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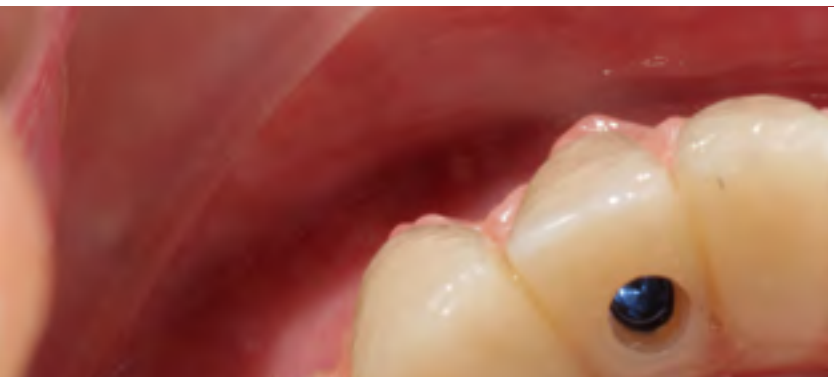
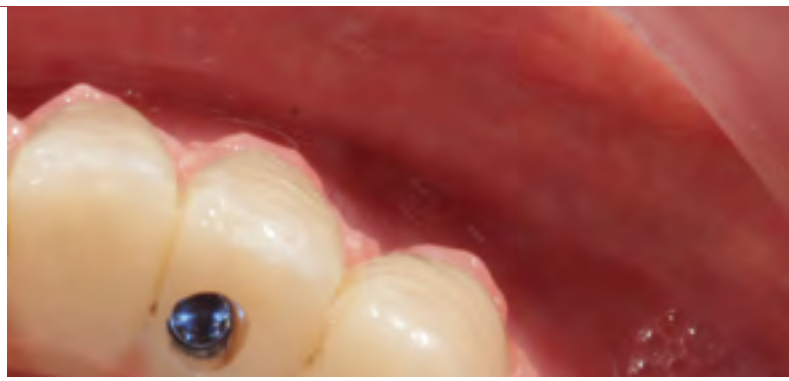
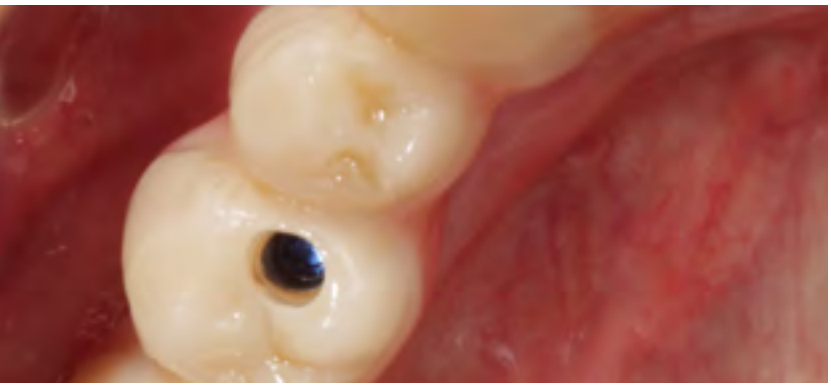
EDI Journal

European Journal for Dental Implantologists







TOPIC

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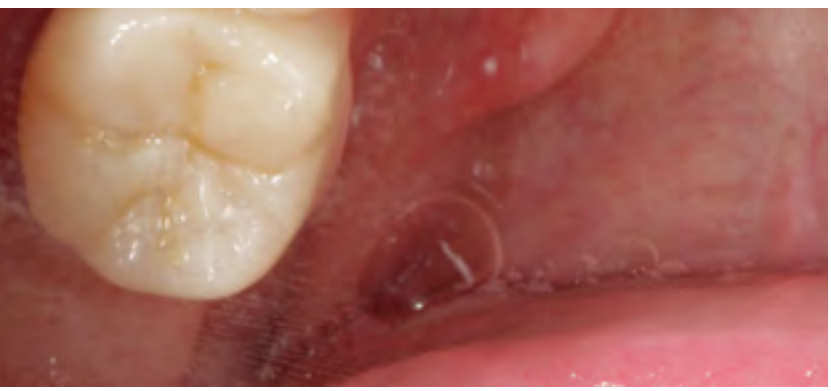

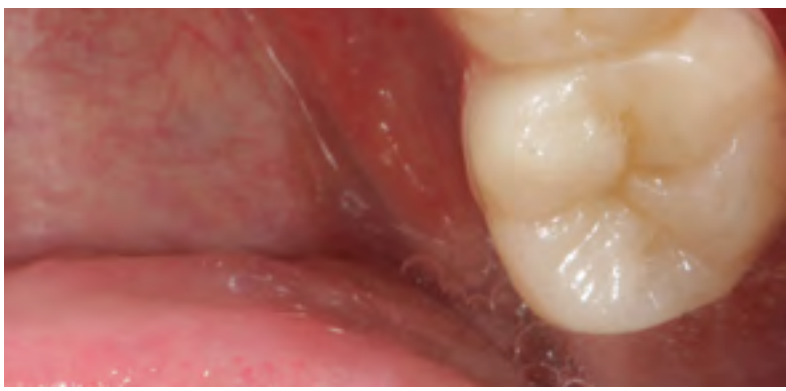

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The patient in focus

More and more, when we talk about prosthodontics, oral implantology is also part of the discussion. However, we at BDIZ EDI do not see ourselves only as implantologists; we are dentists working in oral implantology – implant dentists. Our first and foremost task is to keep natural teeth healthy or to restore them. However, if a tooth can no longer be preserved or has been lost, an implant is often the best solution because it comes closest to the natural tooth.

The classic question raised in many advanced courses – one that is always vividly debated – is, "Implants or conventional therapy?". My answer, as an oral surgeon and President of BDIZ EDI, you would expect to be crystal-clear. But things are not that simple. The patient is in focus in all our activities. Their wishes and specific situation must invariably guide our treatment decisions. It is true that, using state-of-the-art endodontic treatment methods, teeth can be preserved for a very long time. But how often have we not encountered a patient in our practice who opted for a quick extraction instead, to end a lengthy ordeal? Also, the question of which treatment approach will produce the desired prosthetic rehabilitation can only be answered together with the patient.

A 2016 study of the University of Cologne on oral health-related quality of life, presented by *Professor Hans-Joachim Nickenig* at the Expert Symposium of BDIZ EDI in Cologne in February, found that implants are considered the best choice for denture and denture support, especially in patients with partially edentulous jaws. Implant therapy can save valuable dental tissue that would otherwise have to be sacrificed to prepare teeth to serve as bridge abutments.

