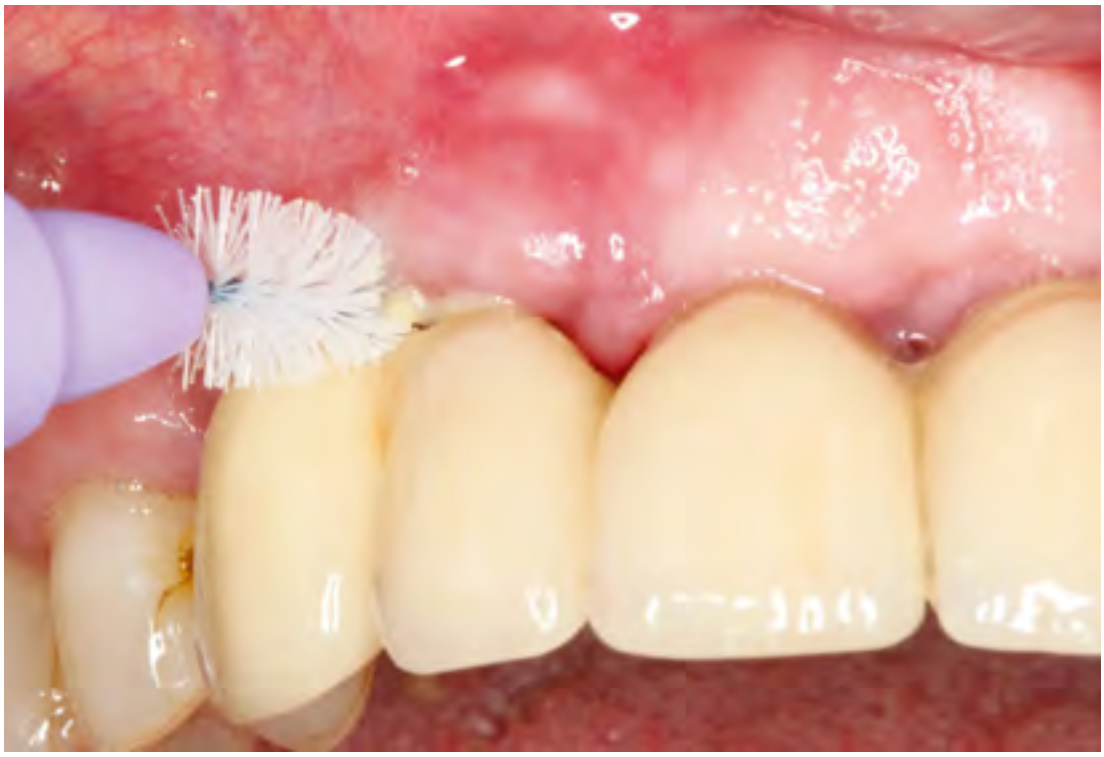
The antimicrobial photodynamic therapy (aPDT) has established itself as a minimally invasive and effective method for the management of the oral biofilm in recent years. Using a photodynamic reaction mechanism, the aPDT achieves an immediate and complication-free inactivation of pathogenic biofilms. In peri-implant follow-up care, a sterile light-activated dye solution (Helbo blue; Bredent Medical, Senden, Germany) is introduced into the peri-implant sulcus and – if the patient is not completely edentulous – into the periodontal spaces, as a photosensitizer, which must remain in place for at least 60 seconds. During this time, the photosensitizer molecules diffuse into the biofilm and attach to negatively charged surfaces of the bacterial walls. For a comprehensive staining of the bacteria, a highly concentrated dye is used so that any excess photosensitizer is carefully rinsed off before the laser light is applied. By activating the adsorbed photosensitizer molecules with non-thermal laser light [8] (Helbo TheraLite Laser; Bredent Medical), singlet oxygen molecules are formed by energy absorption and spin change through a quantum-mechanical transfer process on the photosensitizer molecules. On the bacterial wall, lethal, irreversible damage to the bacteria occurs via the oxidation of membrane lipids (Figs. 3e to h). After this decontamination, a physiological microbiological environment can once again develop.

Instructing the patient

In addition to prophylactic measures at the implants and restorations themselves, the patient will also have to receive renewed instructions for daily oral hygiene. It is particularly important for the patient to use the most suitable prophylaxis tools (Fig. 4). In addition to interdental brushes of different sizes, these can also include ordinary dental floss, tooth bands or Superfloss-type dental floss [12]. The type of dental floss recommended must take into account the nature of the patient's rehabilitation. If sharp edges are present, especially with screw-retained bar-supported prostheses, tissue fibres may be impacted, causing an inflammatory reaction and thus the very opposite of the desired effect [14].

Motivating the patient

At the end of the recall session, it is necessary to strengthen the patient's motivation to maintain



4 I Instructions for using interdental brushes for domestic oral hygiene.

or intensify the extent of his or her oral hygiene efforts. Especially in partially dentate patients, the intensity of the cleaning effort can subside over time, since the prosthetic restoration will fit in harmoniously with the dentition and allow patients to forget all about their implant and its special oral-hygiene needs, particularly if the implant was placed many years before. This is particularly important if the implants inserted feature an additive implant treatment such as a titanium plasma layer or anodic oxidation. The porous surfaces of these implants may exacerbate the risk of peri-implantitis [2].

Patients with systemic diseases such as diabetes and hypercholesterolaemia – which can impair the vascularization of the peri-implant soft tissue – but also smokers should be motivated to perform particularly diligent implant hygiene because a biofilm will develop more quickly and will be more extensive in these cases; prognostic factors, such as bleeding at the implant, will occur less frequently. This patient group is often less compliant when it comes to recall appointments, so that the patient's consent should be sought for active reminders [13]. For these patients, recalls should be more closely spaced than for healthy young patients without risk factors (Table 1).

Clinical findings	Recall appointments per year
Non-irritated soft tissue, stable bone level, physiological crown shape, no medical risk factors	1
Non-irritated soft tissue, stable bone level, bar-supported prosthesis or bridge, extensive superstructure to be cleaned	2
Positive for bleeding on probing, history of smoking, diabetes with a Hb1Ac level > 8	3 to 4
In exceptional cases: complex superstructure to be cleaned, loss of peri-implant bone, high risk of peri-implantitis, medical risk factors	5 to 6

Table 1 I Frequency of recall appointments.

Practical conclusions

Implant prophylaxis – the duration and extent of which must be tailored to patient compliance and patient habits as well as to the type of restoration – can reduce microbiological loads and limit the incidence of peri-implantitis in time, reducing the risk of biological or technical complications related to the implant.

The references are available at www.teamwork-media.de/literatur

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Healing of deliberately exposed membranes after tooth extraction

Mostly showmanship – or a treatment approach with predictable benefits?

PROFESSOR ANTON FRIEDMANN, WITTEN, GERMANY

Membrane techniques have been successfully used for many years in the context of bone regeneration. They serve to separate the augmented region from the soft tissue of the oral mucosa. This article provides a brief overview of the importance of membrane exposure for the augmentation result. Based on data from animal and clinical studies, factors and membrane material properties are discussed that may contribute to an improved postoperative course following exposed healing. This in turn gives rise to a surgical protocol for the minimally invasive treatment of fresh extraction sockets using appropriate augmentation materials.

Introduction

About 30 years ago, *Dahlin* and coworkers introduced the membrane technique as a novelty within bone-defect treatment [1,2]. Especially when using a particulate bone substitute for augmenting local alveolar-ridge defects, the combination with a membrane cover has become an international standard. Several animal studies have demonstrated the fundamental effectiveness of a barrier on the regeneration results in standardized defects [3,4]. In these studies, significantly less newly formed bone on particulate bone substitute was regularly found in the control groups without a membranous defect cover than in the test groups where membranes were used to cover the defects.

Two factors ensure the effectiveness of this augmentation technique: the creation of additional space (volume) below the membrane and a dense primary wound seal of the soft tissue above [5,6]. The dense tension-free wound closure is to promote primary healing and to protect the augmentation site as well as the implanted materials from irritation by substances within the oral cavity for the duration of the integration phase.

Influence of membrane materials on degradation time and primary wound healing

The issue of wound healing above the membrane that separates the flap from the underlying bone continues to be controversial. Do the material properties of the membranes play a role in the wound healing processes over and above the tensional force?

While the pioneering work on guided bone regeneration (GBR) was carried out with non-resorbable membranes, the collagen membranes now constitute the most important product class. Those collagens are xenogeneic type I and III collagens in native or in crosslinked form. Collagen membranes are biodegradable, with the degree of crosslinking determining the degradation kinetics. A higher crosslinking rate can extend the degradation time compared to native collagen membranes. This was confirmed in several animal studies where the degradation rates of single- and double-layer crosslinked and non-crosslinked collagen membranes were investigated [7–9]. While native collagen rapidly integrates with the connective tissue and quickly undergoes complete degradation, crosslinked collagen and particularly ribose-crosslinked collagen has a significantly extended degradation profile [8]. The biocompatibility of crosslinked collagen membranes has been called into question in some animal studies [3]. However, the type of crosslinking must be considered in this context – whether it is based on chemical additives such as aldehyde or on the enzymatic action of sugars (ribose). While chemical crosslinking triggered foreign-body and inflammatory reactions in tissue [14], human biopsies of particulate remains of ribose-crosslinked

membranes showed high levels of biocompatibility. Unlike the complete degradation seen with native collagen membranes, they often tend to calcify during the mineralization process [10–12].

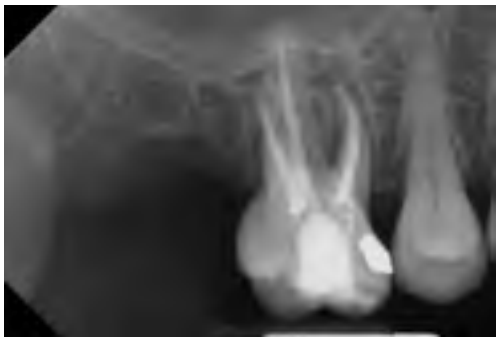
Importance of membrane exposure

Early wound dehiscence is one of the most frequent complications in GBR and can compromise the treatment outcome, sometimes to the point where the augmentation is lost completely. It was shown in vitro that when the exposed area is contaminated with microorganisms of the oral cavity, periodontal bacteria (Porphyromonas gingivalis, Treponema denticola) cause varying degrees of degradation of the collagen membranes. The bacteria's own proteolytic enzymes degraded the native collagen more than the crosslinked collagen [13]. This also has a strong influence on the clinical results expected. In a clinical study, the effectiveness of a non-resorbable ePTFE membrane was compared to a non-crosslinked native collagen membrane and a ribose-crosslinked collagen membrane in dehiscence defects around implants [14].

Both this study and a prospective comparative clinical study by my former working group showed that ribose-crosslinked collagen membranes have an advantage over native collagen membranes with regard to the filling of the defect or the gains in height and width. This is especially true in areas where soft-tissue dehiscence and membrane exposure occur in the postoperative period [14,15]. The histological analysis of biopsies from previously dehiscent augmentation areas supports these clinical findings. Inflammatory infiltrates and a higher incidence of multinucleated giant cells – possible indication of an inflammatory response – were found mainly in augmentation materials covered with native collagen membranes. In contrast, former dehiscent defects that were covered with a stable ribose-crosslinked membrane exhibited more pronounced osteoneogenesis [16].

Use of ribose-crosslinked membranes for preservation of the alveolar ridge using a minimally invasive treatment protocol

Because of the high biocompatibility of ribose-crosslinked collagen membranes and their superior stability in wound dehiscence, it may be possible in certain clinical situations to waive the requirement of complete primary closure. This is important, for example, for the immediate treatment of extraction sockets, because here the mucogingival junction is displaced by the preparation of an advancement flap for complete wound closure. This displacement causes a loss of keratinized tissue on the vestibular side of the alveolar ridge. If the implants are to be surrounded entirely by keratinized mucosa, the keratinized tissue must be regenerated later.



1 I Immediately before surgery: non-salvageable tooth 16 with a periapical granuloma on the palatal root.

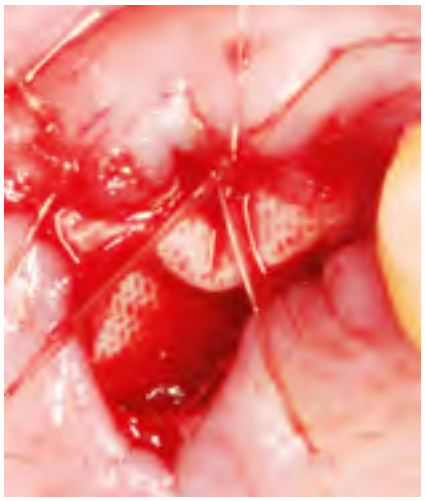
2 I Immediately after surgery: massive periapical granuloma on the palatal root.

In an ongoing clinical study by my working group, extraction sockets are always covered – without regard to the preservation status of the residual bone walls – with a ribose-crosslinked membrane (Ossix Plus; Regedent, Zurich, Switzerland). No mobilization of the flap to complete primary coverage is attempted. Rather, the flap edges are elevated vestibularly and orally by 2 to 3 mm in order to move the membrane edges to below the periosteum for subsequent fixation of the wound edges with in-situ sutures. If major parts of the defect walls are missing and the defect cannot be classified as self-sustaining, the residual socket is filled with bone substitute before covering it.

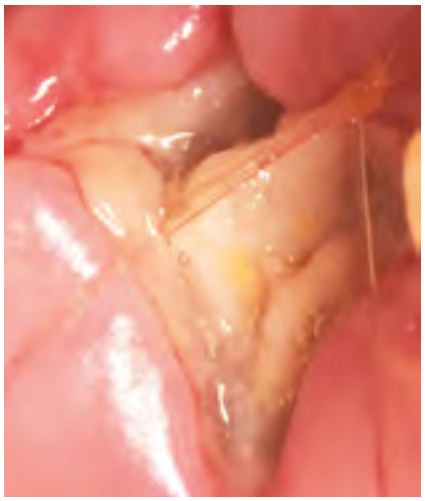
Postoperative healing is usually without complications. It generally takes three weeks for secondary epithelialization of initially exposed membrane surfaces to be completed. The filling of the alveoli with bone substitute as appropriate had no noticeable effect on healing. After the healing period, the length of which depends on the bone substitute material used, implants with a standard diameter can be placed in the alveolar ridge segments thus pre-treated. No additional augmentation to create additional bone volume is necessary.

Case No. 1: Ridge preservation in the posterior maxilla

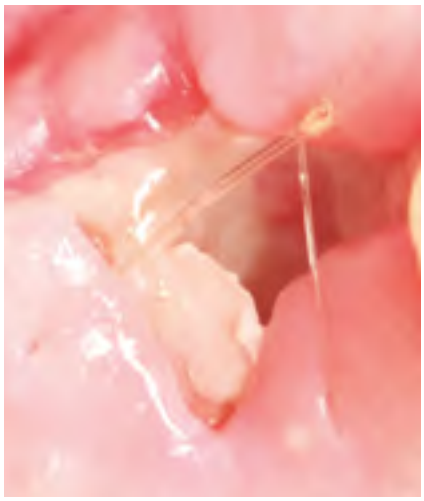
The patient (female, 53 years) had been receiving periodontal treatment at our clinic for years. Following the unsuccessful treatment of a perio-endo lesion on tooth 16 (Fig. 1), it was decided to extract the tooth and replace it with an implant-supported restoration. Figure 2 shows the extracted tooth fragments. On the palatal root we found a massive periapical granuloma. Due to the distinct apical



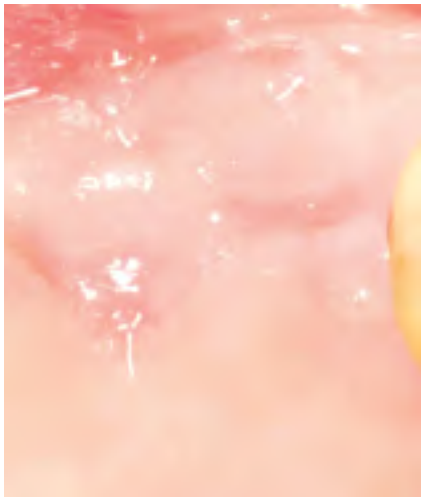
3 I Situation after closure of the socket with a membrane and repositioning of the flap by means of the cross-stitching technique.



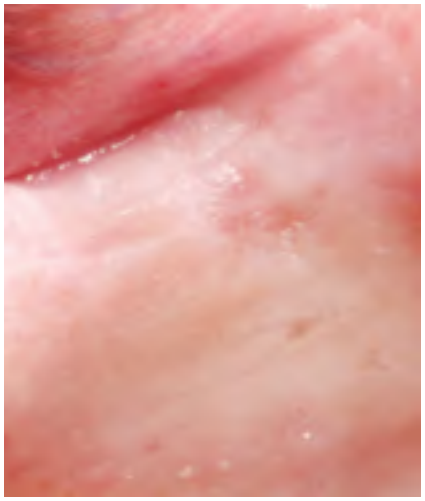
4 I Three days postoperatively: intact and inflammation-free membrane body and incipient wound closure.



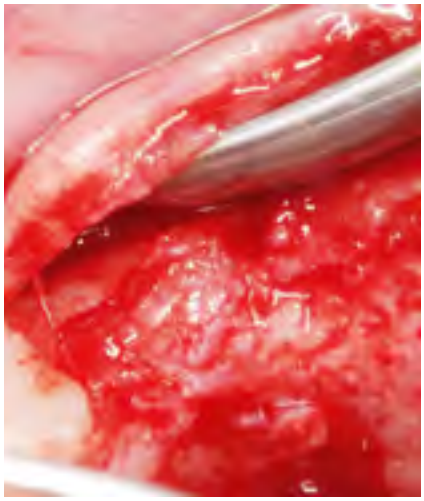
5 I Seven days postoperatively: wound closure progressing further. The sutures have been removed.



6 I 21 days postoperatively: complete wound closure.



7 I Before re-entry, six months later: completely healed keratinized gingiva.



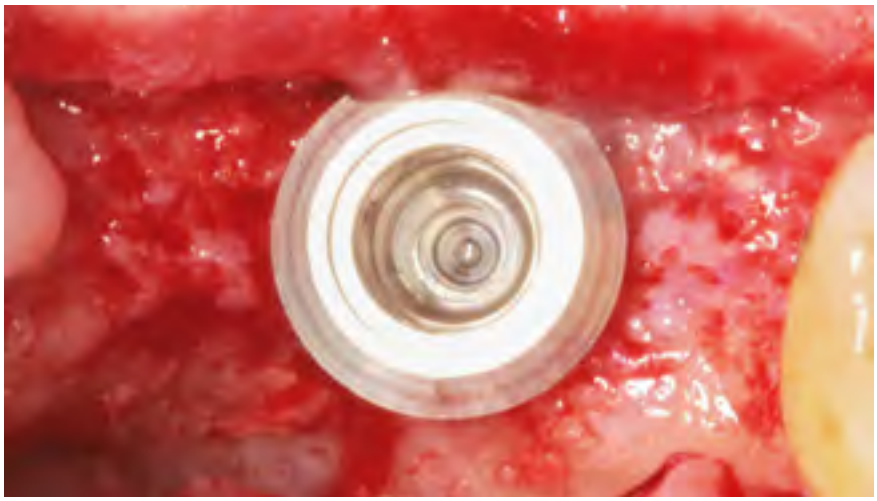
8 I After flap preparation: fully consolidated alveolar ridge with some buccal residue of the membrane.

and palatal bone defect without a mouth-antrum connection, implant placement was postponed until after the healing of the defect. Given the good bony delimitation of the extraction defect on the buccal side and the classification of the defect as self-sustaining, it was decided not to fill the socket with bone substitute material.

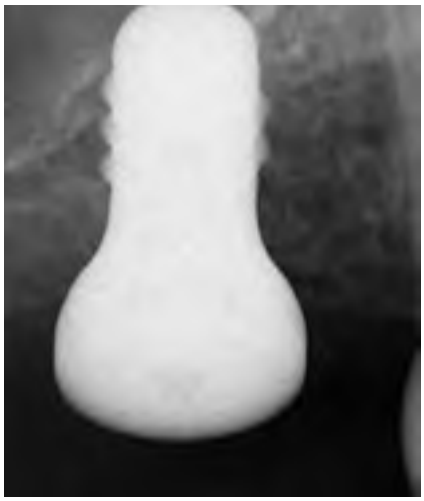
The socket was covered with a membrane tucked in below the slightly elevated mucoperiosteal flaps both palatally and buccally. The long-lasting barrier effect of the membrane permits this minimally invasive treatment protocol without the preparation of a coronal advancement flap. Flap fixation and stabilization of the membrane were performed with cross sutures (Fig. 3).