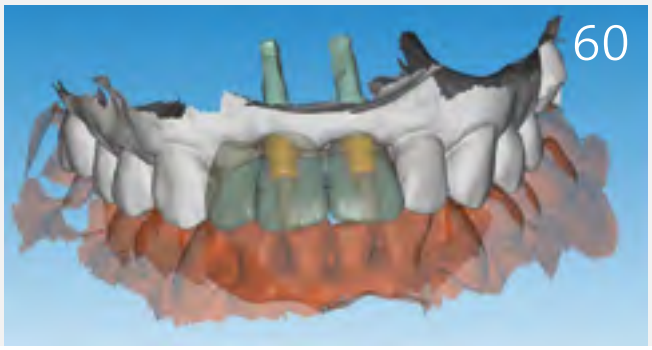
But in future, dentists will be called upon to treat aging and multimorbid patients much more often than today. As early as 2012, BDIZ EDI developed the ABC Risk Score, which uses a traffic-light rating system to indicate the assessed degree of difficulty of an individual patient's specific situation. This can minimize the therapeutic risk. Patient needs and expectations always have to come first. But they cannot always be realized as desired in clinical practice because of the available bone supply (or rather the lack of it). Patient-oriented concepts are the essence of treatment success. To meet patient expectations and ensure the best possible care in the long term, it is necessary to define treatment plans precisely, given the vast number of surgical and prosthetic treatment options available today.

Oral implantology can achieve so much more now than ten or twenty years ago. Today's patients seek minimally invasive treatment, and even more so in the context of implant-supported restorations. Based on our knowledge of bone quality, we can now make rational decisions on implant lengths and diameters as well as on the surgical technique.

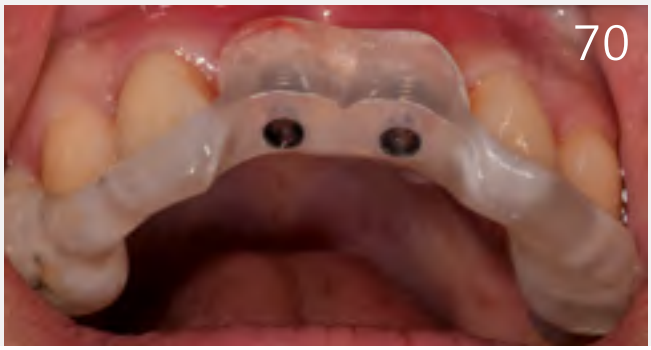
Implant therapy does not begin with the placement of the implant. In the age of prosthetically oriented implant positioning ("backward planning"), the treatment goal is the best possible prosthetic rehabilitation – the perfect restoration for a given individual patient situation, from which we work our way backwards to implant planning and implant placement. Of course, sometimes necessary bone augmentation procedures will undeniably be burdensome for the patient. Autologous bone is still the gold standard. However, there are alternatives for many – not all! – situations: short, ultra-short, reduced-diameter and angulated implants now provide patient-oriented treatment options without extensive augmentation.

Various approaches are available to restore oral function, and implant therapy is certainly one of them. The best way can only be identified together with the patient, taking into account the patient's wishes and anatomical situation and harnessing the dentist's extensive skills and expertise.

Sincerely,
Christian Berger, Kempten/Germany
President of BDIZ EDI



Digital model design of a three-unit bridge in the aesthetic zone.



Implant placement using a drilling guide.

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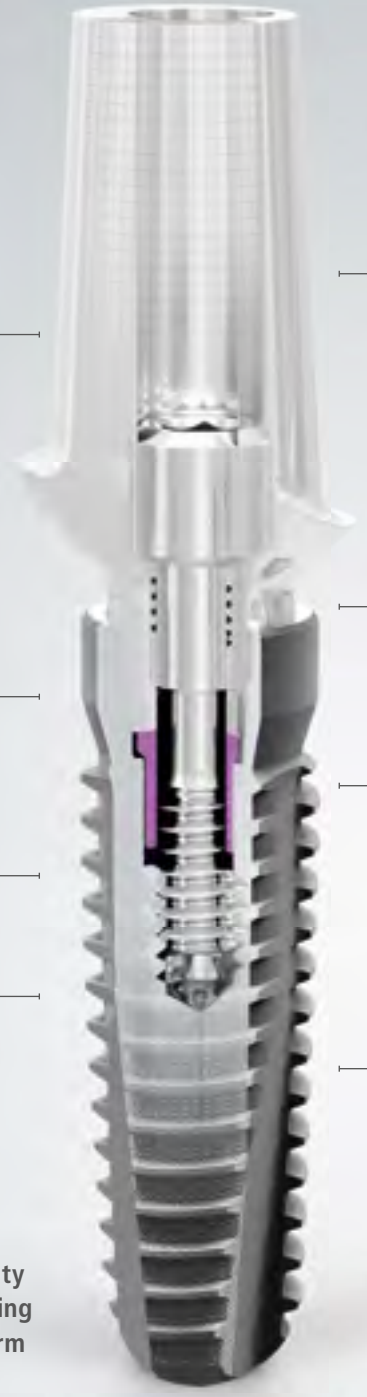

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Partner Organizations of BDIZ EDI

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.

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Curriculum Implantology of BDIZ EDI and the University of Cologne: round twenty!

A proud anniversary: 20th Curriculum Implantology

It is a success story. The Curriculum Implantology, jointly arranged by BDIZ EDI and the University of Cologne, has been offered since 2004, and it has always been fully booked – which once again happened almost immediately after the course schedule for the 20th round was published.

In 2004, the BDIZ EDI launched its own two-stage Curriculum Implantology to "make oral implantologists fit for Europe". In the press release at the time, BDIZ EDI explained that this would fulfil the prerequisite for certification according to European Dental Association (EDA) guidelines: "The course is held in close cooperation with the University of Cologne and will start in March 2004 at its Department for Oral and Maxillofacial Plastic Surgery."

A groundbreaking decision

Christian Berger, now President of BDIZ EDI (and deputy chair at the time), pioneered the curricula, helping to define the course of the association with its special emphasis on continuing professional development (CPD). He reminisces: "In developing the content of this Curriculum, we made sure that the prerequisites for acceptance of a formal professional focus on oral implantology were met, with a second stage covering recognition as EDA Expert in Implantology." The aim was, *Berger* said, to convey professional knowledge as reflected by scientific findings and professional policy, with special attention to pan-European aspects. This is still the case today: Participants are taught not only the basics of oral implantology, but also how to handle different implant systems, how to deal with augmentation needs, soft-tissue management, remote bone transplantation and distraction, as well as how to cope with complications. At the same time, the Guidelines issued by the European Consensus Conference under the auspices of the BDIZ EDI since 2006 provide important support for the teaching units.

"In addition to theoretical presentations, practical demonstrations and personal experience as obtained during practical exercises or the treatment of actual patients are important for knowledge transfer", *Professor Joachim E. Zöller*, Director of the Department for Oral and Maxillofacial Plastic Surgery at the University of Cologne, had said in 2004. *Zöller*, today Vice President of BDIZ EDI, was and continues to be responsible for implementing the curriculum and its objectives; over the years, he has proven again and again that it is possible to do so successfully.

Today the curriculum offers eight modules in two-day courses, including observation and supervision by experienced instructors. The overall objective is practical relevance. To achieve this, the teaching modules and its contents are subject to constant updating. After successful observation and supervision, participants can take the exam for the formal professional focus on oral implantology if they can show proof of the required practical experience. The instructors are experienced implantologists and have presented the teaching units with videos and live patient demonstrations for many years. Each course includes practical sessions, most of which use realistic training models or human specimens rather than the usual plastic jaws. "The teaching units were designed to highlight the interrelationships between prosthetic and surgical aspects, even if the main topics concentrate on one or the other subject area", said *Zöller*. "The limited number of participants guarantees an intensive exchange of experience with the instructors." *AWU/EDI*

More information and Curriculum schedule

For more information on the Curriculum Implantology of BDIZ EDI and the University of Cologne, consult the association's website at www.bdizedi.org > English > Professionals > Curriculum


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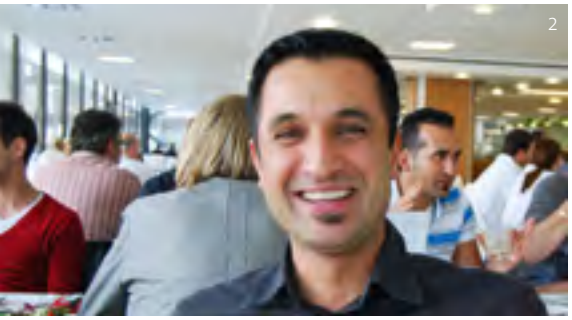
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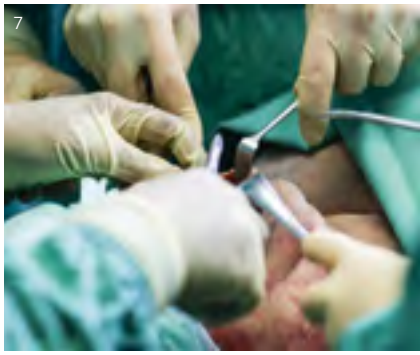
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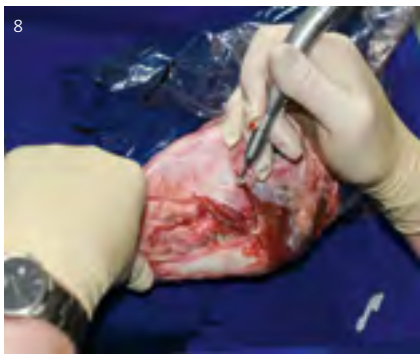
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9

1 I The graduates of the 12th Curriculum Implantology with instructors, university staff and BDIZ EDI President Christian Berger (centre).
2 I Dr Zemarak Nabi from Cologne: “I want to improve my implantological success rate. This Curriculum has given me a good surgical basis for that.” 3 I Dr Bojan Seelig, Katja Hübner and Dr Gerrit Gehlen praised the fair pricing and that all teaching takes place at the same venue.
4 I Professor Hans-Joachim Nickenig has reviewed and updated some building blocks of the Curriculums. 5–8 I Skills come with practice.
9 I The graduates of 2017 with their “teachers” Professor Joachim E. Zöller (right in the centre) and Professor Hans-Joachim Nickenig (right).

Interview on the Curriculum Implantology of BDIZ EDI and the University of Cologne

Three questions for …

Professor Joachim E. Zöller, Director of the Department for Oral and Maxillofacial Plastic Surgery and of the Interdisciplinary Department of Oral Surgery and Implantology at the University of Cologne, is Vice President of BDIZ EDI and Head of the Curriculum Implantology at the University of Cologne. In the following, he takes a short look back on twenty years of BDIZ EDI Curriculum Implantology.

Professor Joachim E. Zöller

Why is Cologne's Curriculum Implantology so popular? No sooner is the course schedule made public than the Curriculum is already fully booked.

That is easy to explain: because this Curriculum takes place in a single physical location and includes many practical exercises on human specimens. At the moment, only Cologne offers this option. The BDIZ EDI's Curriculum Implantology appeals not only to young dentists and to newcomers to oral implantology – the modular design of the Curriculum makes it particularly interesting to dentists who perform implant surgery only occasionally but want to make sure their treatment rests on solid ground.

Successful Curriculum graduates will master implantological challenges even in the presence of difficult indications and address potential complications successfully. Another feature is the high proportion of practical exercises.

What sets the curriculum apart from those offered elsewhere?

"Open" education and appropriately designed curricula provide an alternative to the "closed-shop" policy of many other providers. This means that even training modules not offered by BDIZ EDI can be integrated into the curriculum if they are documented to be scientifically sound. Current and former attendees particularly appreciate the surgical exercises on human specimens that make for realistic hands-on workshops.

These practical units are an integral part of each Curriculum module. Human specimens at the Anatomical Institute of the University of Cologne have been prepared to different stages and tissue depths so that not only the tissues' spatial orientation can be studied, but it can also be appreciated which structures should be preserved wherever possible. This is what sets BDIZ EDI's concept apart from many other approaches.

Looking back on the previous nineteen Curricula, were there any specific trends you observed?

Previously, we'd be getting participants with some initial experience with implantation. Today we are seeing newcomers to the profession who have never placed an implant before. There really should be a beginners' course for them. And of course we notice in the Curricula that the dental profession now includes – or consists of! – a very high proportion of women; they make up about 80 per cent of our participants.

Particularly well received has been the "Presentation" teaching module, where participants can present their own cases to members of their peer group. This, in addition to intensive discussions and the development of strategies for implant surgery and implant-supported restorations, will prepare attendees for their final exam, which has now been integrated into the final module. Thus, once the last module has been successfully completed, the candidate may receive his or her certificate.

In this context, I would like to express my special thanks to *Dr Jörg Neugebauer*, who supervised and implemented the Curriculum until 2011. Without him, the early years would certainly have been much more difficult. He has shown an incredible commitment. *Professor Hans-Joachim Nickenig* has been a worthy successor since 2011; he has revised the curriculum and incorporated new elements into the teaching modules.