Postoperatively, the patient was instructed to rinse her mouth with 0.2 % chlorhexidine digluconate solution three times a day until complete wound closure over the membrane was achieved, as well as to avoid mechanical trauma to the wound area (10 to 14 days). At each control visit, topical wound disinfection with 3 % H_2O_2 and cotton pellets was additionally performed. These prophylactic measures prevent permanent contamination of the membrane surface. Figure 4 shows the completely inflammation-free situation, with secondary granulation already setting in three days postoperatively. The sutures were removed after seven days (Fig. 5). The membrane body was still completely intact at that point, and the soft tissues continued to be non-inflammatory with advanced granulation.

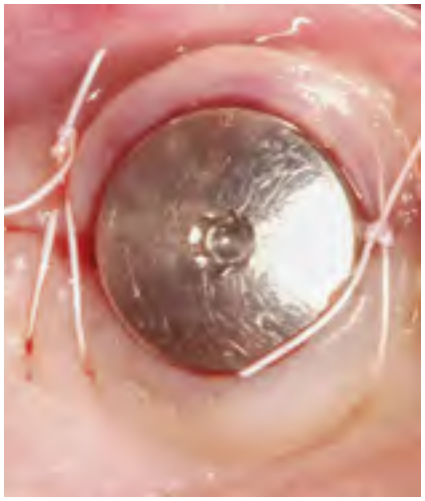
At the 21-day recall, the socket above the membrane had been completely closed with soft tissue



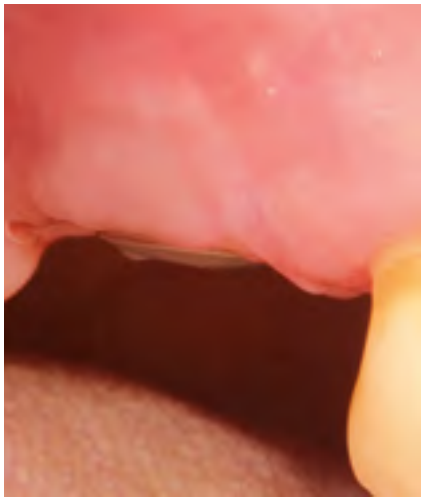
9 I After implant placement: adequate bone in the buccal and apical dimensions for a WN implant 4.8 mm in diameter and 8 mm in length.



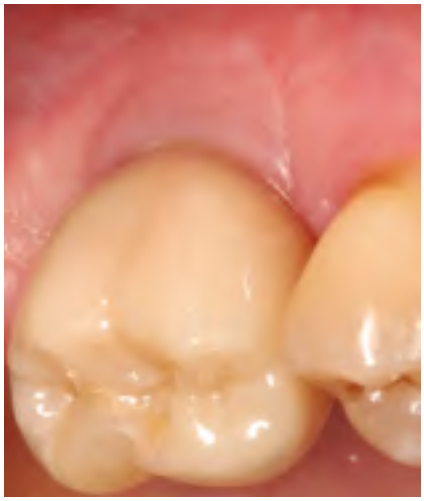
10 I Single-tooth control radiograph showing correct bone dimensions around the implant. A perforation of the sinus floor had been clinically ruled out before inserting the implant.



11 I Healing cap 4 mm in height; suture fixation of the flap edges.



12 I Optimally preserved keratinized buccal gingiva.

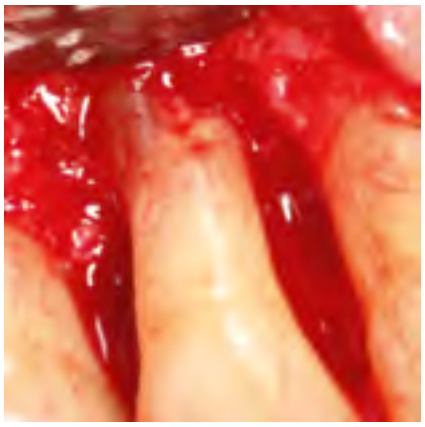


13 I After insertion of the definitive crown restoration; the screw access channel was sealed with composite resin.

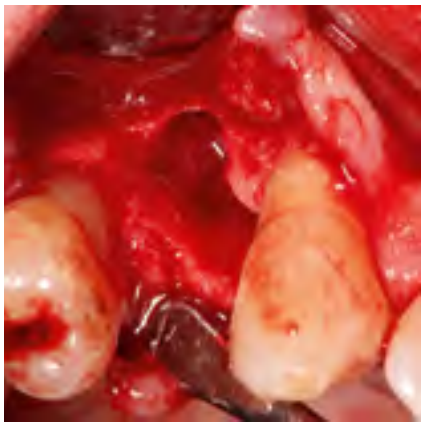
(Fig. 6). The rest of the healing process was uneventful. The implant was placed after six months. The soft tissue was still healthy, with newly formed keratinized gingiva at the former site of tooth 16 (Fig. 7). In addition, the former extraction defect exhibited complete bony consolidation and no evidence of vertical loss, while the ridge width appeared reduced by the proportion of bone that formerly covered the palatal root (Fig. 8). Membrane residues were found on the buccal aspect of the augmented site. As they were already partially integrated into the alveolar ridge, they were removed only superficially for a histological examination.

The implant could be inserted in the new, vital bone in its entirety. The bone quality was D2 according to *Lekholm* and *Zarb*. A large circular volume was available for the bone bed. Its apical dimension towards the sinus region was sufficient to accept an 8-mm WN implant (Straumann, Basel, Switzerland) with good primary stability in an optimal prosthetic position (Figs. 9 and 10).

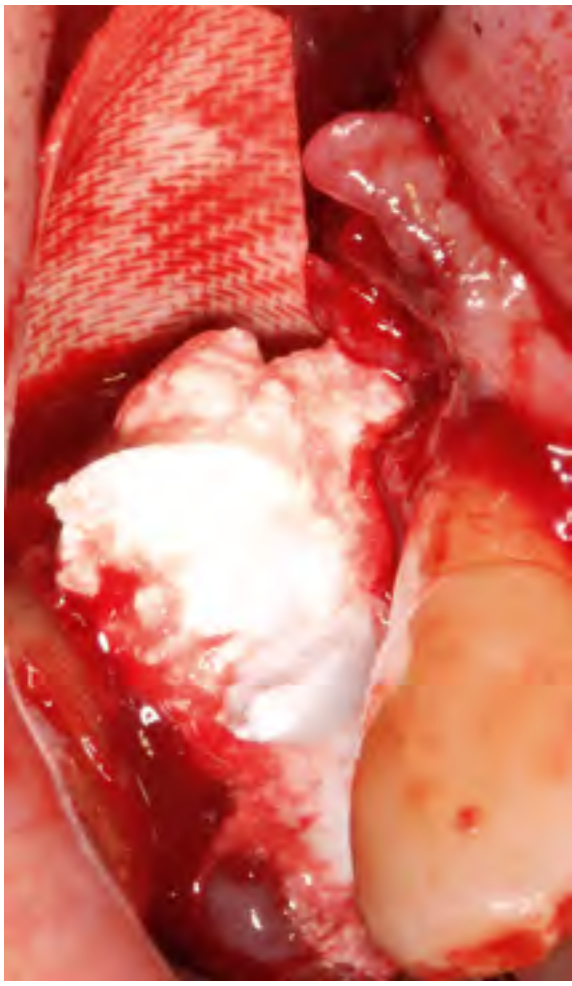
The healing of the implant placed, using a transgingival protocol with a healing abutment, was uneventful (Fig. 11). Thanks to the minimally invasive surgical protocol, the keratinized gingiva at site 16 could be optimally preserved (Fig. 12). The treatment plan called for a screw-retained all-ceramic crown on a Variobase abutment. Figure 13 shows the situation after insertion of the definitive crown restoration. An optimal aesthetic and functional result had been achieved.



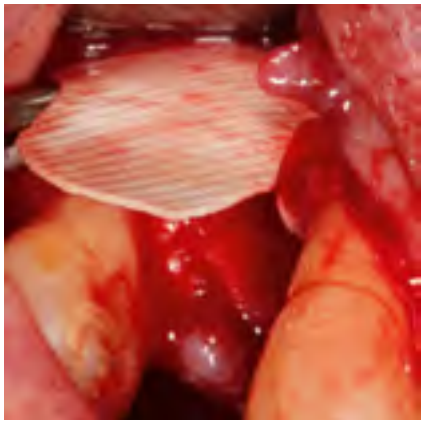
14 I After elevation of the flap, massive bone resorption is seen around tooth 14.



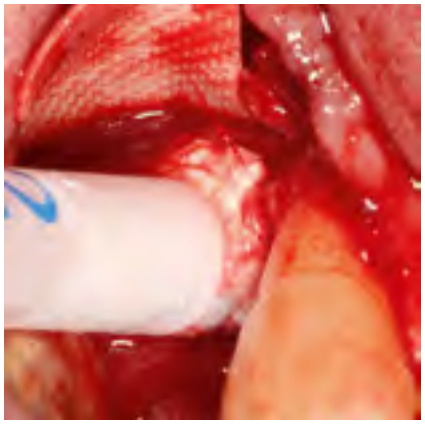
15 I After the extraction, an extensive bone defect was seen with a completely deficient buccal lamella.



18 I Before rehardening of the bone cement.



16 I Placement of the membrane below the buccal full-thickness mucoperiosteal flap to cover the bone defect.



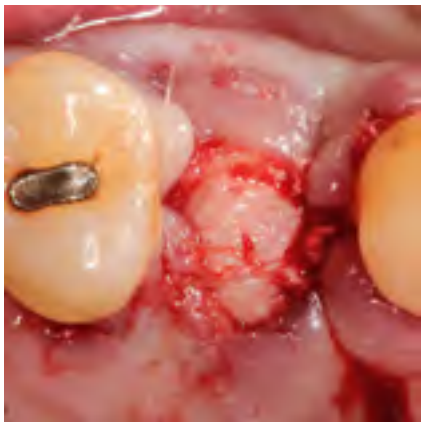
17 I Application of the pasty synthetic bone substitute material (3D Bond).

Case No. 2: Reconstruction of the alveolar ridge in the upper premolar region

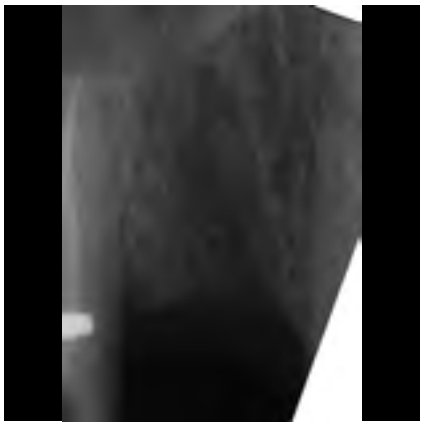
The patient (male, 56 years) had been receiving periodontal treatment at our clinic since 1997. Despite attempted regenerative therapy with enamel matrix proteins and endodontic treatment, the resorptive processes around tooth 14 could not be halted. It was planned to provide an implant-supported restoration.

Following elevation of a flap, massive bone resorption was seen around tooth 14 (Fig. 14). The extent of the resorption became evident once the tooth had been extracted. Because of the patient's dental history, the buccal lamella was almost completely resorbed (Fig. 15), which necessitated the reconstruction of the ridge contour with a combination of a fast-resorbing bone substitute material and a membrane. The defect on the buccal side was first covered with the membrane (Fig. 16). The bone replacement material used was a synthetic bone cement based on a biphasic calcium sulphate (3D Bond; Regedent). These materials are known for their rapid absorption, especially when treating extraction sockets [17–19]. The pasty form of presentation greatly facilitates the introduction of the material into the defect. Figure 17 shows the application of the pasty synthetic bone replacement material. A further advantage of calcium sulphate is that the material cures in situ and provides the best possible stabilization for the primary defect (Fig. 18).

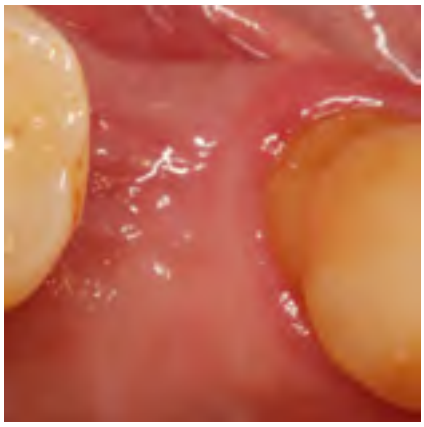
The treatment protocol then called for the same steps as in case No. 1: closure of the augmented alveolus by placing the membrane over the alveolus and below the full flap on the palatal side with fixation of the flap edges with modified mattress sutures according to *Laurell* (Fig. 19). The postoperative follow-up consisted of multiple daily mouth rinses for persistent decontamination of the membrane surface. Full secondary wound closure was again achieved after about three weeks. Further healing was uneventful. Due to the rapid absorption profile of calcium sulphate, re-entry



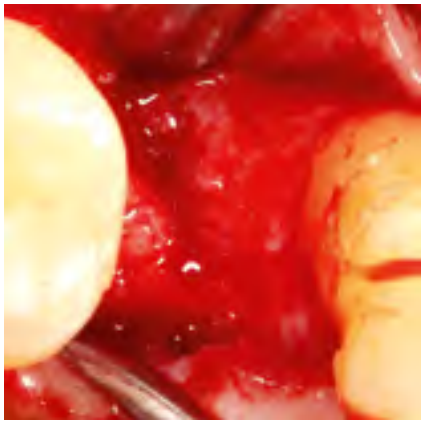
19 I After closure of the socket with a membrane and after repositioning the flap using cross sutures.



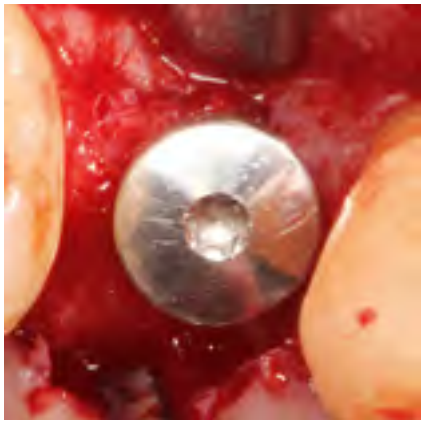
20 I The control radiograph at four months shows good bony consolidation. No residue of the bone substitute is visible.



21 I Four months postoperatively. Optimally recovered keratinized gingiva.



22 I Sufficiently consolidated alveolar ridge, with no visible residue of the augmentation material, visible after elevating the flap.



23 I Adequate bone supply in buccal dimension for an 8-mm RN SP implant, provided with a healing cap for transmucosal healing.

24 I Single-tooth control radiograph taken after insertion, showing correct bone dimensions around the implant.

for implant placement was possible after only four months. Figure 20 shows the X-ray control after four months with advanced consolidation of the bony defect. No residues of the bone replacement material were visible. The soft-tissue situation was also favourable. New keratinized gingiva had formed at the former emergence site of tooth 14 (Fig. 21).

Following the preparation of the flap, an adequately consolidated alveolar ridge was visible (Fig. 22). The former buccal defect was sufficiently regenerated by the augmentation technique used, providing a large circular and apical bone site for implant placement. Figures 23 and 24 show the situation after placement of an 8-mm RN SP implant. No additional augmentation in the region of the peri-implant soft tissue was required.

Summary

Ribose-crosslinked collagen membranes have an extended degradation profile that has advantages over native collagen membranes especially in wound dehiscence. Being at the same time highly biocompatible, no complete primary closure is required when treating fresh extraction sockets with ribose-crosslinked membranes. Depending on the defect situation, the membrane may be used either alone or in combination with a suitable bone-graft material. Preservation of the ridge width seems to have a safe prognosis. An additional positive effect of this treatment strategy is the preservation of the mucogingival junction, since the flap is not coronally displaced and because secondary epithelialization results in a gain in keratinized gingival tissue.

The references are available at www.teamwork-media.de/literatur

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Immediate implant placement in the aesthetic zone

Partial-extraction therapy and dual-zone augmentation

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Studies have shown that the survival rate for implants placed in fresh extraction sockets is the same as that for conventionally placed implants [1–3]. Although the success rates for both immediate and delayed implant placement are comparable, the literature cautions us to expect recession of the facial gingiva following immediate implant placement [1]. We should be aware that systematic reviews include studies regardless of the surgical and prosthetic protocol used: flap procedures and flapless procedures; buccal, central or palatal implant positions; gap augmentation or no gap augmentation; primary wound closure or open healing.

A frequently cited literature review dates from 2009 [4]. In 2015, another systematic review concludes: "Immediate placement with immediate provisionalization of dental implants in the aesthetic zone results in excellent short-term treatment outcomes in terms of implant survival and minimal changes of peri-implant soft and hard tissue dimensions" [5]. Over time it became clear that to achieve a good aesthetic result, a post-extraction implant should be placed on the palatal aspect of the socket using a flapless procedure, and the gap should be augmented with a slowly resorbable bone substitute.

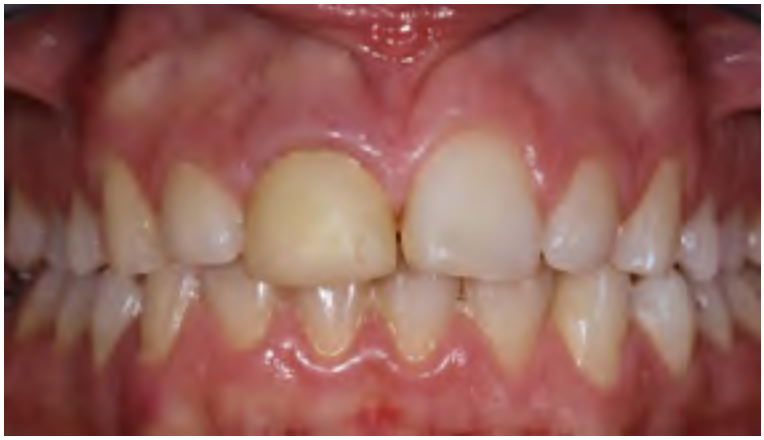
Blood is supplied to the buccal bone shield from threes sources: cancellous bone, the periosteum and the periodontal ligament. Since the average thickness of the buccal bone in the aesthetic zone is less than 1 mm [6], it hardly contains any well-vascularized cancellous bone tissue. After an extraction, no blood is supplied from the periodontal ligament, so that the periosteum remains the only one source of blood. For this reason, implants should be placed without raising a flap.

Lee showed that lingualized flapless implant placement into fresh extraction sockets preserves the buccal alveolar bone [7]. Gap augmentation with a slowly resorbable bone substitute can compensate for the bone-remodelling process [8,9].

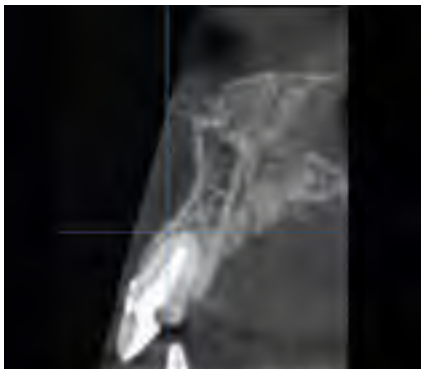
Post-extraction implants placed in the palatal aspect of the socket in a flapless procedure with gap augmentation have a lower risk of mid-facial recession [10,11]. Additionally, immediate provisionalization and custom healing abutments have proven beneficial for the long-term stability of the marginal gingiva [5,12,13].

A further improvement can be achieved by performing partial extraction therapy (PET), especially when leaving a socket shield in place. The principle is to prepare the root such that the buccal/facial root section remains in situ, with its physiological relation to the buccal bone plate intact.

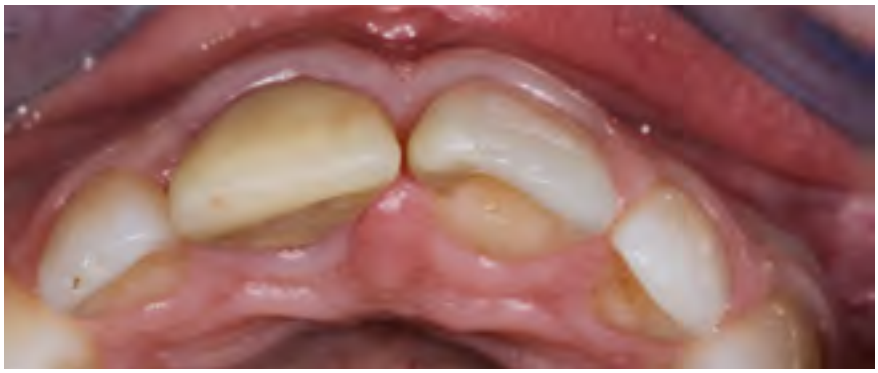
The periodontal attachment of the root section should remain vital and undamaged to prevent the post-extraction socket remodelling otherwise to be expected.