Professor Zöller, thank you very much for this interview.

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

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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.

AWU

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:

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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.

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Participant feedback on the Expert Symposium

Expectations fully met

Participants at dental congresses are a critical audience. For this reason, the BDIZ EDI Board was curious to know how the feedback on the 13th Expert Symposium in Cologne would turn out. The results were presented at the most recent strategy meeting.

The results of the feedback forms showed that the BDIZ EDI was spot-on in selecting the topic of "Patient-oriented treatment concepts". The evaluations confirmed that the participants' expectations were met. All participants in the survey stated that they would return to attend the 14th Expert Symposium in Cologne in 2019.

There was a wide variety of feedback on requested topics. Most suggestions came in for:

- One-piece implants
- Titanium vs. ceramics
- Bar concepts
- PEEK bridges
- A presentation by *Professor Joachim E. Zöller*
- Augmentation
- Single-tooth restoration
- Peri-implantitis
- Digital implantology
- Legal problems
- Infection control

When questioned about continued professional development events, billing and legal questions (for example on dental documentation) and classical CED in dentistry and implantology were of approximately equal interest to respondents. All respondents received the new 2018 Guideline as a thank-you gift for participating in the survey. *AWU*

The 14th Expert Symposium of BDIZ EDI will once again be held in Cologne, on Sunday, 3 March 2019

Save the date!

Photo: panthermedia/Thomas Heep

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Connecting continents in oral implantology

The BDIZ EDI family is growing. In 2018, BDIZ EDI acquired two new partner associations: EDI Macedonia and BIN EDI, the Dutch association of implantologists. But the interest in the work of BDIZ EDI is worldwide. The most remote partner is certainly EDI India with its President Dr Vikas Gowd from Hyderabad.

Fruitful discussions on postgraduate training in oral implantology at Munich Airport with BDIZ EDI President Christian Berger, BDIZ EDI Press Officer Anita Wuttke and Dr Vikas Gowd.

Recently, *Gowd* met BDIZ EDI *President Christian Berger* at the Munich airport on the sidelines of a training course to discuss their further cooperation in the field of continuing professional development (CPD). EDI India is planning a postgraduate training programme similar to the Curriculum Implantology offered by the BDIZ EDI in cooperation with the University of Cologne. It will include training modules and assessments in the field of oral implantology as well as courses and final examinations in Europe.

The BDIZ EDI has a long-standing friendship with the South Indian association. Representatives of BDIZ EDI made their first appearance some years ago as speakers at Indian implantological congresses. Conversely, *Gowd* and a team of Indian colleagues have attended a surgical-implantological training week at the University of Cologne. In 2013, *Gowd* was the first Indian dentist to successfully pass the EDA Expert in Implantology exam. He has demonstrated his enormous knowledge at the international European Consensus Conference (EuCC) and participated in the 11th EuCC on "Short, angulated and reduced-diameter implants" in Cologne in 2016. The consensus paper is available online (www.bdizedi.org > English > Professionals > European Consensus Conference or www.bdizedi.org > Zahnärzte > Praxisleitfaden for the German version). *AWU*

Excitement surrounds the GDPR

GDPR bears strange fruit

On 25 May 2018, the digital world seemed to have been stood on its head. Insecurity reigned and continues to reign. Is the privacy policy on my website legally correct? How seriously must I take the warnings of lawyers regarding the handling of user data? Until late at night, the EDI Journal's editorial team received messages from distributors of all kinds of newsletters and mailings requesting an active opt-in to continue receiving those missives. The excitement surrounding the General Data Protection Regulation (GDPR) was reminiscent of the hype ahead of the millennium shift in the year 2000. At that time, the spectre of "total computer failure" on 1 January 2000 was widely raised. What subsequently happened was – nothing.

It is not quite the same thing with the GDPR. Some website operators were scared into a stupor by the EU regulation. For example, the German broadsheet FAZ reported that even the Düsseldorf Bar Association shut down its website after the regulation came into force. However, the association denies that this had anything to do with the GDPR. Even many small publishers who run an online shop for, say, classified advertisements also initially went offline. Some software services for video games

are no longer accessible to Europeans. Buying bus tickets online is no longer possible in every city. Some smartphone apps no longer work in Europe. Websites and blogs have been shut down, although mostly temporarily. And not a few information services – especially from overseas – have shuttered themselves off from Europe.

Is the digital flood of messages and advertising in our inboxes every day that now seems to be ebbing off going to be followed by the digital slumber? If that will be the effect of the GDPR it would be more than welcome. But the EU regulation bears strange fruit. For example, a German daily no longer congratulates its readers on their birthday. Obtaining their consent would be far too time-consuming, said its editors. Other media are taking a different stance. From Austria we heard that the owner of a well-known Burgenland restaurant that advertises its specialities via newsletters and mailings was made aware by a "customer" that he had received the newsletter without his consent. He demanded to be compensated to the tune of 300 euros and threatened to file a complaint pursuant to the GDPR if the restaurant owner did not pay. Modern-day robber barons!

The expected avalanche of cease-and-desist letters (a much-reviled specialty of German law) has not yet started rolling. But lawyers and external data protection officers are certainly in the starting blocks to search through the privacy statements on websites for omissions. It is therefore highly recommended for you to make your dental practice websites GDPR-compliant, if you have not already done so.

"Data care instead of patient care", was the headline of the German business weekly Wirtschaftswoche a few days before the GDPR came into full force. The article took a critical look at excessive GDPR requirements for German dental practices, taking into account the resultant bureaucracy and the extra time and effort expended on IT security. The burden of proof, which is now on the "defendant", was also addressed. "What exactly is meant by 'correct handling of data' and 'documentation' in accordance with the GDPR is more or less clearly defined – depending on which of its paragraphs you read. We are talking about 'adequate measures'." The security of processing (Article 32 of the GDPR) has been examined by BDIZ EDI legal counsel *Professor Thomas Ratajczak* in his article on the GDPR. Thus, the controller and the processor must implement appropriate technical and organizational measures to ensure a level of security appropriate to the risk. Pseudonymization and encryption of personal data is only one of the requirements.

BDIZ EDI has also been actively working on this topic. Assisted by its legal counsel and with the active support of a web agency, BDIZ EDI examined and revised its own website. The first victim was an online registration form, which under the new regulation was far too complicated to maintain. The experts found things that most of us would not think about in the first instance. Even integrated registration forms on a website must contain a reference to information about what happens with the personal data entered. The BDIZ EDI website is now SSL-encrypted (avoiding those "Not secure" messages in some browsers), has a cookie bar, and the privacy policy and legal notices have been adjusted. These are the basics that should be present on all websites. *AWU*

Photo: fotolia/mixmagic

BDIZ EDI e.V. · Mühlenstr. 18 · D-51143 Köln · GERMANY

To all
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25 May 2018

BDIZ EDI Privacy Statement

Dear colleagues:

As a member of the European Association of Dental Implantologists you benefit from the various information, participation and further education programs that are made available to you year in, year out. At the same time, you have assumed membership obligations, which include the payment of the membership fee determined by the General Meeting. As part of this membership, we are obliged under the EU General Data Protection Regulation (GDPR – Regulation (EU) 2016/679 of 27 April 2016) and the new rules of the German Federal Data Protection Act (BDSG) to inform you for what purpose your personal information is collected, recorded or forwarded by us. We are happy to comply with this obligation and would like to inform you as follows:

Controller (responsible for data processing):

Dr Stefan Liepe
c/o BDIZ EDI
Mühlenstraße 18, 51143 Cologne, Germany
+49 2203 8009339
liepe@bdizedi.org

Data processing:

In order to fulfil and promote the statutory purpose of our association, we process a large amount of personal information from you.

The overwhelming part of this data processing takes place as far as possible to ensure the association's work, to establish and administer memberships, to collect membership fees, to transmit information to you by way of digital and print media and to fulfil the obligations incumbent on the association, including towards third parties.

For this purpose, we process your personal data, in particular your name, address, telephone number and other contact data (such as your email address), bank details, etc. Of course, your data will always be treated in strict confidence.

Data recipients:

We will only transfer your personal data to third parties if this is legally permitted, if your membership requires this for other reasons or if you have given your consent.

More specifically, recipients of your personal data may include higher-level associations, insurance companies, other association members, publishers, cooperation partners, cloud services, and others.
Data processing always takes place for the purpose of carrying out the association’s work.

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Data recording:

We will retain your personal data for as long as it is necessary to perform the service and for the duration of your membership.
Explicit legal requirements may result in longer retention periods.

Your rights:

You have the right to obtain information about personal data concerning you (Article 15 of the GDPR). You can also request the correction (rectification) of incorrect data (Article 16 of the GDPR).

In addition, under certain conditions, you have the right to have data erased (Article 17 of the GDPR), the right to restrict data processing (Article 18 of the GDPR) and the right to data portability (Article 20 of the GDPR).

The processing of your data is based on statutory regulations (Articles 6 (1) (b), (f) of the GDPR). Your consent is only needed in exceptional cases. In these cases, you have the right to revoke your consent for future processing at any time.

According to Article 21 of the GDPR, you have the right to object to the processing of data pursuant to Article 6 (1) (e) or (f).

You also have the right to complaint with the competent supervisory authority if you believe that the processing of your personal data is unlawful (Article 77 of the GDPR).

The address of the supervisory authority responsible for us is:

Der Landesbeauftragte für den Datenschutz Bayern
(The Bavarian State Commissioner for Data Protection)
Professor Dr Thomas Petri
Wagmüllerstraße 18
80538 München
Germany

Legal basis:

The legal basis for the processing of your data is Article 6 (1) (b) and (f) of the GDPR. If you have any questions, please do not hesitate to contact us.

European Association of Dental Implantologists (BDIZ EDI)

Munich, May 2018

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Strategy process continues

BDIZ EDI in 2025

The BDIZ EDI Board had launched a strategy process in 2015 and is currently right in the middle of that process. Where will BDIZ EDI stand in 2025? What will the future of our association look like as we look beyond our 30th anniversary next year? The foundations have been laid down, initial findings have been analysed, and the first working groups have got down to business.

The strategic review is in full swing, as the meeting held in Oberstaufen at the beginning of May has shown. The BDIZ EDI Board, headed by Board member and "chief strategist" *Dr Freimut Vizethum*, has already identified current and future influences and environmental factors, as well as internal structures and processes, as potential basis for discussion and analysis. The strategy process is designed to:

- **Anticipate future decisions with clear objectives.** A clear and thoughtful strategy (which is then actually implemented) provides clear answers to future questions and helps shorten decision-making processes significantly.
- **Provide guidance for all stakeholders.** A strategy is an important instrument to clarify the future of the organization and the tasks facing each of its members. The effect a strategy can have on communication and motivation is dramatically underestimated by most people.
- **Guide the use of resources.** Limited resources are a fact of life. Focus and determination achieve the best result. A strategy provides the draft decisions for the sensible use of resources.

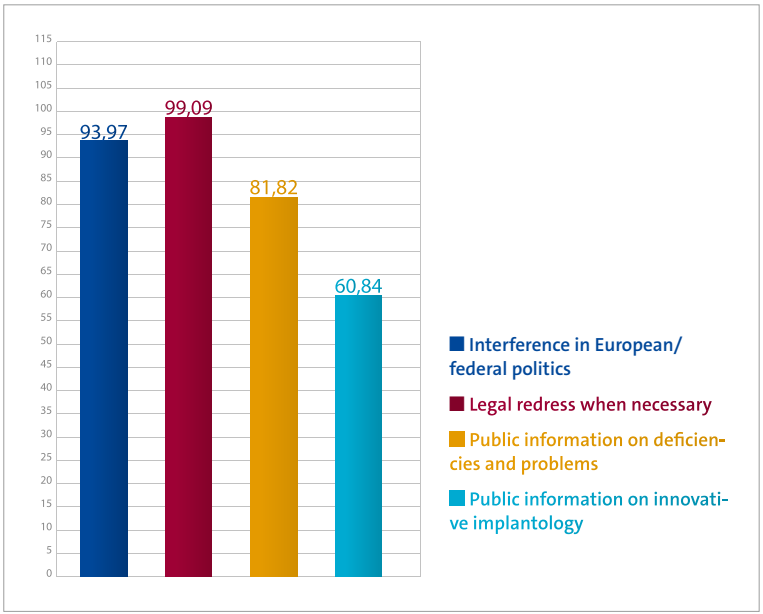
Objective evaluation

Each strategic process, *Vizethum* explained, requires intensive preparation and presupposes a concrete approach as part of a multistage sequence, an approach that will then be discussed, reviewed and amended by the participants – in our case, the BDIZ EDI Board. Taking a more distant, sometimes "painfully objective" view of the results of this process will highlight a need for participants to act cooperatively and to adjust their focus. This was already achieved during the preparatory phases in

the course of highly constructive sessions held in a spirit of cooperation. *Vizethum* sees this result as beneficial for all participants.