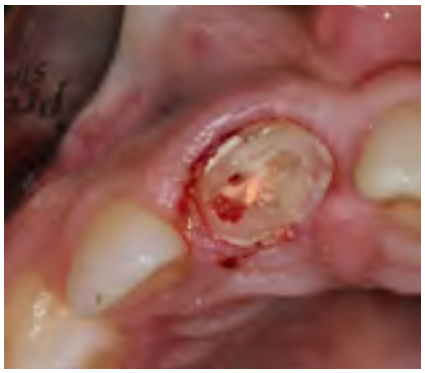
1 I Initial situation. The right central incisor is hopeless.



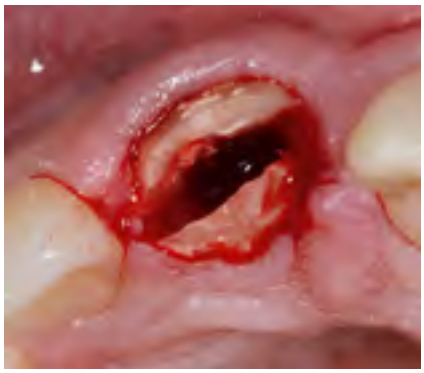
2 I Preoperative CBCT showing root decay. The buccal bone wall is present.



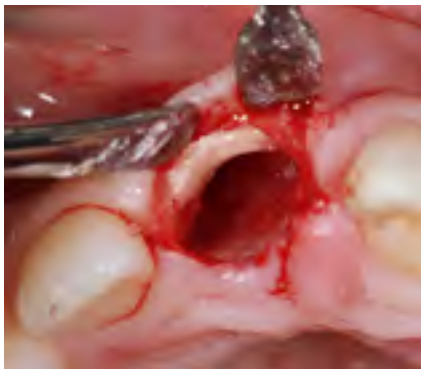
3 I Occlusal view prior to tooth extraction.



4 I The crown is hemisected. There is some root resorption.



5 I The root is separated in a mesiodistal direction. The palatal part of the root with the apex is taken out.



6 I A socket shield is prepared 1 mm above the buccal bone crest.

There are contraindications to the socket shield technique, such as periodontitis, root resorption and tooth mobility. The procedure is time-consuming and technically rather challenging. If there is a contraindication or if the socket shield fails during preparation, dual-zone augmentation is a possible alternative for achieving a highly aesthetic result. Dual-zone augmentation includes peri-implant hard as well as soft-tissue augmentation.

The socket-shield technique

In 2010, *Hürzeler* published an animal experimental study and a case report entitled "The socket-shield technique: A proof-of-principle report" [14]. One critical factor for buccal bundle-bone resorption is the loss of periodontal ligament. The resorption of the buccal bundle bone can be avoided by leaving a buccal root segment in place (socket-shield technique), as the biological integrity of the buccal periodontium (bundle bone) remains untouched.

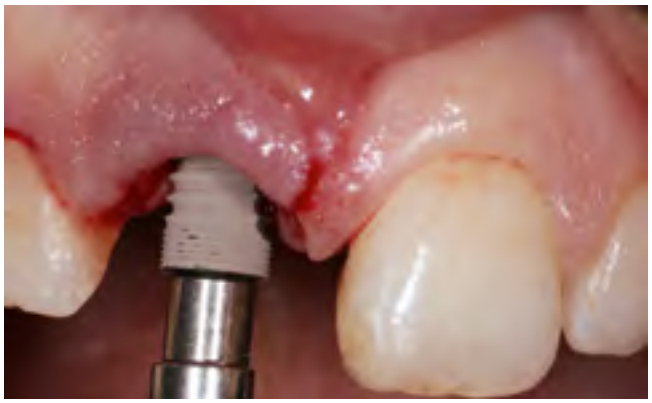
In the last six years, several clinical studies have demonstrated the potential of buccal root retention (socket-shield technique) in combination with immediate implant placement to avoid significant changes in ridge shape after tooth extraction [15–17]. *Siormpas* published two- to five-year follow-ups of 46 implants placed immediately after extraction using the socket-shield technique [18]. He reported a 100 per cent survival rate.

Case 1: Socket-shield technique

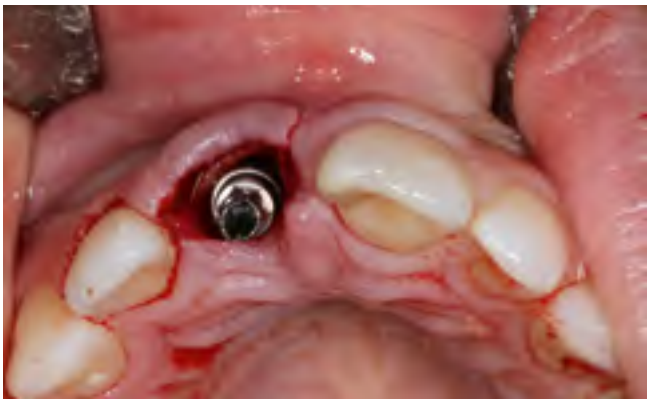
A 25-year-old female patient presented with a right central incisor that was non-restorable due to cervical decay (Figs. 1 to 3). The patient had good interproximal bone levels; all socket walls were present. There were some asymmetries of the gingival margins: On the right central incisor, the gingiva level was more coronal compared to the adjacent central incisor (see Fig. 1).

It was decided to replace the failing incisor with an implant-supported crown. To preserve as much hard and soft tissue as possible, an immediate post-extraction implant was to be placed in combination with partial-extraction therapy.

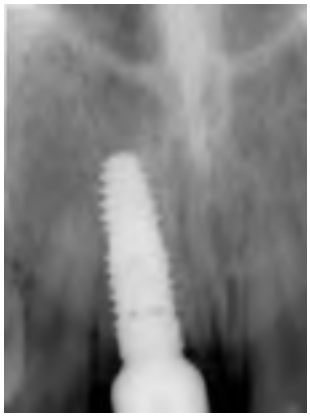
After the crown had been hemisected (Fig. 4), the tooth was dissected in a mesiodistal direction, and the palatal and apical portions of the root were removed (Fig. 5). The vestibular socket shield was levelled to one millimetre above the buccal bone. A minimal flap was raised to shape the coronal part of the socket shield to smooth any sharp edges (Fig. 6).



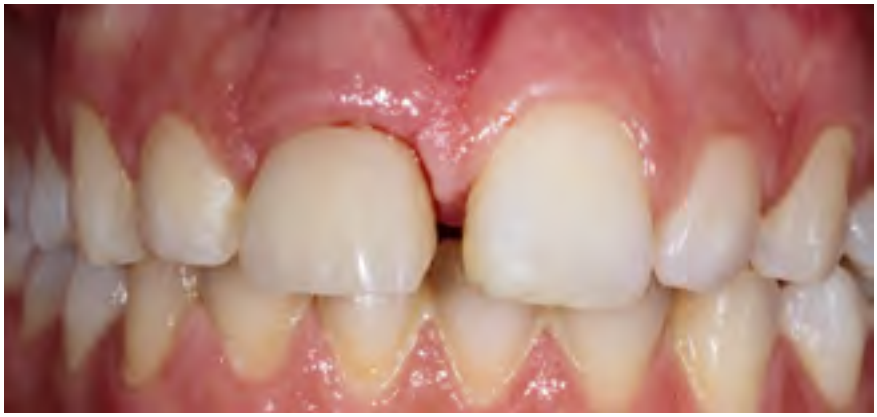
7 I An implant (4,1 × 13 mm, Bego Semados RSX) is placed in a flapless procedure.



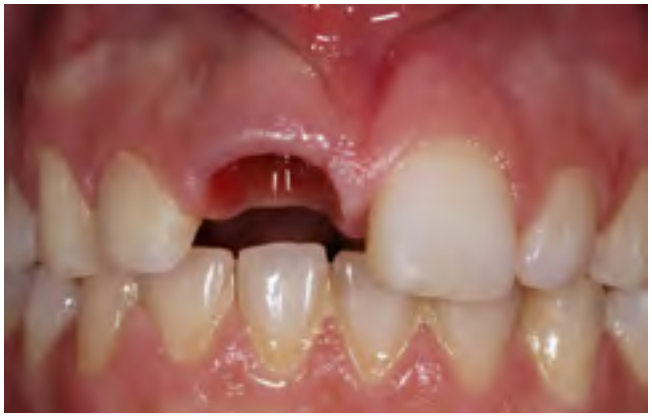
8 I Occlusal view showing the implant placed in the palatal aspect of the socket with some contact with the socket shield.



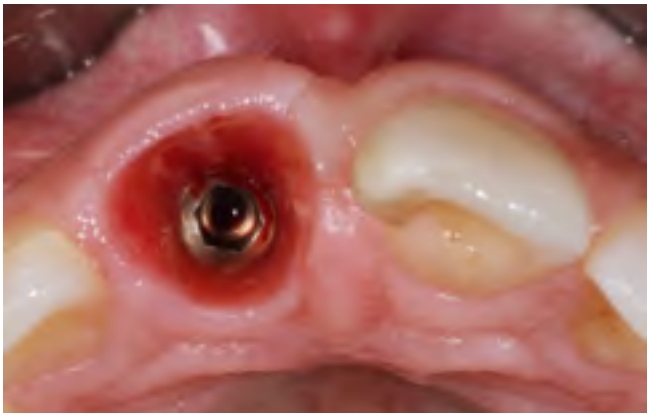
9 I Postoperative radiograph.



10 I The provisional crown is placed on the same day.



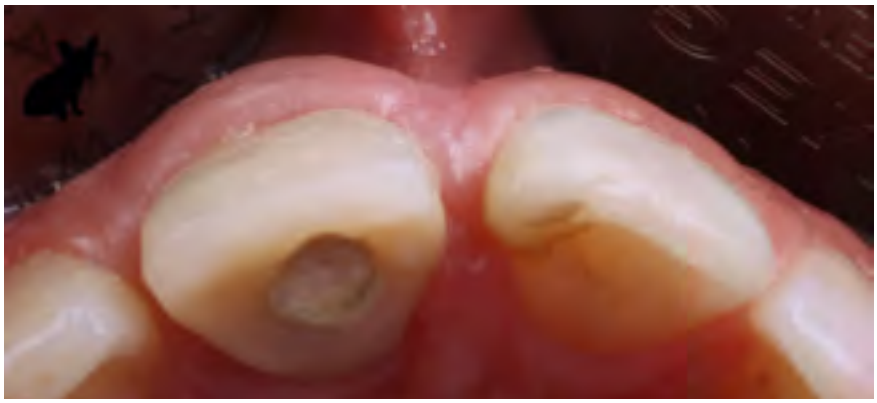
11 I Five months after surgery, the papillae are well maintained.



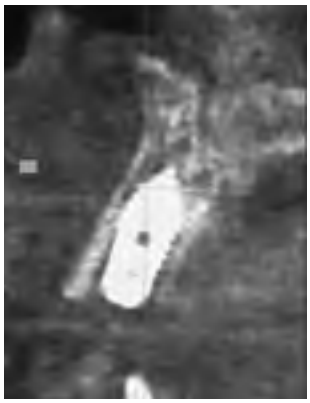
12 I The occlusal view shows no difference in horizontal ridge volume between the implant site and the adjacent tooth.

A 4.1 × 13 mm implant (Semados RSX; Bego, Bremen, Germany) was placed in a 3D comfort zone (Figs. 7 to 9). Since the insertion torque was 40 N·cm and the ISQ was 70, it was decided to restore it with an immediate provisional crown (Fig. 10).

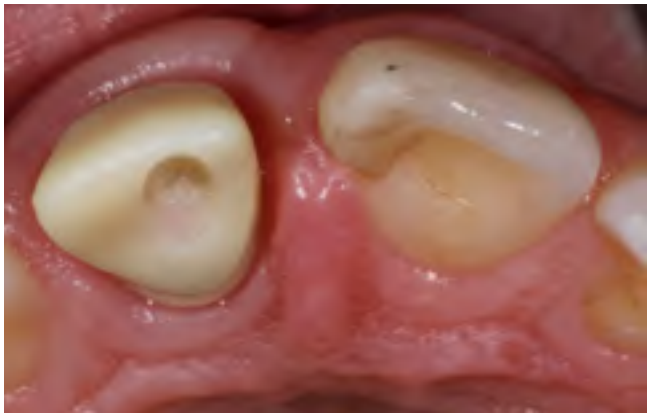
Five months after the first (and only) surgery, the hard and soft tissue were very well preserved (Figs. 11 and 12). Figure 13 shows an occlusal view with a provisional crown in situ. The intentional retention of the facial aspect of the root preserved the tissue on the implant site. The CBCT taken one year after implant placement illustrates very well maintained buccal bundle bone (Fig. 14). Figures 15 and 16 show zirconium coping on a hybrid abutment. The sagittal view shows a natural emergence profile (Fig. 17). The pressable ceramic crown immediately after insertion is to be seen in Figure 18.



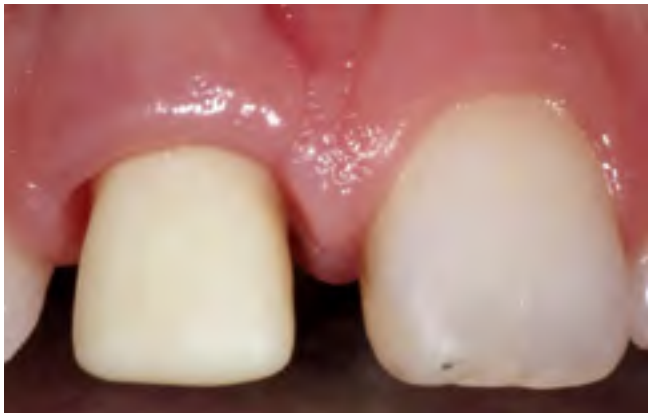
13 I Occlusal view with provisional crown.



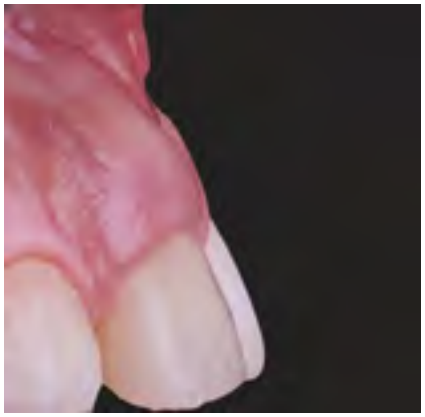
14 I CBCT one year after implant insertion.



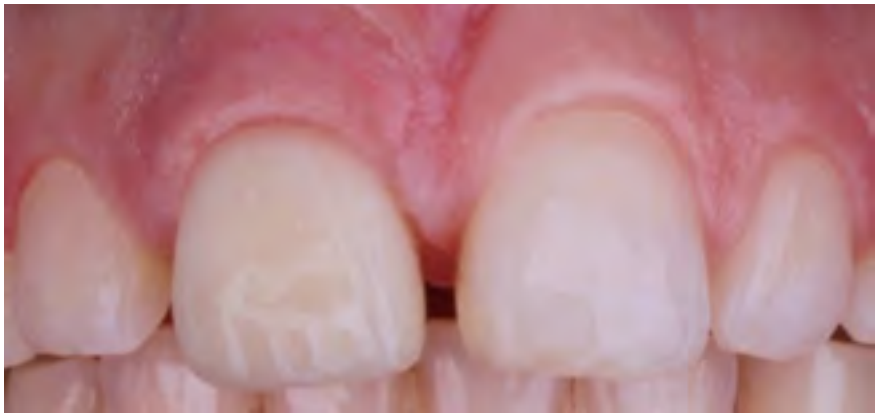
15 I Hybrid abutment, occlusal view, ...



16 I ... frontal view, ...



17 I ... and profile view.

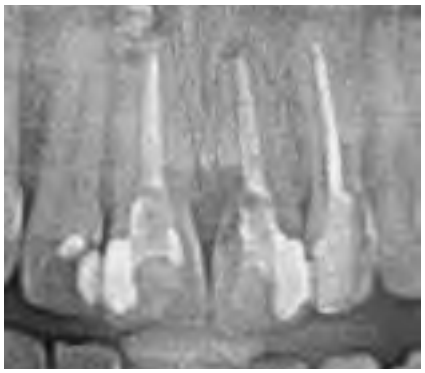


18 I Screw-retained pressable-ceramic crown immediately after insertion. Prosthodontics: Dr Jagoda Berber Torbarac, Rident Clinic.

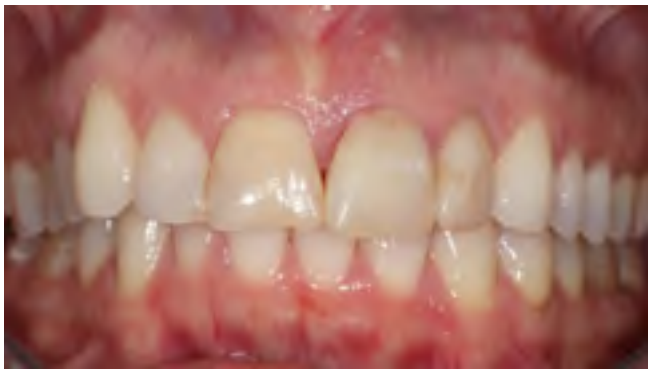
Dual-zone augmentation

Bone-zone augmentation between the implant and the socket wall reduces dimensional changes of the ridge after tooth extraction. A further improvement can be achieved by soft-zone augmentation. *Araújo* and coworkers showed that xenograft particles can be incorporated into the soft-tissue profile without any inflammatory reaction [19]. These incorporated particles provide substance to increase the soft-tissue profile as described by *Tarnow*, *Chu* and *Salama* [20,21]. The provisional restoration can then act as a "prosthetic socket seal" to protect, contain and maintain the blood clot and bone-graft material during the healing phase.

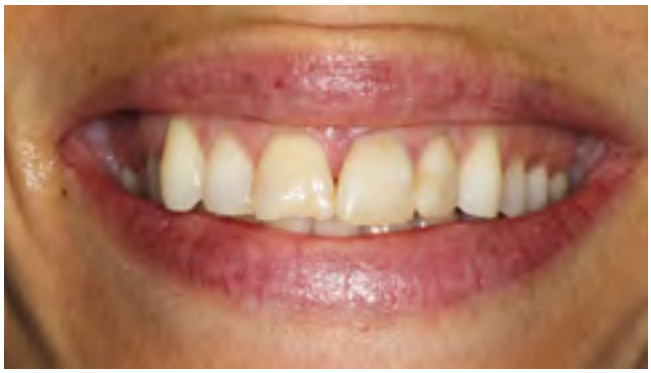
Tarnow, Chu and *Salama* also proved that hard- and soft-tissue grafting at the time of implant placement in combination with a contoured healing abutment or a provisional restoration result in the smallest amount of ridge contour change. This concept is called "dual-zone augmentation".



19 I Pre-treatment radiograph showing external root resorption of the left central incisor.



20 I Pre-treatment photograph showing incisors with wear and unaesthetic fillings.



21 I The smile line is high.

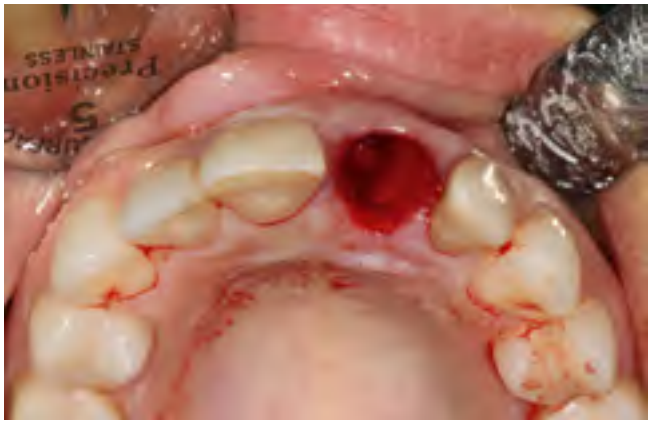
Case 2: Dual-zone augmentation

A 35-year-old healthy female patient, a non-smoker, presented with a left central incisor that was failing due to external root resorption (Fig. 19). The other incisors exhibited unaesthetic fillings and chipping (Fig. 20). The patient had a high smile line (Fig. 21).