Vizethum has explained the philosophy that informs this effort as follows: "Oral rehabilitation using implants has become established as a major treatment mode over the past few decades. The work of BDIZ EDI in the interest of its members has made a significant contribution to this development. On the other hand, we are finding ourselves living at the time of precarious stability, with changes in healthcare policy that create risks and liabilities and that affect, directly or indirectly, the professional environment of any implant surgeon and prosthodontist. In times like these we need an efficient and capable, active and efficient professional organization with a comprehensive approach to creating a more favourable environment and influence political decisions."

In Oberstaufen, the proceedings revolved around the implementation of all those tasks. The BDIZ EDI membership structure (*Dr Stefan Liepe*), member satisfaction (*Anita Wuttke*) and new member recruitment (*Dr Detlef Hildebrand*) were examined and discussed. But the tasks and goals were also put to the test and explained in more specific terms where it appeared that the wording had been less than clear and concise. The next step will be about more concrete proposals and analyses.



What do you expect from BDIZ EDI with regard to its external presentation? Results of the 2012 membership survey.

Dialogue with members

The BDIZ EDI wants a more intensive dialogue with its members. There will be a member survey (for which the questionnaire will soon be available online). The Board warmly invites members to actively participate in answering two questions:

- Are you satisfied with the work of your association?
- Are you satisfied with the strategic orientation of your association?

BDIZ EDI will celebrate its 30th anniversary in 2019, which is an excellent occasion to ask these fundamental questions. The last member survey in 2012 met with an enthusiastic response and provided definitive results.

AWU

Despite the good weather, the Board of the BDIZ EDI had a busy weekend in Oberstaufen: a strategy meeting followed by a board meeting.

EU service package and proportionality testing

Important correction

There is news on the EU service package and in particular on the proportionality test. The EDI Journal editorial team had reported extensively on the topic in issue 3/2017. Now – probably due to the influence of dentists (Council of European Dentists, German Dental Associations) – tensions are abating as a compromise was reached (subject to approval by the EU Parliament and the Council of Ministers).

Dr Alfred Büttner

The EU Commission is again trying to extend the scope of the Services Directive to the health professions, with the declared aim of promoting competition in Europe, but also EU participation in a field that is (at this point still) regulated by the law of the member states. The health professions are not yet covered by the Services Directive. The EU Commission had suggested performing a proportionality test ahead of adopting new professional regulations. This would mean that the EU would co-regulate at the national level.But things are starting to get rolling at the EU level now. Editor-in-Chief *Anita Wuttke* spoke with *Dr Alfred Büttner*, Head of the Department for European and International Affairs of the German Dental Association (BZÄK) in Brussels.

A provisional agreement has been reached on proportionality testing. What does it look like?

I can confirm there has been an agreement. In April, the Ambassadors of the EU Member States and the Internal Market Committee (IMCO) of the European Parliament (EP) approved the compromise that the negotiators of the EU institutions on the draft directive for proportionality testing had arrived at in late March. Now the EP plenary and the Council of Ministers must confirm the compromise. Observers expect the new directive to enter into force before the summer break. The revised wording of the directive will stipulate that, starting in mid-2020, the national legislator must examine and justify the necessity of any planned professional regulations before enacting them. In this way, the European Commission wants to prevent new professional regulations from creating barriers to economic growth.

So the health professions will still not be covered by the Services Directive?

The health professions had taken a very critical view of the proposed directive due to its pronounced emphasis on economic aspects and, for good reasons, vehemently advocated a derogation – an exemption – by analogy with the Services Directive adopted in 2006, which does not apply to the health professions. However, there was no political majority in the Council and the EP in favour of this position. There was also massive resistance from the European Commission, which called for equal treatment of all regulated professions. The proportionality test will therefore also apply to health professionals. Fortunately, however, we succeeded in singling out the health professions in the text of the directive, a development in which the European Parliament and its rapporteur *Dr Andreas Schwab*, MEP (EPP) had played a major role. This is an important course correction. The directive now clarifies that the member states must respect the objective of maintaining a high level of health protection when regulating the health professions under professional law. This takes better account of the special importance of the health care professions, whose professional law is primarily oriented towards protecting patients, than in the Commission's original proposal.

What was the role of dentist representatives in achieving this success?

The national and European (umbrella) associations of the health professions, above all of physicians, dentists and pharmacists, unanimously advocated an exemption. I think that this united stance ultimately won over a majority in the EP and the Council in favour of at least giving the health professions a special status in the directive. There have been many meetings and events of health care professionals with decision-makers in Brussels since the January 2017 legislative proposal. For example, within the framework of its European Forum, just before the decisive vote in the EP's Internal Market Committee, the German Dental Association had

had the opportunity to conduct intensive discussions with *Dr Schwab* as rapporteur to promote the positions of health professionals.

Thank you for your explanations, Dr Büttner!

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

Annotation

Mid-June, the plenary of the European Parliament in Strasbourg has cleared the way for the EU Directive for a proportionality test before adoption of new regulation of professions. Some objections of the regulated professions (physician, dentists etcetera) have been taken into account. Health professions will keep their special role with regard to the Services Directive.

The actors behind the scenes of BDIZ EDI konkret and EDI Journal

"Boarding completed"

When a journal is produced, its graphic designers, layout artists, editors, and the marketing and distribution staff remain, if not unnamed, so at least usually unseen. At the most recent editorial conference for the two trade magazines BDIZ EDI konkret and EDI Journal, the new Managing Director of teamwork media introduced himself: Uwe Gösling has been heading this subsidiary of Deutscher Ärzteverlag (DÄV) since April 2018, thus being the publisher BDIZ EDI's first point of contact.

... and ready for take-off: Uwe Gösling (front left) and Editor-in-Chief Anita Wuttke (third row left) with the editorial and graphic design team of the two BDIZ EDI journals.

Long-time Managing Director *Dieter Adolph* left his position on amicable terms on 13 April 2018 by a decision arrived at jointly with the Deutscher Ärzteverlag publishing house. The management of the DÄV thanked *Adolph* for the successful collaboration and informed the publishing partners about his successor. *Uwe Gösling* has had considerable experience in the dental industry, where he held various management positions over the past years.

Fuchstal to Munich

BDIZ EDI President *Christian Berger* thanked *Dieter Adolph* for decades of fruitful and trusting cooperation and wished *Uwe Gösling* every success in managing the specialist publishing house, which is planning to expand its range of services in the future. At the first joint editorial conference, Editor-in-Chief *Anita Wuttke*, Munich, emphasized the importance of the proximity to the editorial team at Fuchstal in Upper Bavaria.

Since April 2014, teamwork media GmbH has been a wholly owned subsidiary of Deutscher Ärzteverlag, Cologne, and is today, under the latter's corporate roof, one of the leading dental specialist publishers in Germany. The company offers specialist journals, books and online services to promote and impart knowledge in dentistry and dental technology. The portfolio also includes the conception and management of continuing professional development events and congresses. *EDI*

Chair of the BDIZ EDI Expert Committee resigns after many years of service

Thank you, Hans-Hermann Liepe!

Dr Hans-Hermann Liepe, a dentist in Hannover, has resigned his position as Chair of the Expert Committee of BDIZ EDI after many years of service. He had chaired the Committee since 2005 and organized the association's annual Expert Conferences on behalf of the Consensus Conference on Implantology.

Dr Hans-Hermann Liepe, Chair of the Expert Committee from 2005 to 2017.

Dr Hans-Hermann Liepe has been a member of BDIZ EDI since 1 January 1991, witnessing the very beginnings of the association and influencing its development for many years after having been elected Chair of the Expert Committee in 2005. The Expert Committee is one of the more important committees in BDIZ EDI: This is where the experts who practice implantology are taught and trained. The committee chair administers the association's Expert List and decides, in cooperation with the Executive Committee, which current topics will be addressed at the Expert Conferences. The Expert Conferences of BDIZ EDI are convened on behalf of the Consensus Conference on Oral Implantology and, for some years now, in cooperation with various state dental associations/dental chambers in Germany.

During his time as Chair of the Implantology Expert Conference, *Hans-Hermann Liepe* helped define the significance of the implantological expert opinion: "Experts play an important role when new developments occur and new procedures are introduced by evaluating these procedures, amplifying either the acceptance of novel treatment methods or their demise. The tenor of all Expert Conferences of BDIZ EDI and the various dental associations is that the experts speak the same language!" Incidentally, not only the BDIZ EDI experts are invited to the Expert Conferences on Implantology, but all experts on the lists of specialist associations and societies and of the state dental associations.

During *Liepe's* tenure as Chair, the Expert Conference evolved into a communication platform for experts. For example, individual experts held brief lectures on the clinical cases they evaluated and the corresponding definitive court decisions, which was greatly appreciated by the participating experts and helped raise the individual experts' self-confidence as they assessed the cases they were assigned. He also underscored the importance of well-trained court experts with the anonymized negative opinions he presented in BDIZ EDI publications from 2012 onwards.

In view of the high cost of implantological procedures, the amount in dispute in legal procedures can be quite considerable. Since implant treatment requires very specialized knowledge and practical experience in both the surgical and the prosthetic field, *Liepe* had always realized the immense relevance of implantological expert opinions in legal disputes involving alleged treatment errors. He therefore attached great importance to the qualifications of the experts on the BDIZ EDI list.

But serving as Chair of the Expert Committee was by no means *Liepe's* only commitment and achievement in professional politics. In the 1990s, he was volunteer Vice President of the State Association of Statuory Health Insurance Dentists (KZV) in the German state of Lower Saxony. He was also active in the Lower Saxony Dental Association Niedersachsen and in its Hannover district office. One highlight of his career was his service as Chair of the Assembly of the German Dental Association from 2010 to 2012. He was active on the Expert Committee of the KZV for a whole 25 years and of course an expert and chief expert in Lower Saxony.

Liepe will continue to participate and contribute to the Expert Conferences of BDIZ EDI. "We appreciate the enormous knowledge of *Hans-Hermann Liepe*, not only in the field of oral implantology. His dedication extends to many areas of dental life. And he has shaped the profession with his decades of commitment", said BDIZ EDI President *Christian Berger*.

AWU

12th European Symposium of BDIZ EDI

Masterminds in Athens

BDIZ EDI and the Greek specialist publisher Omnipress are long-standing partners in the field of oral implantology. For many years, Omnipress has been implementing the Curriculum Implantology in cooperation with the BDIZ EDI for Greek junior dentists. Like elsewhere, the courses have been well booked in Greece. This year, the 12th European Symposium of BDIZ EDI was held in cooperation with Omnipress, addressing aesthetic and prosthetic dentistry this time rather than oral implantology.

The European Symposium is based on the proven educational concept of the BDIZ EDI to promote an active exchange of dental knowledge at the European level. This was the second time the symposium was held in Greece; BDIZ EDI had already partnered with Omnipress in Vouliagmeni near Athens in 2009. This year's meeting was held in the shadow of the Acropolis.

Under the title of "Masterminds", dentists and dental technicians discussed new approaches in aesthetic and restorative dentistry with a focus on "bio-emulation" – working very close to nature. A true entertainer in the training business is *Dr Pascal Magne*, a Swiss citizen who followed an invitation of the University of Southern California a few years ago and has since been living in Los Angeles and teaching at the university's Dental School. In his one-day course in the crowded hall of the Ethniki Asfalistiki Conference Centre, he presented new approaches in the field of biomimetic restorative dentistry,

Welcoming address by BDIZ EDI President Christian Berger.

Back-to-back sessions on Saturday and Sunday with predominantly young Greek dentists.

The BDIZ EDI Board was also present (left to right): Dr Stefan Liepe, Anita Wuttke, Dr Wolfgang Neumann, and Christian Berger (in the back).

taking into account "bio-emulation". He explored how scientists with common sense and experience in adhesive dentistry can devise revolutionary concepts to save the substance of the tooth and thus the tooth itself. *Magne* presented innovative biomimetic concepts for restoring the biomechanical, structural and aesthetic integrity of the tooth. Dubbed the "father of the biomimetic restoration", he showed, specifically for the field of adhesion techniques, that tissue structures can be preserved and that teeth can be kept vital for longer. In addition, he pointed out that the procedure is more economical than more invasive traditional procedures.

Magne is a stout advocate of innovative ceramic restorations, which are a major step forward in medical and biological as well as in socioeconomic terms, opening up new possibilities for prosthetic restorations in the anterior region for all functional and aesthetic requirements. These restorations are optimally strong thanks to a powerful adhesion technique that results in a biomechanical continuum and an ideal surface finish. *Magne* presented the techniques of immediate dentin sealing and deep margin elevation (DME) and showed his audience, which to a large part consisted of younger dentists, that CAD/CAM can also be applied biomimetically.

Dr Panaghiotis Bazos, a native of Greece who also lives in the USA, spoke about methods of craniofacial 3D data acquisition. The positions of the occlusal plane and the articulator are of great importance in defining the functional and aesthetic goals of treatment planning. *Bazos* showed how the virtual anatomy of the frontal, transversal and sagittal planes can be used to record and analyse a patient's specific anatomy. His one-hour presentation was all about avoiding mistakes by employing special photographic and radiographic protocols.