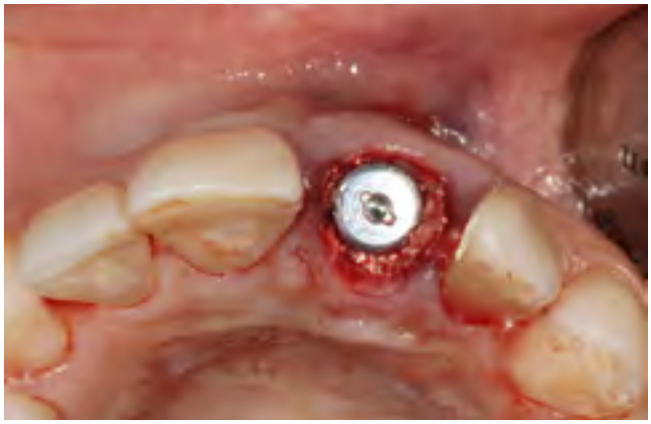
The treatment goal was to replace the left central incisor with an implant-supported crown and to preserve the papilla and the level of the facial gingival margin.

The treatment plan included immediate implant placement for the left central incisor, a pressable-ceramic crown for the right central incisor and veneers for the two lateral incisors.

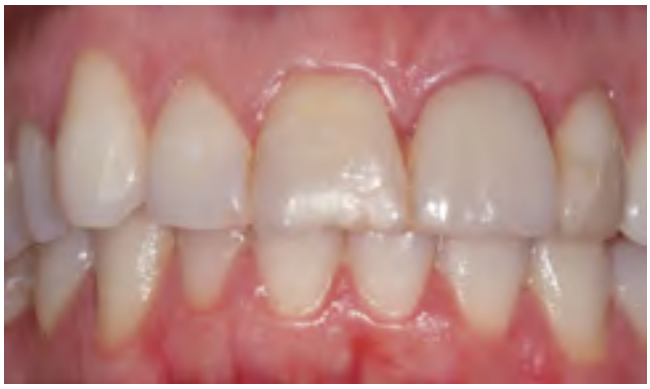
The left central incisor was extracted as atraumatically as possible (Fig. 22). All socket walls were present. After thorough debridement, the implant site was prepared in the palatal aspect of the socket. Biological drilling as described by *Anitua* was performed (50 rpm without irrigation)



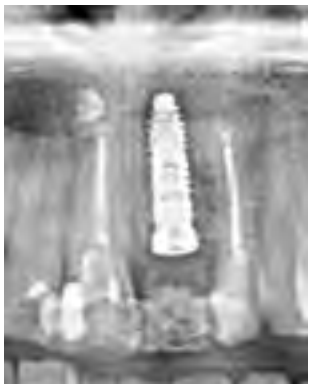
22 I The left incisor is removed in a flapless procedure.



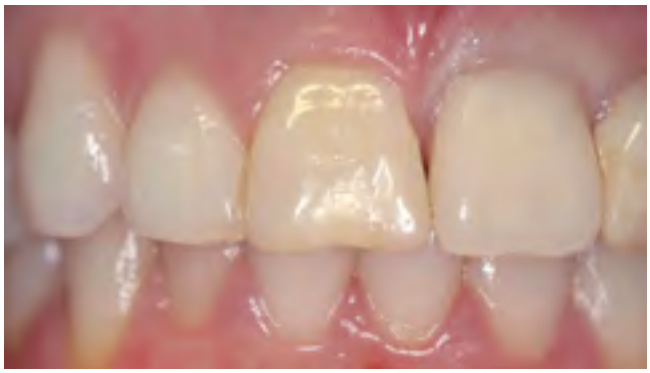
23 I Situation immediately after implant insertion (4,5 × 13 mm, Bego Semados RSX); dual-zone augmentation.



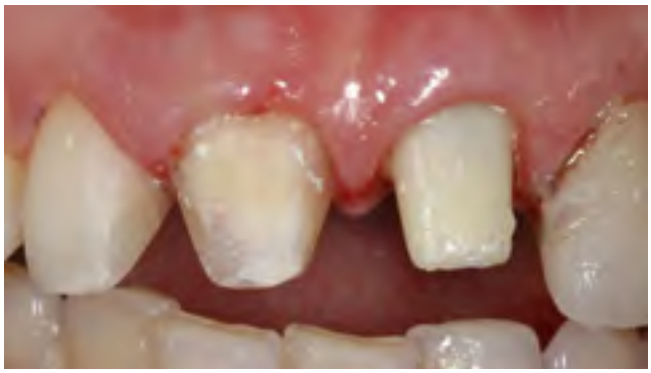
24 I A Maryland bridge is inserted as a temporary restoration.



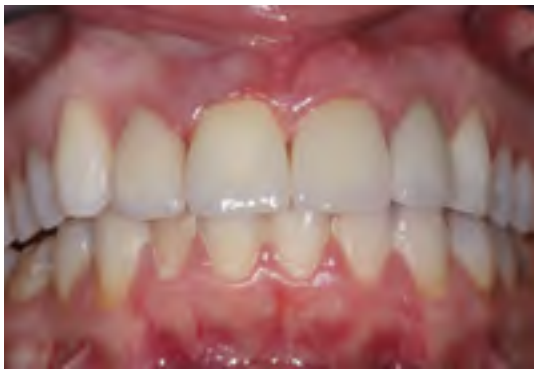
25 I Postoperative radiograph.



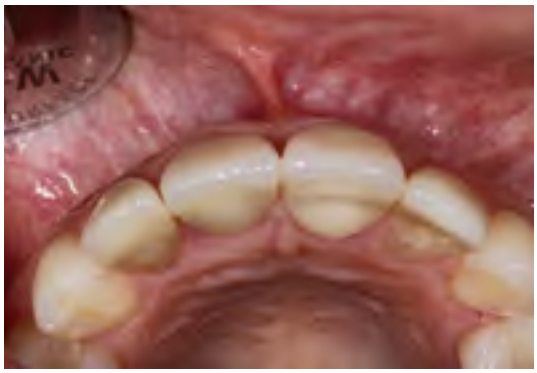
26 I After osseointegration of the implant, a provisional crown is produced.



27 I Zirconia abutment milled in Bego Medical. The adjacent teeth are treated with a crown and veneers.



28 I Situation immediately after definitive cementation of the implant crown and veneers.



29 I Occlusal view immediately after prosthetic rehabilitation.

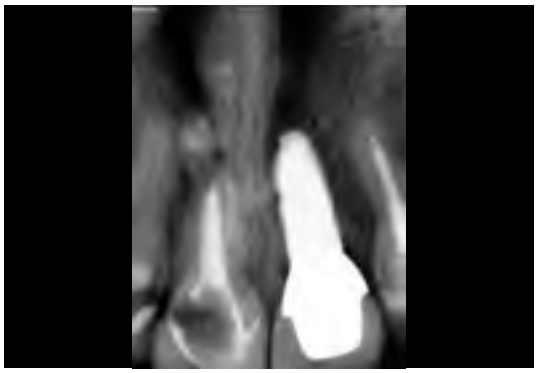
30 I Radiograph after implant/prosthetic rehabilitation.

to collect autologous bone particles. A 4,5 × 13 mm implant (Semados RSX; Bego) was inserted with 40 N·cm of insertion torque.

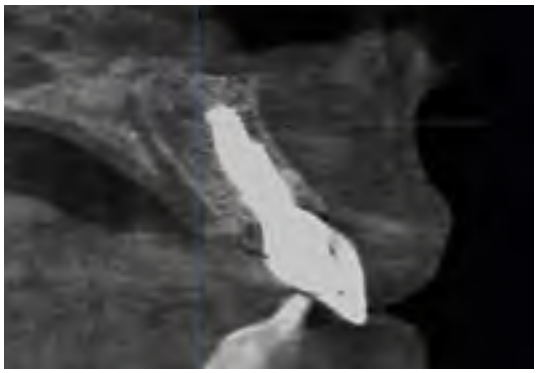
The gap between the socket wall and the implant body was augmented with a mixture of two-thirds autologous bone particles and one-third of a xenograft material (Bego Oss). The same mixture was used to augment the space between the healing abutment and the soft tissue (Fig. 23).

Prior to implant placement, a provisional Maryland bridge was prepared. The pontic was designed to shape the peri-implant soft tissue (Figs. 24 and 25).

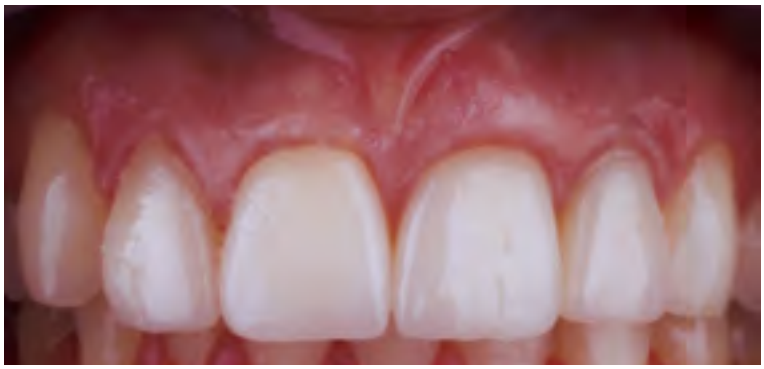
Following osseointegration of the implant, a provisional crown was placed and left in place for another three months (Fig. 26). An impression was taken, the cast was scanned and a zirconia abutment was designed. The abutment was milled in Bego Medical (Fig. 27). Pressable-ceramic crowns were cemented onto the implant and the adjacent central incisor. Both lateral incisors received veneers (Figs. 28 and 29). Figure 30 shows the radiograph taken after crown cementation.



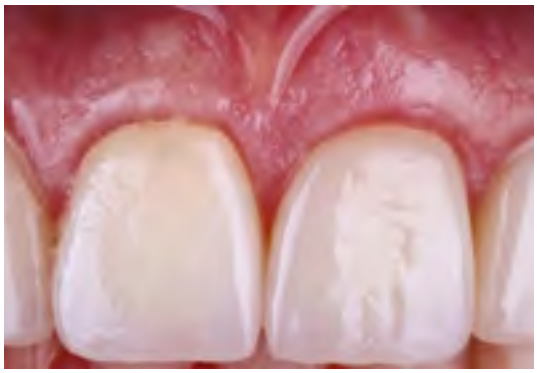
31 I Radiograph 18 months after treatment showing a stabile peri-implant situation.



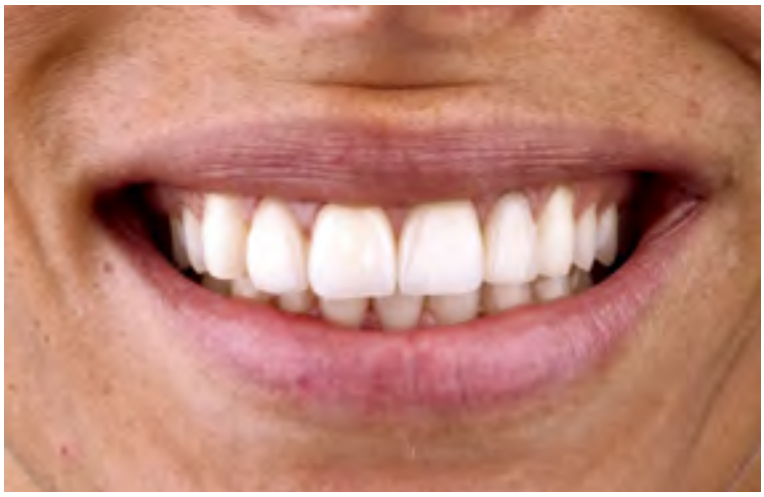
32 I CBCT 18 months after treatment showing well-maintained buccal bone.



33 I Clinical situation 18 months after treatment.



34 I Close-up showing pleasing peri-implant soft tissue.



35 I Clinical situation 18 months after treatment.

Eighteen months after the implant/prosthetic treatment, the peri-implant hard tissue was stable (Fig. 31). The CBCT scan showed the bone volume to have been preserved (Fig. 32). Both the papillae and the marginal gingiva were well maintained (Fig. 33). A close-up image showed a highly aesthetic outcome (Fig. 34). On a scale of 1 to 10, the patient rated the outcome a resounding 10 (Fig. 35).

Conclusion

Implants placed in fresh extraction sockets of type one (all socket walls present) have the same survival rates as conventionally placed implants. Mid-facial recession can be avoided if the implant is placed lingually in a flapless procedure and the gap is filled with a slowly resorbable bone substitute.

Immediate provisionalization and dual-zone augmentation are known to be key factors for minimizing hard- and soft-tissue volume changes.

Recently, an aspect of partial-extraction therapy, the socket-shield technique, found its way into implant dentistry. This technique provides dimensional stability around an implant site without the use of any adjunctive biomaterials.

The references are available at www.teamwork-media.de/literatur

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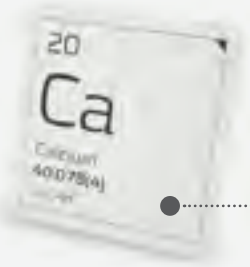

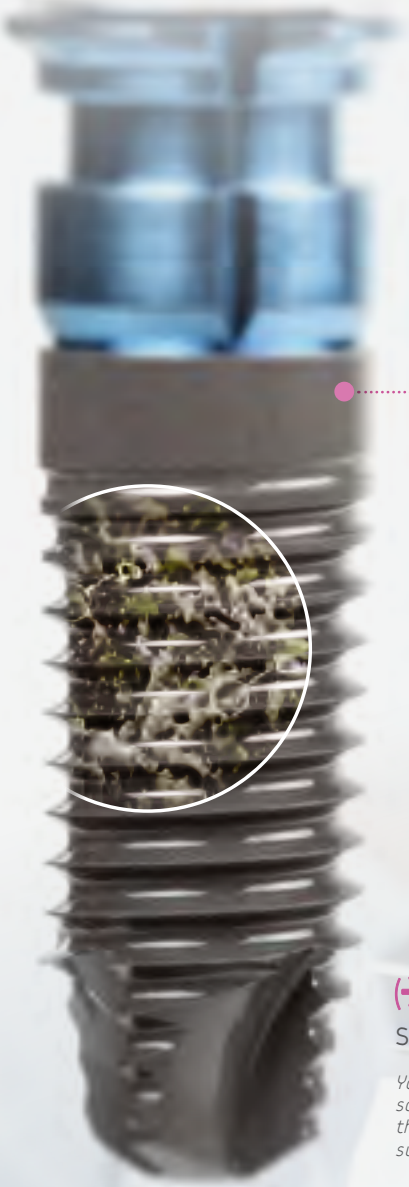

Characteristics	Benefits
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Adhesive and platelet-activating	Provides immediate, lasting stability
Antibacterial	Significantly reduces the risk of periimplantitis
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European Gum Health Day 2017

A great leap forward for public health education

On 12 May, 27 EFP-affiliated national societies of periodontology jointly celebrated European Gum Health Day 2017, an international awareness day that succeeded in putting gum health in the spotlight. For the first time, an unprecedented amount of coverage was given to periodontal science and practice, and millions of people – from Portugal to Azerbaijan, from Morocco to Finland – learnt about the implications of gum disease and the importance of healthy gums and their impact on their overall health and wellbeing.

All this was made possible thanks to the impressive work carried out by the 27 participating national societies – by their boards and their members alike. As a result of their ideas, commitment, and efforts, periodontology is today better known by citizens, policymakers, and fellow health professionals. Thanks to hundreds of periodontists and dentists volunteering to take part in dozens of public events, the message of "fighting periodontal disease together" was communicated very effectively.

The European Federation of Periodontology (EFP) congratulates all parties involved – dental professionals, other health players, institutions, and the media – on their manifold ideas that made the resounding success of the European Gum Health Day 2017 possible. The various contributions of the national societies ranged from leaflets and handouts, press releases, press conferences, and social-media campaigns, free periodontal check-ups, courses, public-affairs initiatives, and clinical surveys, to TV and radio interviews, videos, and scientific articles.

Periodontal practices and professionals across Europe will benefit from the growing awareness of gum health and gum disease. But the main beneficiaries of European Gum Health Day 2017 are people. Each additional person who goes for a check-up when they notice their gums are bleeding is a victory. Each parent who tells their children to patiently clean all chewing surfaces and sides of the teeth at least twice daily is a success. Each physician who explains to their patients how periodontitis can herald diabetes or interact with it can make a huge difference.

Looking back on the success of European Gum Health Day 2017, it is fitting to acknowledge the contribution of people such as *Juan Blanco*, the EFP's immediate past president, who paved the way for the establishment of what is unanimously seen today as an indispensable EFP yearly event.

It is now time to look ahead and to start preparing the 2018 European awareness day for periodontal health, whose co-ordination will rest in the capable hands of *Xavier Struillou*. All members of the oral healthcare team are invited to already start planning for 12 May 2018.

Filippo Graziani (coordinator),
Gernot Wimmer (EFP president)

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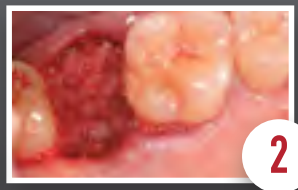

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Dentsply Sirona World Summit Tour 2017

Inspiration and confidence

This was the motto that Dentsply Sirona Implants had chosen for its international congress in Nice, France. At the third stop of this scientific lecture series, the organizer welcomed more than 1,000 visitors to the Côte d'Azur. Dentists and dental technicians from 25 countries took advantage of the offerings of a multi-faceted programme featuring 74 well-known speakers. The focus of the event was on optimizing treatment processes through a digital workflow.

After the previous stations of the World Summit Tour 2017, Tokyo and San Diego, clinicians and researchers in Nice experienced three inspiring days to share scientific findings and clinical experiences. Many participants had travelled long distances to discover the latest developments in oral implantology. A comprehensive range of sessions, hands-on workshops and product demonstrations provided an up-to-date picture of scientific oral implantology and innovative treatment solutions.

Lars Henrikson, Group Vice President of Dentsply Sirona Implants

The congress was opened by *Lars Henrikson*, Group Vice President of Dentsply Sirona Implants, in the large auditorium of the Palais des Congrès et des Expositions Nice Acropolis, with music and harmonious images of Provence: "We are very pleased that we have this opportunity to meet our customers and show them that we share their enthusiasm for oral implantology. We are honoured to welcome everyone here today as part of the Dentsply Sirona family."

Scientific programme

After the official opening of the three-day congress, the scientific programme started with lectures on the latest developments in oral implantology. Numerous renowned scientists were signed up as speakers, such as *Professors Jan Lindhe*, *Meike Stiesch*, *Lyndon Cooper*, *Mariano Sanz*, *Michael R. Norton* and *Mark Quirynen*.

Professor Jan Lindhe (University of Göteborg, Sweden) spoke on bone loss in patients with dental implants. He presented a study showing that bone loss was not significantly higher in patients with implants than in patients without. The study included more than 200 subjects with a total of 500 implants. It examined progressive marginal bone loss around implants and teeth in the same jaw segment over five years. Overall, marginal bone loss was similar in these cases. *Professor Lyndon Cooper* (University of

Professor Lyndon Cooper from the University of Illinois at Chicago

Illinois at Chicago, USA) asked in his presentation whether it will be possible at some point to offer implant-supported teeth that last a lifetime. On the basis of current knowledge, *Cooper* explained the special challenges in implantology today and showed how the life expectancy of implants can be extended. "After some four decades of experience in endosseous implant therapy, we now recognize our responsibility for providing implant-supported restorations for a lifetime", said *Cooper*. Implant dentists must also deal with the demographics of an aging society and the associated special needs and challenges. *Dr Ann-Marie Roos Jansåker*, a Swedish specialist in periodontics, reported on biological complications and how they can be prevented. Her core statement was that thorough treatment planning was absolutely essential because it is the key to success for any implant therapy. Furthermore, *Roos Jansåker* reported that patient education, regular oral and prosthetic hygiene and the early detection of clinical signs of inflammation are important aspects for the prevention of biological complications following implant therapy.

Digital workflow

An important focus in Nice was on the optimization of treatment procedures. The creation of a digital implant workflow in the so-called "inspiration hub" met with particular interest on the part of the audience. It presented the procedures that link oral surgery, dental lab and chairside patient care. In its present form, the process – from imaging procedures to implant placement to prosthetic restoration – was presented to the visitors for the first time.

Dr Christian Mousally, for example, presented digital treatment planning and patient care in a single session in his hands-on workshop. Its participants could see how, in a fully integrated workflow, high-quality imaging using the Galileos or Orthophos 3D x-ray units and digital impressions with Cerec Omnicam interacted to form the basis for virtual treatment planning and implant placement using surgical guides. In the practical phase of the workshop, participants could plan and design their own models with the system. "Integrated solutions with Cerec reduce the number of necessary appointments in the practice as well as the treatment times", said *Dr Frank Thiel*, Group Vice President for CAD/CAM at Dentsply Sirona. "The philosophy

behind Cerec is: treatment in a single session. Cerec thus stands for faster implant insertion and immediate restoration. All this ensures a significant reduction in the time the treatment takes and makes it easier for the patient to embrace the treatment plan."

On the last day of the conference, the patient experience was in focus. Different key factors are important here. Digital and analogue processes as well as tools that support the treatment must be precisely designed and continuously evaluated to ensure that the level of precision desired by dentists and patients is achieved. Precision speaks for itself – not only during the treatment, but above all in the long term: That, one could say, was also the overarching take-home message of the congress.

The fourth and final stop of the Dentsply Sirona World Summit Tour will be in Shanghai in 2018.

RH

Interview with Professor Michael R. Norton, London, UK

"Surgical experience is still vital"

On the margins of the Nice event, EDI Journal's Project Manager My To asked Professor Michael R. Norton, member of the Scientific Committee of the World Summit Tour 2017, to share his opinion on the pros and cons of digitalization in oral implantology with the readers of EDI Journal.

How do you judge the role of the clinician in times of increasing digitalization?

It seems to me that the technician is becoming the clinician. He's becoming the one that drives the decisions. He is sitting at a computer doing a digital wax-up – no interface with the patient at all. Essentially, he is developing what I would describe as a static occlusion rather than a dynamic occlusion – which actually for the majority of patients is probably fine. How many dentists use an earbow or a facebow? They just do simple articulations without consideration for more complex occlusal schemes – which is what a digital occlusion is. So it may be fine. But the fact of the matter is that it is determined by a technician, not by a clinician. All the clinician does is to take the digital plan and to execute something that he knows nothing about because he didn't design it. So I am all for digital, but the point I'm making is that it is very important that the clinician maintains some control over the process. Either as a team with his technician or on his own.

Where do you see the differences in the daily work of the clinician with or without digital support?

I grew up as part of a generation where you worked extremely hard during the day treating patients and then you went home and had a family life. Now these guys are working hard treating patients and then they are going into a room in front of a computer and spending half their lives planning things digitally. So there is a bit of a myth that the digital saves time. It saves time in the clinic but it costs you your quality time outside the clinic. I think it's very important that we warn people of that because dentistry has always been a very stressful profession. People need to know that if you work hard in the surgery and then you work hard in front of a computer outside the surgery, you are not leaving yourself a lot of important quality time. The development is going in the right direction, but I think we need to temper it a bit.

What advice would you give to the novices in the field of implant dentistry?

The young generation is diving in with big enthusiasm – they do not know anything else than a digital world. So maybe it will be easier for them. But there's nothing easy about working effectively on a software like Simplant, and the only way you can work effectively on such a software is to have a great deal of surgical experience. To get from A to Z involves human interaction in a human being, which introduces inaccuracy. So when you're planning your implants on a computer, you have to do it on the basis of surgical skills and experience. If you don't have that, how can you possibly know what you're doing on the computer? You first need to know your business blindfolded before resorting to digital support.

Thank you very much, Professor Norton, for your valuable opinion.

MT

Premiere for "Expert in Dental Implantology" training course

Successful start

In early summer, dentists from Kuwait, Jordan, Saudia Arabia and Canada came to Germany and stayed for ten days to improve their knowledge in the field of oral implantology. They were supported by six instructors, the Dentaurum Implants team and the Friedrich-Alexander University Erlangen, Germany.

Photo: Dentaurum Implants

The proud participants at the FAU Erlangen, together with Dr Joachim Hoffmann (fourth from the right in the back row) and Felix Fischer of Dentaurum Implants (front row on the right).

First stop: CDC in Ispringen

The CDC building in Ispringen is Dentaurum's training centre. Here, *Rolf Scherberger* and *François Hartmann* gave an initial introduction into the tioLogic implant system and the new one-piece mini implant Cito mini. They explained all steps from the development of the products to the surgical procedure and the prosthetic restoration. Following a guided tour of the company, *Dr Peter Keller,* a local dentist, performed a live operation in Dentaurum's in-house operating facilities. He carried out an immediate implantation, demonstrating the surgical procedure using the tioLogic ST instruments. The course participants were then able to carry out hands-on exercises on pig jaws. On the third day of the course, *Dr Daniel Schulz,* Henstedt-Ulzburg, Germany, held a talk on the management of hard and soft tissue which included a live demonstration and exercises on incision and suturing techniques using pig jaws and ears.

Successful cooperation in Erlangen

The next stop was at the Friedrich-Alexander University (FAU) in Erlangen. Here, the participants listened to lectures by *Dr Joachim Hoffmann*, Jena, Germany, and *Professor Lars Bräuer* of FAU Erlangen. *Dr Hoffmann* described the possibilities and limitations of augmentation measures and surgery techniques, whilst *Professor Bräuer* dealt with the subject of the human anatomy. Exercises on human specimens were one of the highlights of the course. The participants were given the opportunity to practice implant insertions, suturing techniques and augmentations as well as a sinus lift. On the final day of training, *Dr Hoffmann* treated the subject of optimizing implant planning. He explained the prosthetic possibilities and focussed in particular on anterior aesthetics and approaches to overcome possible complications.

The course terminated with the presentation of the certificates and a common farewell dinner.

Dr Daniel Schulz, Henstedt-Ulzburg, instructed and assisted during the hands-on exercises.

Live operation in the CDC building: immediate implantation, performed by Dr Peter Keller, Ispringen.

Photos: Dentaurum Implants

Mectron Spring Meeting 2017

A new annual benchmark

The first edition of the Mectron Spring Meeting, held in the splendid Palazzo Cavalli Franchetti in Venice on 23 June, surpassed all expectations. Over 200 participants from all parts of the world – Brazil, Australia, USA, Japan, and Europe – attended the event. Prestigious speakers, an inspring scientific programme focusing on the main piezoelectric surgical applications, and the beautiful setting in the heart of the historic centre of Venice, were key to the event's success.

The scientific programme involved four presentations, each given by the author who clinically developed the specific piezoelectric technique. The speakers presented "their" piezoelectric application, the detailed surgical protocol and a vast assortment of clinical cases, all of them the result of extensive experience and continuous scientific research.

Professor Tomaso Vercellotti, chairman of the congress, kicked off the meeting by presenting the event and its objectives. The conference opened with the presentation of *Dr Claudio Stacchi* who highlighted the benefits of piezoelectric bone surgery as compared to conventional rotating instruments for implant site preparation.

He was followed by *Professor Leonardo Trombelli,* who focused on the indications and surgical procedures used to perform the crown lenghtening procedure aimed at re-establishing a proper biological width prior to a rehabilitation, by introducing a new piezoelectric periodontal resective application.

Dr Rosario Sentineri then addressed the issue of atrophied alveolar ridge augmentation when horizontal bone volume is insufficient, performed with an innovative surgical technique that combines the use of piezoelectric inserts and bone expanders.

At the end of the day, *Professor Tomaso Vercellotti* introduced a new clinical method for choosing the most appropriate approach to elevating the sinus cavity floor in relation to the specific anatomical characteristics of the edentulous and/or atrophic posterior maxilla. He first illustrated the piezoelectric sinus lift technique with a lateral approach, followed by the crestal approach technique.

The training format – experienced speakers transmitting their techniques to the participants, enabling them to make the most of the Piezosurgery equipment in daily practice – turned out to be a winning solution: The participants expressed great enthusiasm and gained greater confidence with the Piezosurgery methodology and its numerous possibilities.

Mectron is confident that the Spring Meeting is to become an annual benchmark event that Piezosurgery users will not want to miss. The next edition which will be a two-day event scheduled for 25 and 26 May 2018, once more in the lovely Venetian setting. The programme will include the presentation of innovative, fully piezoelectric extraction and implant techniques.

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A picturesque event venue: Palazzo Cavalli Franchetti right on Canale Grande.

More information
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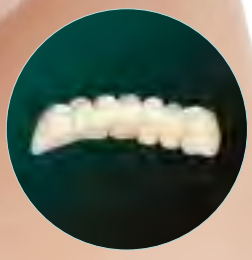

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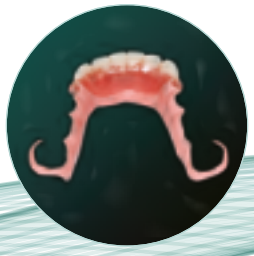
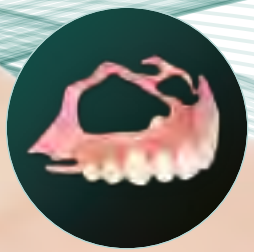
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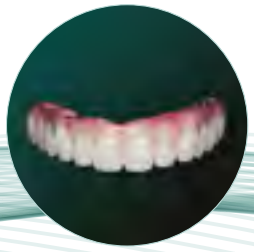
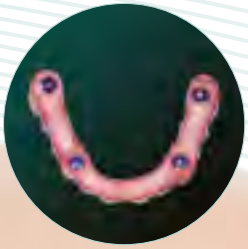
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5th International Z-Systems Congress in Nice, France

The world of ceramic implants

About 70 specialists from ten countries met in the middle of June in sunny Nice, France, for an update on ceramic implants. Renowned speakers from Germany, France, Italy, Belgium and the USA offered high-quality presentations and underlined Z-Systems' high innovativeness and its standing among the market leaders.

The first day was devoted to well-known concepts from the dental practice. *Dr Gabor Roza*, Bichwil (Switzerland) started the presentations and focused on the treatment of edentulous patients, with special emphasis on the decreasing manual skills of these patients in later years. *Dr Christoph Blum,* Bad Ems (Germany) then compared various ceramic systems, and underlined the clinical benefits of Z-Systems. The following team, *Dr Georg Bayer* and *MDT Norbert Wichnalek*, Landsberg/Augsburg (Germany) presented several case studies of the immediate insertion of one-piece Z-Systems implants, and immediate provision with temporary crowns. They both have many years of experience in implantology, and are personally convinced of the benefits of ceramic implants. In their practice, all ceramic implants are treated with plasma before implantation, which stimulates cell growth and leads to faster osseointegration. *Dr Jean-Louis Roche* closed the programme of the first day in his near-by practice by performing a live surgery with the new two-piece bone-level implant.

The second day started with *Dr Ted Fields,* Dallas, TX (USA) who showed striking results in terms of case numbers and clinical quality. He has placed a large number of one- and two-piece ceramic implants, and demonstrated their aesthetic superiority as compared to conventional solutions. *Dr Fields* also underlined the benefit of grinding the implant shoulder to optimize the function and aesthetics of the soft tissue. The following speaker, *Dr Jochen Mellinghoff,* Ulm (Germany), a high-class ceramic specialist with many years of experience, convinced the audience with his conclusion that the screw-type two-piece Z5s bone-level implant may have the potential to exceed the standard of titanium implants in the near future, and to change the structure of the implant market.

Dr Giancarlo Bianca, Marseilles (France) presented persuasive aesthetic photos. Being a scientific speaker for the French Society of Periodontology and the Continuing Education in Implantology programme at Corte University (France), he values serious documentation and predictable treatment protocols. His bold and simple conclusion: Soft tissue loves ceramic.

Two scientific lectures on zirconium oxide by *Professor Corrado Piconi*, Rome (Italy) and *Dr Pascal Eppe*, Etalle (Belgium) again filled the auditorium to its maximum. *Professor Piconi*, materials scientist at the University of Rome and specializing in ceramics technology, demonstrated the strengths and the special characteristics of zirconium dioxide in a systematic manner. *Dr Eppe,* in turn, cited a number of publications covering various critical health aspects of the use of metals in general, and of titanium in particular. *Dr Ralf Lüttmann*, Eckernförde (Germany) concluded the congress with an entertaining outlook on BoneWelding and new opportunities in dental implantology. The next Z-Systems congress will take place from from 28 to 30 June 2018 in Valencia, Spain.

Members of the speakers team (from left): Dr Ralf Lüttmann, Dr Giancarlo Bianca, Dr Pascal Eppe and Professor Corrado Piconi.

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10th Icelandic Education Week in Reykjavik, Iceland

Well prepared for the practice

Already a tradition, but always forward-looking: The 10th Icelandic Education Week, organized by the University of Iceland and supported by Straumann, took place at the end of June and again proved to be a highly instructive and productive event for the participating general practitioners, specialists and post-graduate students dedicated to oral implantology.

Practice makes perfect: Particpants of the 10th Icelandic Week training their manual skills during hands-on exercises.

The intense study week comprised 44 hours of continuing education, designed and chaired by Professor *Bjarni E. Pjetursson*, dean of the Dental School, University of Iceland, and co-chaired by *Professor emeritus Niklaus Lang* (Berne, Switzerland). Besides a group of experienced Icelandic practitioners, the list of speakers comprised *Professor Irena Sailer* and *MDT Vincent Fehmer* (both from the University of Geneva, Switzerland) as well as private practitioner *Dr Rino Burkhardt* (Zurich, Switzerland).

The focus of the lectures was put on the concept of modern comprehensive treatment planning, based on the evidence obtained in dental research in the last decades. To train the participants in setting up comprehensive treatment plans using dental implants, case presentations, group work and discussions constituted essential parts of the course. Besides the theoretical part, several live surgeries with and without GBR in the aesthetic zone and implant surgery in the posterior maxilla in conjunction with sinus floor elevation were performed by the experts and followed closely by the participants, who then took advantage of the opportunity to practice these techniques in various hands-on exercises. Another topic on the agenda was the prosthetic rehabilitation of partially and completely edentulous patients with dental implants, and how optimal aesthetic results can be achieved in post-extraction sites utilizing new materials.

A mix of renowned university professors and number one practicians, a limited number of participants and a generous time frame: conditions that ensure close personal exchanges, first-hand supervision, fruitful discussions and guaranteed learning success. All participants returned home with the certainty to be equipped with state of the art knowledge on implant dentistry and bone augmentation procedures, and to be well prepared for successful practical activities in the field of oral implantology. And last but not least with a lot of memories of the fascinating nature, culture and hospitality of Iceland.

MT

More information
www.icelandicweek.com

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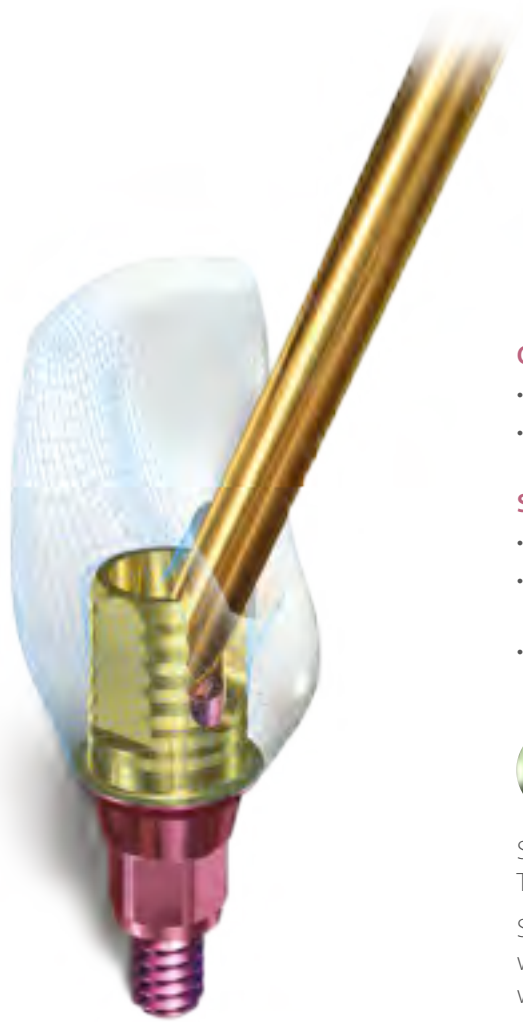

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“A unique treatment philosphy”

Travelling north: EDI Journal Project Manager My To was invited to the 10th Icelandic Education Week and seized the opportunity to talk to the “fathers” of the event, Professor Bjarni E. Pjetursson and Professor emeritus Niklaus Lang about this popular continuing education course.

What is the educational concept behind the Icelandic Education Week? What are its „USPs“?

Professor Pjeturrson: Of course we work hard, but we try to mix work with some sightseeing and a friendly atmosphere. So after the week, the participants have learned a lot and they have experienced Iceland. That is the frame. The uniqueness of the course is reflected by the treatment philosophy that is evidence-based in every aspect. We are not following any fashion lines in implant dentistry. And a lot of the participants in fact say that this course totally changed their approach to implant dentistry and to dentistry in general, because we cover periodontal aspects, implant surgical aspects, prosthetics and plastic surgery during this week. And we limit the number of people to four groups of eight each, so we have only 32 participants.

For every issue, we first have a theoretical part, followed by a live surgery and afterwards the participants can try out the techniques by themselves. The hands-on exercises are always programmed to have an open end. So people can repeat the exercises as often as they wish and take their time.

Professor Lang: The core of the IEW are the group discussions based on patient documentations. With well-selected cases, the entire treatment philosophy is reiterated, and slowly but surely adopted by the participants. The cases and live surgeries represent the spectrum of implant placement, bone augmentation, sinus floor elevation and grafting procedures. These procedures are also practiced on plastic models and on pig jaws. Last but not least, enough time is allocated to questions and answers.

How has the set-up evolved over the years?

Pjeturrson: The outline of the course has been similar over the years. But of course we update the approach where needed. For example, the prosthetic aspects have totally changed over the last ten years. The surgical part is quite similar because in this field, we are relying on methods that have been working very well and have solidified over time. We also do course evaluations at the end of each week and minor things have been changed based on the participants’ feedback. I think that at the moment the ratio between theory and practice is very well balanced.

We are very fortunate to have speakers like *Professor Sailer* and *Vincent Fehmer* on the team because they are top authorities in Europe. We are really up to date when it comes to the digital approach and the newest material. What is special in our course is that the participants have access to the speakers throughout the whole week.

Lang: When we stopped the courses in Les Diablerets owing to my formal retirement from the University of Berne in 2008, *Professor Pjetursson,* who had been with us in Berne for eight years, felt that he could offer such courses in Iceland. In the same summer of 2008, the first IEW was staged. During the following years, the course became very popular. In the meantime, entire groups from Russia, the Ukraine, Italy sign up. I am already looking forward to this event in 2018!

Professor Bjarni E. Pjetursson (left) and Professor Niklaus Lang (right) surrounded by the very satisfied participants of the IEW 2017.

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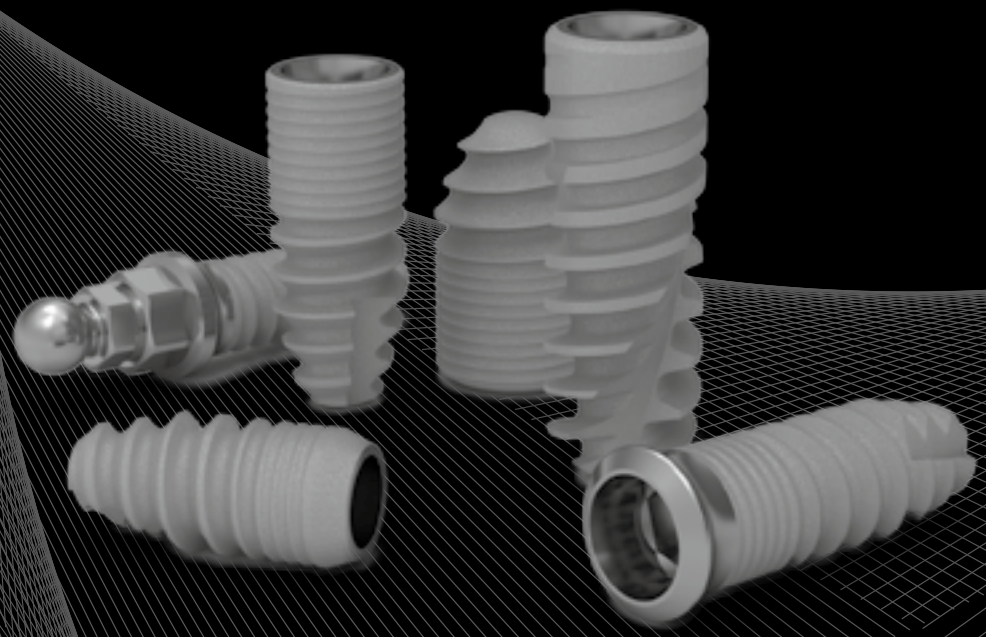

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Theoretical and hands-on course at the University Clinic of Dental Medicine, Geneva, Switzerland

The Geneva Concept

In August 2017, a high-quality continuing professional education week took place at the Geneva University Clinic for Dental Medicine, jointly organized and chaired by Professor Irena Sailer, head of the Division of Fixed Prosthodontics and Biomaterials, and Professor Ivo Krejci, head of the Division of Cariology and Endodontology.

The aim of the five-day course was to introduce the participants to the University of Geneva Fixed Restorative Treatment Concept and to offer theoretical and intense hands-on training for a wide range of treatments from non-invasive restorative procedures to fixed implant reconstructions.

Dental practitioners from Germany, the United Kingdom, France, Iceland, Greece and Switzerland had registered to the course. With obvious enthousiasm, the attendants took advantage of the opportunity to dive into the details of a unique fixed restorative treatment concept, starting from the non-invasive restorative philosophy over minimally invasive restorations to fixed reconstructions. In detail, the course programme covered the following topics:

- update on non-invasive and minimally invasive restorative concepts,
- update on adhesive technology and procedures,
- minimally invasive complex rehabilitations,
- indications and limitations of new restorative materials and technology for tooth- and implant supported reconstructions,
- optical impression and CAD/CAM workflow.

Thanks to the support of major dental companies, like Straumann, Dentsply Sirona, 3shape and Ivoclar Vivadent, the participants were also able to experience the operating principles of CAD/CAM-based dental treatments in live demonstrations and individual practical exercises.

Personal coaching during the hands-on exercises.

"What I have seen here with regard to tooth conservation is unlike anything I have seen before in this form. The collaboration between conservative and prosthetic dentistry as shown here is unique. Moreover, the concept is eminently practical – I can get started on Monday morning!", commented *Dr Reinhold Gabriel*, a participant from Bremen, Germany. "The information given was supported by high-quality evidence and conveyed by true experts in their field", added *Dr Nishant Yadev,* who had come to Geneva from Nottingham, United Kingdom.

"The Geneva Treatment Concept is a dental treatment concept that places the patient in focus. The limits of dentistry are in a flux, interdisciplinary collaboration is becoming the norm, and dental continuing education, as well as clinical dental treatment itself, must adapt", explained *Professor Sailer*. "The University of Geneva has set itself the goal of applying its treatment concept in all areas. After this year's basic course, an advanced course will follow next year."

MT

The participating dental practitioners obviously appreciated the CPE week.

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Interview with Professor Pascal Valentini, Chair of the EAO Council, Paris, France

"The patient must be put back in the centre of the treatment"

Since its establishment, the European Association of Osseointegration has organized yearly scientific congresses. The first of these events was held in 1992 in Leuven, Belgium. This year's congress will take place in Madrid, Spain, from 5 to 7 October 2017. EDI Journal Project Manager My To talked to Professor Valentini about the development of oral implantology over the years.

What has changed in oral implantology in the course of, let's say, the last ten years?

When the first publications of *Brånemark* and the Swedish treatment philosophy got about in the 1980s, a vital sensation of progress seized the dental profession. Nothing would be as it was before. It would be possible to get reliable third teeth. Edentulous patients could from then on benefit of fixed dentures, and in the case of the partially edentulous dentition, the remaining teeth did not have to be compromised to rehabilitate the patients' masticatory function and smile. Owing to the proof of the long-term reliability of osseointegration, we have learned to graft the bone and to overcome most anatomical obstacles so that we are able to place implants anywhere, even in the case of advanced bone atrophy.

New implant surfaces have reduced the healing time. We have developed techniques of soft tissue management and discovered materials that allow to perfectly imitate the aesthetics of natural teeth. New technologies support approaches that are decreasingly invasive. Nevertheless, a rising number of complications is communicated at international congresses. Among these complications, peri-implant diseases belong to the most cited. In the early 1990s, *Professor Andrea Mombelli* had already brought up the topic, but at the time, we were more interested in the new technologies of bone regeneration; that's why this dark side of implantology remained in obscurity for a long time. Today, we are aware of the fact that peri-implantitis is the new challenge of oral implantology.

What is the challenge for the younger generation of implantologists to come?

The answer results directly from the previous question. The new generation will have to take care of the patients that we have treated during the last thirty years. We have let ourselves carried away by the euphoria of innovation, by the idea that we have finally discovered the panacea. We have convinced all these patients because we ourselves were convinced that they would keep these teeth for the rest of their lives. The young generation will have to decide if these new pathologies will lead to a complete modification of treatment strategies by identifying thoroughly the risk factors and hence new contraindications for oral implantology. In addition, peri-implant diseases will have to be treated

Pascal Valentini

Pascal Valentini obtained his DDS (Doctor in Dental Surgery) from the University of Paris VII in 1982. His private practice in Paris is specialized in oral surgery and implant dentistry.
He is Adjunct Associate Professor of Implant Dentistry at the University of Loma Linda, California, USA, and Programme Director for Post Graduate Oral Implantology at the University of Corsica, France, since 1996.
In 2010, he received the Robert James Award for Education in Implant Dentistry by the University of Loma Linda.
He was President of the European Academy of Osseointegration (EAO) from 2012 to 2014. Since 2016, Pascal Valentini is Chair of the EAO Council, a consultative and advisory committee for the EAO Board of Directors.

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efficiently to keep in place the implants placed in the past. It will be necessary to increase our knowledge of biology so that we can respect it better and don't expect more of it than it is able to deliver.

How will this influence today's way of continuing education?

Why have we arrived at this point? *Brånemark* waited 20 years before he published his results for the treatment of the completely edentulous jaw. In the course of these years, the results were analyzed and verified several times. In the middle of the 1980s, you had to proof that you had acquired certain qualifications and undergone an appropriate training to practice implantology.

Today, there is a vast number of implant systems, techniques, biomaterials, one being more efficient than the other. The industry makes us believe that technology will allow us to compensate for the ignorance of the basic knowledge on surgery or prosthetics. Ever more enticing techniques inundate the social networks. Training programmes of very varying value spring up like mushrooms.

Given this information overload, we must be able to make a choice so that we avoid the pitfall of easiness: to choose what we know best instead of what the patient needs. We have to keep in mind that we are treating a patient, not a certain type of dentition; that's why we can't just systematically apply standardized protocols.

Before deciding on a treatment plan, you must really understand the problems and expectations of the patient. Then you have to choose the technique and the type of restoration, which allow to solve these problems and to satisfy these expectations. That's the basis on which training programmes should be designed. It is crucial to learn not to focus on the edentulous part of the dentition, but to follow a global approach to the case. That's why it is fundamental to include more clinical aspects into the programmes and to make the most of the professional experience of the practician who wants to learn more.

We should not hesitate to come back to the fundamentals of surgery and prosthetics, which are too often ignored. Today, training programmes should comprise all these aspects so that the patient is put back in the centre of the treatment plan. That's, for example, the basis on which the postgraduate programme of oral implantology at the University of Corsica is functioning since 1996.

Thank you very much, Professor Valentini, for your time and this very revealing interview. *MT*

Solution for a fully open digital implant workflow

Planmeca will be at the EAO Annual Scientific Meeting 2017 in Madrid, Spain, to present its solution for a fully digital implant workflow. The company's innovative product range allows users to do it all – utilizing just one software platform.

Planmeca provides everything needed for a modern integrated implant workflow – including a wide selection of CBCT units, several intraoral scanners and milling units, and even a 3D printer. The Planmeca Romexis software platform allows users to easily manage their entire implant workflow, from imaging and scanning to manufacturing. Users can create smile designs as well as design virtual crowns and implant guides. They can also flexibly create implant plans with the software's versatile tools. On Friday 6 October, *Dr Alexandros Manolakis* from Thessaloniki, Greece, will host a hands-on training session at the EAO congress and teach participants to design implant guides with the Planmeca Romexis software tools.

Anyone interested is invited to sign up for the session and to visit Planmeca's stand at the EAO 2017 in Madrid from 5 to 7 October.

More information
www.planmeca.com

medentis medical at the EAO Annual Scientific Congress

Navigated immediate loading with the digital ICX-Imperial concept

Welcome to Madrid! medentis medical invites all dental practitioners engaging in implant dentistry to visit its presentation of the new treatment concept ICX-Imperial at the EAO Congress in Madrid, Spain, on Saturday, 7 October 2017, from 9 am to 1 pm.

The new treatment concept ICX-Imperial consists of three modules: ICX-Magellan (digital treatment planning), ICX-Smile Bridge (individual PMMA temporary restorations) and ICX-Multi concept (occlusal screw-retained restorations). ICX-Imperial now allows the planning and immediate temporary restoration of more complex procedures, such as implant placement after bone reduction.

During the event, the presenting experts will treat the concept of backward planning, state-of-the-art CAD/CAM solutions with ICX-Magellan and conventional proven procedures – alltogether a well-structured overview on current treatment options. Participants will get to know the complete ICX-Imperial system, which offers innovative possibilities in the field of digital oral implantology.

The presentation includes a live surgery and hands-on exercises. Participants will be credited 10 EC points. The agenda includes

- presentation of the ICX system and the ICX-Imperial concept
- in-depth information on the ICX-Magellan software
- planning of complex cases with ICX-Imperial
- CAD/CAM planning of surgical templates with ICX-Magellan
- in-depth practical exercises on PC with ICX-Magellan
- practical training on dental manikins
- navigated implant placement including live surgery.

Discover the future of digital oral implantology. medentis medical is looking forward to welcoming you in Madrid.

More information and registration
www.medentis.de

Photo: Rotterdam Image Bank

Interview with Professor Irena Sailer, Geneva, Switzerland, and Dr Ben Derksen, Arnhem, Netherlands

Discussing the hottest topics

"The future of the art of implant dentistry" is the theme of next year's Oral Reconstruction Foundation Symposium, which is taking place from 26 to 28 April 2018 in Rotterdam, Netherlands. In accordance with the theme, the symposium will provide an outlook into the future of oral implantology. The Oral Reconstruction Foundation is proud to present an exciting, state-of-the-art programme. EDI Journal spoke to the two symposium chairmen, Professor Irena Sailer and Dr Ben Derksen.

Professor Irena Sailer

Dr Ben Derksen

How is the "future" incorporated into the Oral Reconstruction Global Symposium?

Sailer: I believe we are already in the future of implant dentistry. But the question is how and to which extent we can incorporate it into our daily practice. Some questions that arose in previous congresses are still looking for answers. For instance, will we only work with digital impressions in the future? Where does the digital path lead? A whole session is dedicated to this topic and the discussion if digitalization currently fits its purpose.

Derksen: The future is of course the new generation of implantologists coming up. We have them lecturing in workshops and on the main podium and furthermore, we have created the new format of an Oral Poster Presentation Session: Interested young poster presenters are welcome to apply. A top five of outstanding posters will be selected by a jury and the main authors get the chance to showcase their poster on the main podium. Like *Irena* said: The future is now!

Sailer: In addition, young talented professionals can again apply for the Oral Reconstruction Research Award. The winner will also have the opportunity to present his/her work on the main podium and win an attractive prize money.

What do you personally consider the hottest symposium topic?

Sailer: Besides the lectures about soft-tissue management, I am looking forward to the session dedicated to ceramic implants. We will discuss if ceramic implants can function as an alternative to titanium. Is this where implantology is heading? What are the drawbacks and what does reliable data show?

Derksen: Digital workflow is hot, of course, but personally I am very excited about Saturday's discussion on complications and what can be learned thereof. An expert panel will discuss multiple cases and I am especially looking forward to the debate we will have about the different problem solving options on stage and hopefully also coming from the audience. Collectively we have faced many complications and suboptimal results in the past. That is only acceptable if we share and discuss them in order to reflect and learn how to improve our techniques, continuously aiming for better service for our patients in the future.

Dr Derksen, you are from the Netherlands. Aside from the scientific programme, could you give us some reasons why participants should visit Rotterdam?

Derksen: I advise any participant planning to attend the Oral Reconstruction Symposium to extend their stay and to explore all that the Netherlands have to offer. We are a country with a great spirit and visionary architecture. Yet you can still find historic windmills and tulip fields not far from the hustle and modern life of big cities such as Rotterdam. The second largest metropolis in the Netherlands is host to Europe's busiest port and has a wealth of high-profile museums. Rotterdam is a true open-air gallery with modern, postmodern and contemporary buildings and an inspiring futuristic architecture. It is definitely worth a visit.

Thank you very much, Professor Sailer, Dr Derksen, for giving us these insights into the #ORGS2018!

MT

ORAL RECONSTRUCTION FOUNDATION

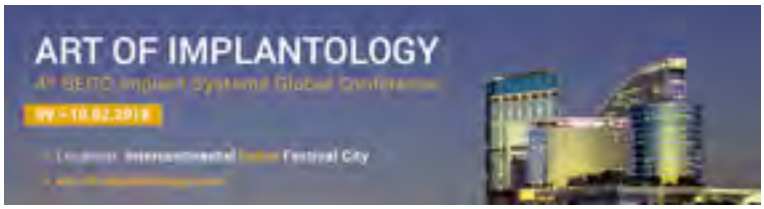
More information and registration

www.orfoundation.org/globalsymposium

Art of Implantology 2018 in Dubai

On 9 and 10 February 2018, implant dentists from around the world will meet at the 4th Bego Implant Systems Global Conference in Intercontinental Festival City in Dubai.

After three successful international events in the past, Bego Implant Systems is continuing this series in 2018. The Bremen-based family company will host its 4th Global Conference "Art of Implantology" in the popular Emirate of Dubai. The two-day event will offer an inspiring programme of workshops and presentations by internationally renowned experts. Participants can expect clinically relevant professional development at the highest level with insights into current research findings from universities and private practices. The presentations will describe sophisticated aspects of modern implant dentistry as well as cross-disciplinary interfaces. Various workshops and an associated industry exhibition are a valuable addition to the programme. "We want to offer our guests interdisciplinary and international exchange in a special place", says *Oliver Klein*, Director Global Sales & Business Development at Bego Implant Systems. Around 800 participants are expected from all over the world. Workshops, lectures, and social events can be booked in different combinations. The conference language will be English.



An evening tour through the desert with a Bedouin meal and a gala evening with surprises typical for the region will give the conference an oriental flair, making professional development in Dubai an unforgettable experience.

More information and registration

www.bego.com
art-of-implantology.com

4th MIS Global Conference

Work and pleasure

The next MIS Global Conference has been announced to take place from 8 to 11 February 2018 in the beautiful Atlantis Resort on Paradise Island in the Bahamas. Following the great success of the last conference in Barcelona, with its substantial scientific programme, high-level lectures and pleasing entertainment, this global conference again promises to deliver an intense and unforgettable experience in every aspect.

Inspiring speakers with a world of experience

The scientific committee, headed by *Professor Lior Shapira*, has undertaken the mission of making this year's conference even better than before. *Professor Shapira* and his colleagues are "making every effort to address contemporary treatment possibilities, and provide insight into the present and future of dental implants as part of clinical dentistry", and promises that "the podium will be occupied by high-quality clinicians, researchers, and educators who will share their extraordinary experience and clinical excellence."

With the official launch of the V3 in the United States underway, MIS is devoted to bringing the dental world the latest innovations and is committed to making all possible efforts to help clinicians to improve patient care. At the conference, various workshops will provide an opportunity for learning in an intimate environment, with accomplished experts in specific areas of interest. The two-day main programme will feature world-renowned speakers, presenting their expertise and know-how, which may potentially be translated into everyday practice, for optimizing the practicians' skills for the sake of their patients. Some of the key topics on the schedule include: evolution and horizons in implant therapy, biological principles and predictable aesthetics, long-term forecast for implant therapy, and going digital: where, when and how.

TEDxMIS

In the spirit of "ideas worth spreading" and the commitment to innovation, MIS is also proud to announce its partnership with TEDx.

TEDxMIS is an independently-organized TED event that will take place on Saturday, 10 February 2018 and will feature world leading thinkers and doers in the field of implant dentistry. The goal is to give conference guests the opportunity to experience a series of fast-paced, eye-opening talks that will inspire them and provoke meaningful conversation and connections with their colleagues.

Call for clinical cases

As part of its commitment to promoting young clinicians, MIS is continuing the tradition of holding a clinical case competition during the global conference, with this year's focus on "Modern Technologies and Techniques in Clinical Practice". The best 15 clinical cases will be presented as posters at the conference venue, with prizes awarded to the three winning cases.

Breathtaking views and spectacular entertainment

As in past events, this conference is expected to provide an extraordinary experience of knowledge sharing and the opportunity to meet with colleagues from the international dental community. This year, however, conference guests will also enjoy one of the most beautiful and exotic locations in the Atlantic Ocean, the Atlantis Resort on Paradise Island. When they are not engaged in workshops and lectures, guests will be able to take in the marine habitat, sports activities, culture and colors of the Bahamas. ■

More information and registration
http://bahamas.mis-implants.com

Zest Dental Solutions celebrates 40th anniversary

“A large impact in the dental industry”

Zest Dental Solutions, the developer and manufacturer of the award winning Locator Attachment System with headquarters in California, USA, celebrates its 40th anniversary of providing innovative solutions for the treatment of edentulous patients.

Zest’s humble beginning started in 1972 within a small dental laboratory in San Diego, California. From that point through 1976, the original founder *Max Zuest* recognized the continual problems his clinician customers were experiencing with patients’ overdentures. During this time, the Zest Attachment originated, a solution considered to be far better than what was on the market at the time.

In 1977, *Mr. Zuest*’s son, *Paul Zuest*, joined him officially forming Zest Anchors and releasing the second generation Zest Anchor Advanced Generation (ZAAG) Attachment. The ZAAG Attachment was designed for all major implant systems, a product differentiator that proved to be an important growth driver resulting in the need for a larger manufacturing facility in Escondido, California.

In 2000, realizing improvements could still be made to the product portfolio, *Paul* took over operations of the company, and together with *Scott Mullaly,* set forth to develop a product that would eventually become one of the most globally recognized and trusted brands for overdenture restorations, the Locator Attachment System, commercially released in 2001.

Today, Zest Dental Solutions is a portfolio company of a leading private equity firm. Day-to-day operations are led by *Steve Schiess* as President and CEO. The company’s flagship product Locator has achieved worldwide acceptance as one of the premier overdenture attachments in the dental industry. More than 100 manufacturers have partnered with Zest to customize its patented Locator Attachment System to be compatible with their respective implant platforms.

Zest’s Global Headquarters is in Carlsbad, California and it has grown to a nearly 225 employee, strongly innovation-driven company. It provides removable and fixed implant restorative solutions, world class narrow diameter implant systems, and dental materials and products for overdenture modification and processing to clinicians treating the problems associated with edentulism. The company has also further diversified its product portfolio with acquisitions of Danville Materials, a leader in small equipment and dental consumables, and Iveri Whitening. This diversification makes Zest a true solutions-based company for a continuum of patient care from the preservation of natural teeth to the treatment of total edentulism.

“40 years ago, the *Zuest* Family set out to make a difference in patients’ lives”, said *Steve Schiess*, Zest Dental Solutions President and CEO. “I am honoured to be a part of a company that has made such a large impact in the dental industry, supporting clinicians and ultimately improving patient’s quality of life. I am excited for the bright future Zest has in bringing additional innovations to the dental community.”

More information
www.zestdent.com

Meta-analysis confirms clinical success of the TiUnite surface

High-level evidence

A new systematic review and meta-analysis provides the strongest evidence to date confirming the high efficacy of Nobel Biocare implants with the TiUnite implant surface.

Access the full text article at the International Journal of Oral Maxillofacial Implants here ...

... or the abstract on PubMed here:

Published in the July/August issue of the International Journal of Oral and Maxillofacial Implants, the study by *Professor Matthias Karl* of Saarland University in Germany and *Professor Tomas Albrektsson* of the University of Goteborg in Sweden, analyzed patient results from 106 peer-reviewed publications on prospective clinical studies assessing TiUnite surface implants [1]. This new meta-analysis represents the largest meta-analysis of a single brand of dental implants published to date, evaluating data on 12,803 TiUnite surface implants and 4694 patients. The results confirm that implants with the TiUnite surface have a remarkably low early failure rate and support long-term clinical survival, with early implant- and patient-level survival rate estimates both exceeding 99 per cent at one year, and late implant-survival rate estimate of 95.1 per cent (and 91.5 per cent at patient level) after ten years.

Of 106 studies, 47 evaluated biological complications. Of these 47 papers, 19 reported cases of peri-implantitis, and only in 5.2 per cent of patients (64/1229). *Professors Karl* and *Albrektsson* postulated that, assuming any findings of peri-implantitis in the other examined studies would have been reported by the authors, the actual rate of peri-implantitis among the 4,694 patients in all 106 studies would be as low as 1.36 per cent. This is in line with an earlier report by *Albrektsson* et al. of 1-2 per cent of well-documented implants at ten years [2]. Bone level change estimates of -0.4 mm at one-year follow-up and -0.9 mm at five-year follow-up (implant level) show that TiUnite is a surface which promotes healthy bone response in the first year and stable bone levels long-term.

The references are available at www.teamwork-media.de/literatur

More information
www. nobelbiocare.com/TiUnite

Bringing science to the surface

The lead author of the above study, Professor Matthias Karl of Saarland University, Saarbrücken, Germany, takes questions on the significance of the study for researchers, clinicians and patients.

Professor Karl, what was your rationale for conducting a meta-analysis examining clinical performance of implants with the TiUnite surface?

The TiUnite surface was launched over 15 years ago and in that time certainly has set a standard in implant dentistry. It's one of the major implant surfaces on the market. We felt that it was time to evaluate TiUnite implants in a comprehensive meta-analysis of prospective clinical studies – not with pre-clinical data, not with retrospective data, not with case reports, but a real focus on the highest possible quality of evidence.

How did you decide which studies to include in the analysis?

We had strict inclusion criteria. We looked only at prospective clinical studies with at least 20 patients receiving TiUnite implants from the

beginning of the study. A minimum of one-year post-loading follow-up was also required. In terms of reporting we had to be able to either derive the accumulative survival rate from the paper or calculate the survival rate based on the data given in the paper.

Despite the strict inclusion criteria, the study is thought to be the largest analysis of this kind on a single brand of implants. What was the scale of the data examined?

It's certainly the largest such study I've seen. We reviewed 106 well-documented prospective clinical studies. To have such a high number of primary studies in a single review is something really unique. In total over 12,000 TiUnite implants were part of the evaluation. This represents a huge database and should be perceived as a real strength for Nobel Biocare, the clinicians using Nobel Biocare implants and their patients. I think it's really the highest level of evidence we have right now documenting the clinical success of a single implant surface.

What did you set out to discover within all this data?

We did not have any predetermined expectations – this is another strong point of this review in my opinion. It was really, "Let's look and see what we find." Our aim was not to cherry-pick data, but to conduct an unbiased review of the literature.

Another unique feature of the study is that we used implant placement as a base line. Bone remodeling takes place predominantly between implant placement and abutment connection. In many studies it's only at the prosthetic restoration that the clock starts to run. But by then a certain amount of remodeling has already taken place, it's more honest to go back and report the implant surgery as the base line and assess the bone levels from then on.

We were able to really look at marginal bone level changes from the beginning, from the surgery, for many, many studies, and also looked into biological complications if they had been reported. Of course, we were also looking at peri-implantitis and peri-implant pathology.

The definition of peri-implantitis is presently a much-debated topic in dental implantology. How did you define it for the purposes of this paper?

The definition of peri-implantitis is indeed a hot topic right now. What we have done in the paper is not to over- or underestimate peri-implantitis. If the primary author referenced peri-implantitis or if there was peri-implant inflammation or peri-implant pathology, we counted this as peri-implantitis no matter what. We are well aware that these authors were acting on different scales, but if they used the term "peri-implantitis" or similar we did not question it.

Professor Matthias Karl

What were the key findings of your analysis?

For me, the key finding was that TiUnite is a highly reliable implant surface even in very challenging situations. Nobel Biocare has a full range of implant designs with the TiUnite surface and we could not differentiate implant performance between different implant geometries. In the end you can absolutely say it's a really great surface. It keeps the implant in place, the longevity is definitely there, it's proven. The prevalence of peri-implantitis is extremely low. There were no major biological complications and the marginal bone level changes are well within the accepted thresholds for a successful implant.

How can the findings of your analysis now be used to optimize clinical practice?

Clinicians can use the values presented in the paper as a reference. This is the real benefit of such an extensive review. In our own practices we can only see a limited number of patients. What we have here is an analysis of over 12,000 implants spanning a 15-year period. I would say, look at these values and compare it with what you see in your practice. Then you can ask yourself, "Where am I in relation to the data and why might that be?" If you are not seeing the same success, why is this? The findings are a helpful benchmark for modern practice.

Thank you, Professor Karl, for your time and the interesting interview.

The interview was conducted by Michael Stuart. ■

Dr Fred Bergmann, Viernheim, Germany

Interview with Dr Fred Bergmann, Viernheim, Germany

Reliable implantation

Optimal integration of an implant into the jaw bone is imperative for the treatment success. The W&H Implantmed surgical unit, equipped with a wireless foot control, guarantees simple and reliable implantation. In combination with the Osstell ISQ module, it also allows precise and documented analysis of the implant stability. EDI Journal talked to the experienced implantologist Dr Fred Bergmann about how it works exactly.

Dr Bergmann, does the new W&H Implantmed surgical unit mean that manual insertion of implants with a hand ratchet is now a thing of the past?

Hand ratchets are indeed set to become obsolete. Nowadays, almost all implants are inserted using tools with a torque control. We employ the W&H Implantmed unit for conventional insertions, guided insertions and when using drill templates with a torque limit and a slow speed of 15 to 20 rpm. The torque curve, the progression and the final torque – once the implant is in its final position – are documented on the display. The operating surgeon is therefore able to monitor the progression precisely throughout the insertion procedure.

Another important advantage is the thread-cutter function, which makes insertion into hard bony material considerably simpler. The pre-tapping reduces the compression of the jawbone while screwing in the implant.

For which other indications do you use the W&H Implantmed surgical unit?

Ultimately for all standard oral surgical interventions from bone augmentations to apical resections right up to the extraction of wisdom teeth. For the latter, you obviously need to use a handpiece with a higher speed than the usual FG contra-angle handpiece. Thanks to different programmes, it is also possible to set and programme the surgical protocols in advance.

When do you switch to piezo technology?

For sinus lifts, bone splitting and spreading as well as for bone block transplants – in other words, in all cases where precise handling of the available bone substance is required alongside atraumatic treatment of the soft tissue.

The piezo technique is indeed seen as minimally invasive, but is said to take longer …

Nowadays you can perform a sinus lift with Piezomed in nearly the same time as with rotating instruments, but with a considerably higher degree of safety. There is no risk of nerve damage even when harvesting a bone block in the retromolar region. This makes it possible to rule out injury of the Schneiderian membrane almost entirely when preparing the sinus floor elevation. That is an immense advantage.

Getting back to the W&H Implantmed unit: Osstell ISQ is the name of the module used to measure the stability. What are the advantages?

Osstell is a metrically reversible and scientifically acknowledged method for assessing the primary stability of an implant or abutment – not only during insertion of the implant, but also after healing. It allows us to determine how securely the implant is positioned in the bone.

What is so exciting about it?

The fact that you can monitor the stability not just during the insertion, but also at subsequent stages. With the Osstell ISQ module, the osseointegration can also be measured at a later point in time. This can be integrated in a follow-up and is of enormous help when determining the best time for loading. Moreover, readjustments are possible if the osseointegration is compromised after a few years. For example, the Osstell ISQ value can be used to support the results of clinical examinations and x-rays when considering a peri-implantitis treatment.

Thank you very much for your time and this interview, Dr Bergmann. *MT*

Planmeca PlanScan most accurate sextant scanner in new study

Speed, trueness, and precision

A new study published in the Journal of Prosthetic Dentistry has established that Planmeca PlanScan is the most precise intraoral scanner for sextant scanning – making it a proven choice for restorative dentistry.

With intraoral scanning becoming increasingly prevalent in the world of dentistry, it is important to differentiate between the available options and evaluate their performance.

In a new in vitro study on scanning accuracy published in the distinguished Journal of Prosthetic Dentistry, Planmeca PlanScan came out on top as the most precise scanner for sextant scanning. This makes it a leading choice for restorative dentistry requiring capturing digital impressions of individual teeth and their neighbouring dentition with true accuracy.

The study in question – titled "Evaluation of the accuracy of seven digital scanners: An in vitro analysis based on 3-dimensional comparisons" [1] – was conducted by a group of researchers led by *Dr Walter Renne,* Charleston, SC, USA. In total, the study evaluated the performance of six intraoral scanners and one laboratory scanner.

The study states as follows: "Scanners differ regarding the speed, trueness, and precision of sextant scans, with the [Planmeca] PlanScan and the Cerec Omnicam providing the best combination of speed, trueness, and precision."

Planmeca is releasing another intraoral scanner on the heels of the study on Planmeca PlanScan's accuracy. Announced at IDS 2017 this past spring, the lightweight Planmeca Emerald is another step forward in scanning speed and precision. The new scanner is already available for orders with deliveries expected to start during Q3, 2017.

[1] Renne, Walter; Ludlow, Mark; Fryml, John; Schurch, Zach; Mennito, Anthony; Kessler, Ray; Lauer, Abigail (2017). "Evaluation of the accuracy of 7 digital scanners: An in vitro analysis based on 3-dimensional comparisons". Journal of Prosthetic Dentistry. July 2017, Volume 118, Issue 1, Pages 36–42.

More information

www.planmeca.com

The abstract of the study can be accessed at the Journal of Prosthetic Dentistry's website via the adjoining QR code.

Interview with Hans Geiselhöringer, President of Nobel Biocare

"I'm excited about what the future holds"

Deep customer insight is a hallmark of Nobel Biocare's tradition of quality. The company's President Hans Geiselhöringer has a unique perspective on the voice of the customer – because he was one. After previously heading a leading laboratory chain specialized in implantology, aesthetic reconstruction and medical imaging, he made the transition from speaker to staff member at Nobel Biocare, ascending the ranks to become President early last year. My To, Project Manager of EDI Journal, talked to him about his experiences, the company and the industry in general.

Mr Geiselhöringer, you have been heading Nobel Biocare since January 2016. Has the position met your expectations so far?

When I became President of Nobel Biocare I was excited about the company's potential to significantly improve quality of life for dental implant patients. As I approach two years in the role, I can look back on an extremely busy period in which we have strengthened an already great team and delivered remarkable results. But we know there is more to do. With the great innovations we have in the pipeline, I'm now more excited than ever about what the future holds for Nobel Biocare, its customers and their patients.

You have been working for the company for nearly ten years now. What were, in your opinion, the outstanding developments along the way?

Many Nobel Biocare innovations have helped to shape dentistry as we know it today, so it's difficult to single out one or the other. The Nobel Biocare philosophy is one of continuous improvement. Some of the developments that make the greatest difference are those that first appear to be small improvements, but, when working in harmony with other components as a complete solution, offer significant benefits.

Take the All-on-4 treatment concept for example – a proven long-term solution for edentulous patients and those with a failing dentition. Its success is established, but that does not mean we stop making improvements. The recent introduction of the Multi-unit Abutment Plus, for example, offers significant time savings during the All-on-4 treatment concept procedure. This is thanks to a snap-fit function that removes the need for screws during the denture try-in process. This can save valuable time for the clinician and improve comfort for the patient. Sometimes small changes make a big difference!

What requirements would you impose on the dental industry in times of rapid technological changes and increasing market concentration?

My hope is that quality and the long-term needs of the patient become the governing factors for decision making, both for manufacturers and dental professionals.

At Nobel Biocare we have a firm focus on evidence-based dentistry to ensure that any product that carries our logo is of a very high quality. In many cases our validation and testing procedures go beyond the requirements set by regulatory authorities. Rigorous testing and research has to happen before products are brought to the market. Nobel Biocare implants and restorative components are designed and thoroughly tested to ensure that they work in synergy as one complete system.

As such, I find it very hard to hear of patients receiving implants that imitate high-quality implants in appearance but not in performance. Or of patients that are treated with a high-quality implant, only for it then to be restored with an ill-fitting restoration. This can have severe consequences, even implant failure. Such decisions may save money short-term but can prove extremely costly in the long-run – both for the dental professional and the patient.

Which strategies are you pursuing at Nobel Biocare?

There are several focus areas, but an important continuing focus is on helping clinicians meet patient demands for immediate teeth.

The starting point is Nobel Biocare implants with the TiUnite surface, which can support immediate loading protocols even in very challenging situations. This is well-proven, as was underlined in the recent meta-analysis on TiUnite implants published by *Professors Matthias Karl* and *Tomas Albrektsson* in The International Journal of Oral and Maxillofacial Implants (see details on page 98). This study serves as a strong evidence that dental professionals and their patients can rely on Nobel Biocare implants with the TiUnite surface for excellent treatment outcomes.

To shorten time-to-teeth even further for dental implant patients, we are combining innovative componentry and the latest digital technologies to further enhance surgical and clinical workflows. A perfect example is the recent introduction of our new collaborative workflow. Incorporating several of Nobel Biocare's digital technologies, it allows clinicians to receive a CAD/CAM enabled, screw-retained provisional restoration from a dental laboratory in time for placement on the day of implant surgery.

Where do you put your special focus at present?

At the upcoming EAO Congress in Madrid we will formally launch Trefoil – an important addition to Nobel Biocare's range of edentulous solutions.

Featuring a prefabricated bar on three implants, Trefoil is an engineering innovation for the efficient treatment of the edentulous mandible. With Trefoil, the delivery of a fixed, final, full-arch restoration is possible on the day of surgery.

Previously, prefabricated bars could be cost-efficient, but passive fit posed a challenge. Now, Trefoil has overcome this with an innovative retention mechanism that can compensate for deviations in implant placement.

A global multi-center clinical study with Trefoil was already initiated prior to launch. One-year follow-up results, to be announced soon, are very positive. Developed with the needs of the many in mind, our hope is that the efficiency and affordability of Trefoil will empower clinicians to provide more patients with the premium-quality, fixed solution they deserve.

Thank you very much, Mr Geiselhöringer, for your time and the insightful interview.

MT

Oral regeneration in a nutshell

The Osteology Foundation has published a new book that not only addresses dental students but also gives dental practitioners with no previous experience an understanding of the topic of oral regeneration.

The book with the title "Oral regeneration in a nutshell" runs to 52 pages and gives an overview on the different therapies, underlying principles, clinical indications, and surgical procedures of oral regeneration. By means of illustrations and clinical images, the authors *Christoph Hämmerle*, *Giulio Rasperini*, *Daniel Thoma* and *Nele Van Assche* introduce the reader into the essentials of periodontal regeneration, regeneration of bone and soft tissues, as well as ridge preservation. More information on the book and how to get it can be found online. The complete content is also available via The Box, the Osteology Foundation's online platform.

More information

www.oral-regeneration.org
www.osteology.org

Autumn time is training time

Thommen Medical Education stands for high-level training carried out by clinicians who are leaders in their field. During the courses, they directly pass on scientifically based, well-versed and practical knowledge that can be applied in the daily work of all dentists specializing in implantology.

Dental practitioners seeking to benefit from the last quarter of the year 2017 to improve their professional skills are welcome to register to one of the following international courses. Details and registration documents can be found on the Thommen Medical website or requested by email.

- Munich, Germany, 18.10.2017: All-in-two – Bring biology and the digital workflow together, with *Professor Markus Hürzeler*
- Munich, Germany, 19.–20.10.2017: Implant related soft tissue management, with *Dr Otto Zuhr*
- Beuningen, Netherlands, 26.–27.10.2017: Predictability in implant dentistry, with *Dr Sjoerd Smeekens*
- Agen, France, 26.–27.10.2017: L'implantologie du secteur anterieur, with *Dr Olivier Le Gac*
- Fiumana, Italy, 27.–28.10.2017: Corso formative in chirurgia implantare avanzata, mod. 2, with *Dr M. Silvestri* and *Dr L. Trombelli*
- Munich, Germany, 16.–17.11.2017: Comprehensive treatment strategies with dental implants, with *Professor Markus Hürzeler*
- Philadelphia, USA, 27.10.2017: DVAO Symposium – The mindset for the selection of the treatment strategies in the era of evidence based medicine, with *Professor Markus Hürzeler*
- Warsaw, Poland, 10.11.2017: Aesthetics in implantology, with *Dr Ueli Grunder*

THOMMEN Medical Education

More information and registration

www.thommenmedical.com
info@thommenmedical.com

Exclusively marketed by Geistlich: Yxoss CBR

A new treatment solution for major bone defects

Thanks to a synergic collaboration, the innovative Yxoss CBR – a customized 3D-printed titanium scaffold for major bone augmentations with particulate bone graft – is now exclusively marketed by Geistlich.

Implant placement in areas with major ridge deficiencies, especially vertical and combined defects, often require bone augmentation using techniques such as interpositional grafting or distraction osteogenesis, form-stable reinforcements provided by form-stable membranes, titanium meshes, bone shields, bone blocks, or the osseous walls themselves.

Conventional titanium meshes

A recent systematic review of approaches to vertical augmentation of alveolar ridges has shown that titanium meshes are recommended to increase the bone gain, compared to other techniques, in terms of vertical increase [1]. Moreover, using a form-stable grid to create space offers advantages, such as the possibility of enhancing the osteogenic potential of the graft by mixing autologous bone chips with particulate bone substitute material and thus avoiding the need for time-consuming adaptation of blocks to the defect morphology. However, conventional titanium meshes are associated with a high risk of complications [1,2]. They are supplied as flat meshes, whose shape is then adapted to the defect intraoperatively. These titanium meshes, like all the other systems, are highly demanding in their handling, and their use is often time-consuming.

A customized and innovative 3D-printed solution

Aiming to overcome the disadvantages related to the current techniques for major bone augmentation, about ten years ago *Dr Markus Seiler* (Germany) envisioned a customized treatment for patients with complex alveolar ridge defects. Combining the advantages of titanium, 3D imaging, planning tools and 3D printing, *Dr Seiler's* company, ReOss Ltd., engineered and developed the 3D-printed titanium scaffold Yxoss CBR. Nowadays, the 3D-printed titanium scaffold Yxoss CBR is being routinely used in his clinic, and the innovation is now made available to the community of oral surgeons.

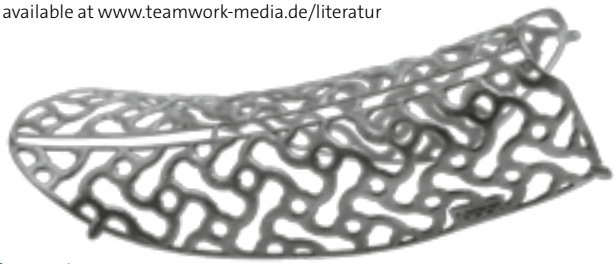
A new product in the Geistlich portfolio

Yxoss CBR offers several advantages:

- An intuitive and customer-friendly online ordering system
- Customized shapes for optimized defect fit
- Reduced surgery time
- Smooth edges and surfaces to reduce the risk of soft tissue healing issues, usually associated with conventional titanium meshes [3]
- Predefined breaking points for easy removal of the grid at the time of re-entry
- An integrated implant positioning element in surgical planning: Yxoss Backward

To date, Yxoss CBR is being used in clinics and several public hospitals across Europe, gaining new advocates every day. It fits the trend towards digitalized clinical workflows perfectly and supports the notion of treating patients as individually as possible, while reducing morbidity and surgery time. In addition, Yxoss CBR complements existing therapy solutions with Geistlich Bio-Oss and Geistlich Bio-Gide. For this reason, Yxoss CBR is now being exclusively marketed by Geistlich, which will be officially announced at the 2017 EAO in Madrid.

The references are available at www.teamwork-media.de/literatur



Final Yxoss CBR prior to the sterilization process. After the process, the device is ready for the regenerative procedure.

More information

www.geistlich-pharma.com

Bien-Air Dental: innovative products and special service features

At the heart of innovation since 1959

A Swiss company based in Bienne since 1959, Bien-Air Dental develops superior-quality instruments for the various fields of dental medicine. Renowned for its high-quality, reliable and innovative products, Bien-Air produces the instruments that help to simplify the day-to-day work of practitioners and to constantly improve patient comfort.

Bien-Air products are 100 per cent Swiss made and manufactured in the heart of the famous Swiss "Watch Valley", the birthplace of unique expertise in microtechnology. Ergonomics, precision and performance are at the core of the development of every Bien-Air product.

Bien-Air is constantly researching new innovations to meet the highly stringent requirements of the medical sector. CoolTouch+ technology – an anti-heating system which keeps the instrument at body temperature – and dental procedure systems with digital iPad/iPod interfaces are just a few examples of Bien-Air's cutting-edge technical achievements.

Thanks to continuous investment in research and development and the latest manufacturing processes, Bien-Air has also been able to develop the Tornado, one of the most powerful turbines on the market. Featuring SteadyTorque technology, this turbine offers an exceptional power output of 30 W. Bien-Air is continuing to innovate from this platform, now unveiling the Tornado^5, a very powerful turbine with a compact head. With its smaller head, it offers improved visibility in the working area while maintaining an impressive power output.

The Tornado^5 is the latest addition to the Bien-Air state-of-the-art range of products which spans implantology systems, handpieces, contra-angles and turbines. The company is one of the largest manufacturers of first-rate micromotors in the world and provides relevant solutions for all applications in the dental field, whether prophylaxis, restorative treatments, endodontics or implantology.

Besides the proverbial Swiss quality of its products, Bien-Air Dental also offers a full range of services that meets every need of the practitioner:

- Club Bien-Air: Members of Club Bien-Air enjoy a range of free of charge benefits throughout the year: priority treatment for repair requests, pick-up from and delivery back to the dental practice, exclusive promotions.
- Try for free service: The Try for free service enables dental practitioners to try Bien-Air products at their practice for one week, free of charge with no obligation to buy. In case of purchase, a special discount and one free extra year's warranty are granted.
- After-sales service: To ensure a high-quality after-sales service, Bien-Air offers excellent conditions for all non-warranty repairs: standard repair, premium repair or replacement offer. Bien-Air certifies the exclusive use of original parts and guarantees its repairs for six to twelve months, depending on the work performed.
- PlanCare: For even greater peace of mind, the Bien-Air PlanCare offers an extra year's warranty.

More information
www.bienair.com

The next generation of grafting materials

Guided bone regeneration without a collagen membrane

With typical results of over 50 per cent new bone at twelve weeks, EthOss is advancing the field of dental implantology and improving the practice of dentists and lives of patients across the globe.

EthOss is an innovative synthetic bone graft solution providing true host bone regeneration. The composition of EthOss, which includes a built-in cell-occlusive barrier, removes the need for a separate collagen membrane. This provides a highly stable graft and typically produces 50 per cent new bone after twelve weeks – and maintains long term bone volume.

The human body is incredibly versatile and given the right environment will quickly heal itself. EthOss has been clinically designed to support the body's natural instinct by providing the optimal environment for bone regrowth.

EthOss is a bi-phasic synthetic material made from a combination of beta tricalcium phosphate and calcium sulfate. It is completely free from animal or human content and is fully absorbed into the body – a significant benefit for patients in the increasingly ethically-minded and educated patient world of modern dentistry. The EthOss resorps at the same rate as new bone is regenerated by the host, providing nutrients to speed up the process.

The built-in membrane function prevents soft tissue ingress and helps to considerably speed up healing times, by allowing the periosteum (and the related blood supply) direct contact with the graft site. This means surgical procedures can be completed quickly and reliably. As a bio-compatible material, EthOss also appears to lessen pain levels for patients by reducing foreign body response.

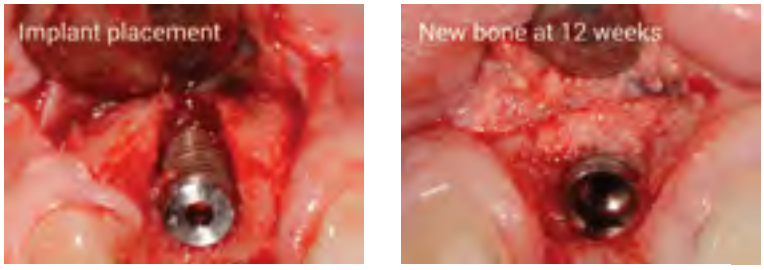
The bi-phasic paste is applied using a simple syringe delivery system and sets in vivo to provide a stable graft. Additionally, it does not suffer washout in bloody sites.

EthOss can be used in all common grafting procedures including socket grafting, sinus grafts, sinus lifts, buccal defects, peri-implantitis, periodontitis and standard GBR. The material has been designed by dentists to be easy to use and give reliable, consistent results.

The growing reputation of EthOss with leading international dentists since its launch two years ago has seen a significant increase in its uptake in countries across Europe, including Italy, Netherlands, Belgium, France, Poland, Croatia, Czech Republic, Bulgaria and Romania – with further expansion in America and Asia expected in the near future.

EthOss enables genuine regeneration of host bone with speed and efficiency to support the placing of dental implants – and without the use of animal or human content or a collagen membrane. Increasingly popular with dentists and meeting the wide-ranging needs of patients, EthOss is a cutting-edge solution which contributes to the fundamental change of the field of bone-grafting for the better.

More information
http://ethoss.dental/



Twelve weeks after implant placement, formation of new bone is clearly visible.

miniSKY implant system by bredent medical

Fast fixation and immediate restoration

In most cases of poorly fitting prostheses, this fact can not be attributed to the quality of the denture but to increasing bone resorption and the associated change of the soft tissue (gingiva). And the rising number of elderly patients is especially affected by this problem. Numerous scientific tests demonstrate that more than 70 per cent of dentures in patients over 70 are inadequate and reduce the elderlies' quality of life considerably. This group of patients could be easily treated with miniSKY implants and an implant-supported denture.

The miniSKY system enables reliable, fast and simple fixation of dental restorations. Augmentation measures can frequently be avoided thanks to the small diameter of the implants. In many cases, only a single surgical treatment step is required, which can be performed under local anaesthesia using a minimally invasive approach. Since the miniSKY implants feature diameters of 2.8 and 3.2 mm, they are also more robust than genuine mini implants and hence provide more stability and reliability. Prosthetic solutions are much more lower priced than solutions with standard implants. In many cases, the existing denture can still be used, which means that both the patient and the dentist will save time and money. Thanks to the small number of components, new users will quickly and easily become familiar with the miniSKY system. It can be easily integrated into the practice workflow and billing management. Moreover, the small and convenient OP-Tray allows to keep investment costs at a low level.

miniSKY offers a variety of prosthetic options. A simple restoration can be fabricated with the classic, one-piece implant – with ball head, O-ring and metal housing – that has proved its reliability in thousands of cases. Additionally, the two-piece mini²SKY implant with retention.loc abutment is available. A direct screw-retained, CAD/CAM manufactured bar is suitable if a patient asks for a top-quality restoration.

Immediate improvement of wearing comfort

To achieve even more wearing comfort, the combination with retention.sil, the denture silicone by bredent medical, is highly recommended.

retention.sil enables immediate fixation of the restorations on the retention elements. It is applied into the cavities so that the denture is stabilized without jeopardizing the osseointegration. The patient will immediately perceive enhanced wearing comfort thanks to the elastically supported denture.

The perfect system for fixation of dentures

The mini²SKY implants feature the osseo-connect-surface (OCS) which contributes to fast and reliable apposition of osteoblasts and hence to optimized apposition of tissue. The Locator connection provides excellent protection against rotation to avoid screw loosening. Moreover, the high implant-abutment connection guarantees utmost stability. ■

More information

www.bredent-medical.com

Direct screw-retained bridge

mini¹SKY with ball head and O-ring

mini²SKY with retention.loc

Immediate restoration with retention.sil denture silicone

TRI+ Digital Solutions

360° treatment options

Swiss dental implants solutions provider TRI enlarges its digital offering with an innovative range of products that help clinicians to offer superior digital dentistry to their patients. One of the highlights is the TRI Ti-Base that is innovational in terms of flexibility and performance. TRI+ Digital Solutions is an open interface to all CAD/CAM and guided surgery workflows and technology platforms. Furthermore, the TRI 2in1 Impression Abutment is now also available for narrow and tissue-level implants.

TRI+ Digital Solutions offers a universal implant open interface to leading technology partners in digital dentistry. Designed as an open system, it helps to create more transparency and to eliminate the barriers of conventional closed systems. TRI+ Digital Solutions allows a wide range of indications via 3D planning, guided surgery, CAD abutments, CAD/CAM screw-retained and cement-retained restorations or modern treatments such as All-on-four procedures. Linked with the lean and intelligent dental implant system of TRI, there are no limits to all treatment options from simple to complex.

The new TRI+ digital portfolio includes the new TRI-Bases both in an engaging and non-engaging version, milling blanks including the proprietary TRI Friction Fit, multi-unit Ti-bases and a new and innovative digital implant analog. To meet all specific aesthetic requirements, all TRI-Bases can be customized in order to be used with the new angulated screw driver.

TRI-Base

Customization options of Ti-bases are often limited. For this reason, the existing TRI-Base has been refined and technologically improved to become a distinctive digital abutment with innovative features offering a new level of performance and simplicity. The newly patented TRI-Base can be customized in length and angulation, both physically by the technician and virtually in the respective CAD software.

Due to the defined machined surface roughness, the bonding connection between the Ti-base and the restauration is also improved and strengthened. The TRI-Base is anodized in pink to guarantee a long-lasting natural aesthetic result. The new TRI-Bases are available in an engaging version for single tooth restoration and in a non-engaging version for multi-unit restorations. The engaging version features the proprietary TRI Friction Fit and both versions include the consistent and proven TRI Soft Tissue Concept.

Digital Analog

TRI has also recognized the increasing importance of 3D printing and launches a new analog which can be used for digital and conventional production of the master model. Special features allow a click-retention in the 3D printed master model, and the analog can be additionally fixed in the model with a basal screw for high predictability and precision.

TRI 2in1 Impression Abutment

In addition, TRI expands its product portfolio with the innovative TRI 2in1 Impression Abutment, now available for narrow and tissue-level implants. The patented instrument-free and simple handling concept enables a fast and safe closed-tray impression. The impression post can then be used as a final abutment. Thus, the new TRI 2in1 Impression Abutment combines simplicity, quality and cost effectiveness. TRI+ Digital Solutions as well as the TRI 2in1 Impression Abutment reflect the main objectives of TRI: to make the life of practitioners as simple and high-performing as possible, while offering 100 per cent Swiss quality.

More information
www.tri-implants.swiss

The TRI 2in1 Impression Abutment is now available for narrow and tissue-level implants.

Omnia PTFE sutures

Product
PTFE sutures

Indication
Oral and maxillofacial surgery

Distribution
Omnia SpA
Via F. Delnevo, 190
43036 Fidenza (Parma)
Italy
www.omniaspa.eu

In addition to the traditional surgical sutures made of silk, polyester and absorbable PGA, Omnia expands its product range by introducing the new generation of surgical sutures, PTFE sutures. Omnia PTFE sutures are soft, biologically inert and chemically non reactive.

Main features of PTFE sutures are a great fluency of the thread along the tissue, an excellent durability of the knot, and long-term stability.

Compared to other monofilament synthetic sutures, this material is highly tolerated in the oral cavity. Further, PTFE sutures are ideal to limit inflammation, bleeding and other side effects which may occur during the soft tissue approximation.

The special characteristics of the Omnia PTFE sutures:

- Monofilament
- Resistant
- Great fluency among the tissues
- Excellent biocompatibility
- Biologically inert
- Prevents inflammation along the suturing borders
- Comfortable and soft for the patient

Omnia PTFE sutures are available in different combinations of diameters/lengths with different kinds of needles. They are ideal for any implant, periodontal and bone graft surgery where the usage of a monofilament suture with low bacterial adhesion is recommended. PTFE sutures are available in convenient boxes of 12 pieces/each.

Medentika Impression pick-up

Product
Impression pick-up

Indication
Implant impression-taking

Distribution
Medentika GmbH
Hammweg 8–10
76549 Hügelsheim
Germany
www.medentika.de

With the newly introduced impression pick-ups, Medentika now provides the possibility to take closed impressions for all common implant connections. The impression pick-ups are available according to the color coding of the respective manufacturer. As an additional protection against the risk of confusion within the different implant series, the letter of the corresponding series is applied to the impression pick-up. The impression pick-ups are supplied in a single set (including retaining screw and positioning cap).

Moreover, Medentika has introduced a multi-unit abutment type in September. Like all Medentika abutments, it is available for all relevant implant systems in a straight and an angled form (17° and 30°) and in various gingival heights for the different platforms. The multi-unit abutment supports a variety of prosthetic restorations. Due to its sterile delivery, it is, for instance, ideally suited for the production of patient-specific individual multi-unit restorations (for example the QuattroFix concept) or as a basis for an individualized treatment in the aesthetic zone.

Camlog Ceralog

The demand for aesthetic and particularly tissue-friendly implant restorations is showing steady growth. Sophisticated ceramic implant systems are one solution. As an innovative company, Camlog meets these requirements and entered the market for ceramic implants with Ceralog.

The Ceralog implant system includes two proven ceramic implants: the one-piece Ceralog Monobloc implant and the Ceralog Hexalobe implant, a two-piece ceramic implant with reversibly screw-retained PEKK abutments. The Hexalobe connection design, which is suitable for ceramics, allows modern prosthetic solutions on a ceramic implant. The Hexalobe implant in its current configuration has been used successfully in clinical practice since 2013.

Ceralog is currently available in Germany, Austria and Switzerland, and will be gradually introduced in other countries over time.

Product
Ceralog implant system

Indication
Oral implantology

Distribution
Camlog Vertriebs GmbH
Maybachstraße 5
71299 Wimsheim
Germany
www.camlog.de

Calendar of Events

	Event	Location	Date	Details/Registration
10/2017	**EAO Annual Scientific Congress**	Madrid Spain	5 – 7 October 2017	EAO European Association for Osseointegration www.eao.org/eao-congress
	Pragodent 2017	Prague Czech Republic	12 – 14 October 2017	Incheba Praha www.pragodent.eu
	BDIA Dental Showcase	Birmingham United Kingdom	19 – 21 October 2017	British Dental Industry Association www.bdia.org.uk
	DenTech China 2017	Shanghai China	25 – 28 October 2017	UBM China www.dentech.com.cn
11/2017	**Swedental 2017**	Stockholm Sweden	15 – 17 November 2017	Stockholmsmässan www.swedental.org
	Dentsply World Summit Tour 2017	Shanghai China	25 – 26 November 2017	Dentsply Implants www.worldsummittour.com
	Greater New York Dental Meeting 93rd Annual Session	New York USA	26 – 29 November 2017	Greater New York Dental Meeting www.gnydm.com
	ADF Meeting 2017	Paris France	28 November – 2 December 2017	Association Dentaire Française www.adfcongres.com
2/2018	**4th MIS Global Conference**	Nassau Paradise Island, Bahamas	8 – 11 February 2018	MIS Implants Technologies bahamas.mis-implants.com
	4th Bego Implant Systems Global Conference	Dubai VAE	9 – 10 February 2018	Bego Implants Systems art-of-implantology.com
	13th BDIZ EDI Expert Symposium	Cologne Germany	11 February 2018	BDIZ EDI www.bdizedi.org
4/2018	**Oral Reconstruction Foundation Global Symposium 2018**	Rotterdam Netherlands	26 – 28 April 2018	OR Foundation www.orfoundation.org
6/2018	**EuroPerio 9**	Amsterdam Netherlands	20 – 23 June 2018	European Federation of Periodontology www.efp.org

EDI Journal – Information for authors

EDI Journal – the interdisciplinary journal for prosthetic dental implantology is aimed at dentists and technicians interested in prosthetics implantology. All contributions submitted should be focused on this aspect in content and form. Suggested contributions may include:
· Original scientific research
· Case studies
· Product studies
· Overviews

Manuscript submission
Submissions should be made in digital form. Original articles will be considered for publication only on the condition that they have not been published elsewhere in part or in whole and are not simultaneously under consideration elsewhere.

Manuscripts
Pages should be numbered consecutively, starting with the cover page. The cover page should include the title of the manuscript and the name and degree for all authors. Also included should be the full postal address, telephone number, and e-mail address of the contact author.
Manuscripts can be organized in a manner that best fits the specific goals of the article, but should always include an introductory section, the body of the article and a conclusion.

Illustrations and tables
Each article should contain a minimum of 20 and a maximum of 50 pictures, except in unusual circumstances. Our publishing house attaches great importance to high quality illustrations. All illustrations should to be numbered, have a caption and be mentioned in the text.
The photos should have a size of 10x15 cm, the image or graphic files must have a resolution of 300dpi. Tiff, eps and jpg file formats are suitable. Radiographs, charts, graphs, and drawn figures are also accepted.
Captions should be brief one or two-line descriptions of each illustration, typed on a separate page following the references. Captions must be numbered in the same numerical order as the illustrations.Tables should be typed on a separate page and numbered consecutively, according to citation in the text. The title of the table and its caption must be on the same page as the table itself

References
Each article should contain a minimum of 10 and a maximum of 30 references, except in unusual circumstances. Citations in the body of the text should be made in numerical order. The reference list should be typed on a separate sheet and should provide complete bibliographical information in the format exemplified below:
[1] Albrektsson, T.: A multicenter report on osseointegrated oral implants. J Prosthet Dent 1988; 60, 75-82.
[2] Hildebrand, H. F., Veron, Chr., Martin, P.: Nickel, chromium, cobalt dental alloys and allergic reactions: an overview. Biomaterials 10, 545-548, (1989)

Review Process
Manuscripts will be reviewed by three members of the editorial board. Authors are not informed of the identity of the reviewers and reviewers are not provided with the identity of the author. The review cycle will be completed within 60 days. Publication is expected within nine months.

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Well-known speakers and state-of-the-art lectures | King's Day party celebration

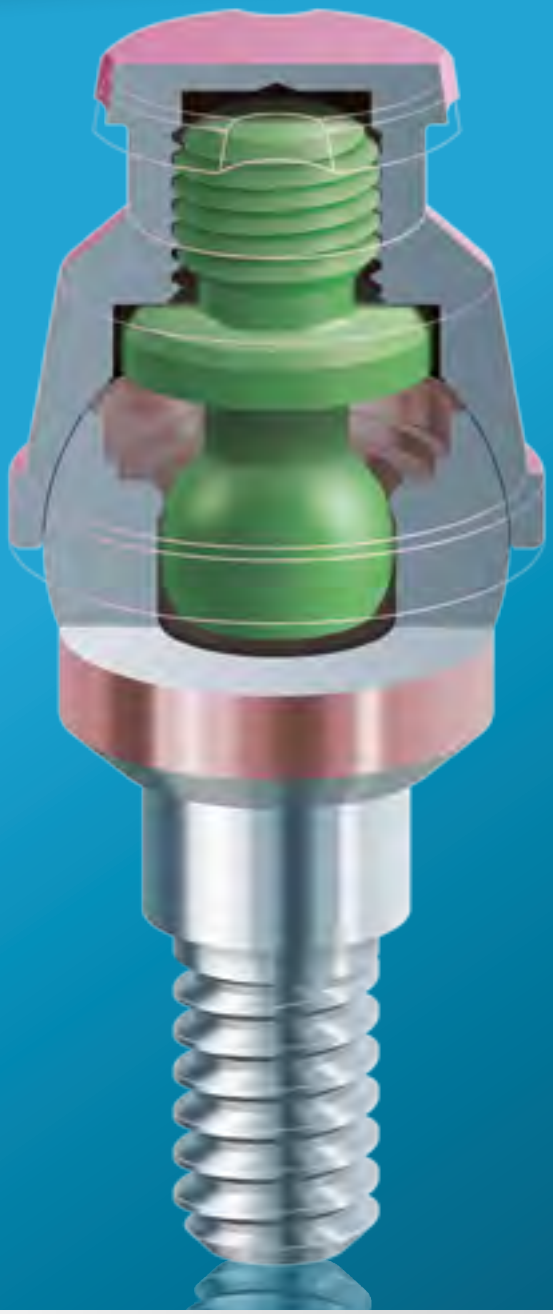
SCIENTIFIC COMMITTEE

Dr. Edward P. Allen | Dr. Ben Derksen | Prof. Dr. Irena Sailer
Prof. Dr. Mariano Sanz | Dr. Alex Schär | Prof. Dr. Frank Schwarz

camlog

Founding Partner

Registration opens October 2017:
www.orfoundation.org/globalsymposium



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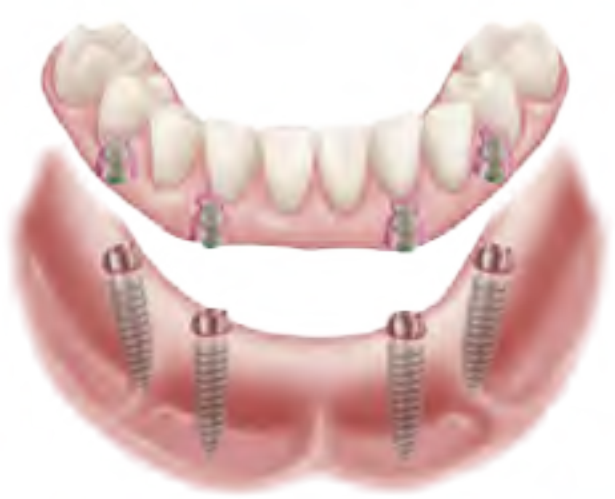

To learn more, please visit our website at **www.zestdent.com/ftx** or call **800.262.2310.**

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