On Sunday, *Sascha Hein*, a German dental technician living in Australia, introduced the difficult matter of matching the shade of the natural tooth in ceramics. Shade matching still presents a challenge even for experienced dentists and lab technicians. Using a new system of cross-polarized dental photography in conjunction with an innovative workflow, technicians can create their individual shade recipes. His course focused on issues such as the pros and cons of traditional shade matching, the understanding of colour theory (metamerism), the use of a digital SLR camera to quantify the objective hue.

Dr Marco Gresnigt of the University of Groningen, The Netherlands, gave a step-by-step introduction into the handling of anterior and posterior ceramic restorations. The focus of his course was on the so-called "laminates", which are veneers that are only 0.3 to 0.7 mm thick, much thinner than conventional ceramic veneers. One of their advantages is the minimal amount of tooth substance that must be sacrificed while their drawback is that they can be used to conceal only minor irregularities and restore only small missing edges. According to *Gresnigt*, however, they have a good long-term prognosis, with the caveat that they are subject to failure from different causes, primarily cohesive ceramic fractures of ceramics and adhesive failure. For him, the adhesive technique is a crucial prerequisite for long-term success, which he underscored with the results of his own studies at Groningen. Posterior ceramic restorations were another of *Gresnigt*'s topics as he discussed the pros and cons of partial crown preparations, of endo crowns, and adhesive cementing.

Conclusion

Overall, this issue of Masterminds was an update on what is happening in the field of so-called biomimetic restorative dentistry, including an excursion into colour management. An interesting two-day programme – without any implantology for a change. *AWU*

Athens' landmark: the Acropolis.

Council of European Dentists voices criticism

The Netherlands: more treatment rights for dental hygienists

The European dentists umbrella organization, the Council of European Dentists (CED), has sharply criticized the decision of the Dutch government to upgrade dental hygienists' (DH) right to perform treatment starting in January 2020 as part of a five-year trial.

In the face of significant differences in training between dentists and dental hygienists, CED President *Marco Landi* warned about the negative impact of this decision on patients in a letter to the Dutch government.

From the year 2020 on, according to an order issued by *Bruno Bruins*, the Dutch Minister of Health, dental hygienists with appropriate training will be allowed to administer local anaesthetics, treat primary caries and take and evaluate single-tooth and bite-wing x-rays without a dentist's directions or supervision.

Leading role of the dentist

Landi pointed out that "dentists must continue to play a leading role in ensuring the best possible supervision of treatment and ongoing care". The dentist, he said, is responsible for patients' oral health and for the outcome of the clinical treatment and is therefore the only expert who can decide which activities should be delegated to members of the dental team. This is particularly relevant in view of the risks associated with the complexity of individual patient circumstances, including the need to consider interactions with other drugs in patients with multiple diseases. In this context, *Landi* emphasized the important role of DHs in the dental team, but adding that they should focus on prevention and follow-up and on oral health advice for patients. The reason for this experiment in the Netherlands, which can continue for up to five years, is the blatant lack of dentists and the demographic change, according to the Ministry.

In the following interview with EDI Journal, *Jan Willem Vaartjes* reports how dentists in the Netherlands are responding to this ministerial decision.

Sources: CED; German Medical Association (BZÄK); Netherlands Ministry of Health, Welfare and Sport (VWS)

Interview with Dr Jan Willem Vaartjes on the situation in the Netherlands

“We expect costs to rise and quality to drop”

Europe’s dentists are going livid about the plans of the Dutch Minister of Health to let dental hygienists perform treatments now restricted to dentists. Editor-in-Chief Anita Wuttke spoke with Dr Jan Willem Vaartjes, President of the Association of Dutch Dentists (ANT).

Dentists in the Netherlands are concerned about developments in dental health care. What is going on there?

Recently, the Dutch Minister of Health decided to start an experiment in 2020 where dental hygienists can administer local anaesthetics, prepare and fill primary caries cavities and take and evaluate intraoral x-rays without a direction or supervision by a dentist, even in practice settings where no dentist is present. Services at dental hygienist offices will be available to patients without their having to get a referral from a dentist. Part of the background for this was that due to government policy, our universities have produced only very few dentists during the past eight years as part of a move to transfer tasks from dentists to dental hygienists. The upshot was, however, that almost one-third of the dentists we do have are immigrated dentists from other countries.

Letter from the CED to the Dutch Minister of Health. No response so far!

Mr. B.J. Bruins
Minister of Health, Welfare and Sport
Pb 20350
2500 EJ Den Haag
The Netherlands

RE : Dental Hygienists in the Netherlands

Honourable Minister, Dear Mr Bruins,

I am contacting you on behalf of the Board (CED) regarding the role of dental hygieni

The CED is a European not-for-profit assr 340,000 dentists across Europe. The ass was known as the EU Dental Liaison Co currently composed of 32 national denta countries. The CED aims to promote hi dentistry with effective patient-safety or

The CED is strongly advocating that ir treatment and continuing care at all ti a leadership role. **The dentist is res the outcome of the clinical treatm professional able to decide which members of the dental team.** This related to the complexity of individu need to consider drug interactions **Dental hygienists have a very w should focus on prevention an dentist, as well as education o**

Council of European Dentists
President Dr Marco Landi Avenu
Transparency register: 48855779968-84 B-100

We encourage you to consider **Article 36 of Directive 2005/36/EC** (Recognition of Professional Qualifications ('PQD')), which clearly states the competences of a dentist. Further, according to the judgement of the European Court of Justice in the case C-437/03 it is not allowed to pursue the profession of dental practitioner for persons who do not satisfy the training requirements imposed by that article in respect of pursuing that profession under that title.

We are unconvinced that the intended ministerial decree would be in the best interest of patients and fear a loss of holistic patient care. It is difficult to see how the holistic approach to ... can continue. Dental conditions are so multifactorial and interrelat... ...h care can only be problematic. Even more, it ... see a dental hygienist and ... Additionally, patients visiti... only about the procedure ... Dental hygienists cannot ... are outside their scope ... **limited options could ... possible treatments a ... is evidently also a pa...**

In the particular case ... would like to highlight ... basic safety standard... to ionising radiation ... definition of respon... medical exposure ... undergoing medic... **dental hygienists competences to appear on an X-... rays independe...**

Lastly, we would ... principle of free ... check the valid... EU member s... procedure an... assurance of ...

I thank you in advance for taking the time to consider our letter and look forward to hearing about the progess of the discussions in the Netherlands.

Sincerely,

Marco Landi
CED President

cc: Dr Wolter Brands, KNMT President

In most European countries, the dentist makes the diagnosis, develops a treatment plan and delegates duties to team members as appropriate. How are dental practices organized in the Netherlands?

In the past 20 years, many dental practices evolved from an organization where one or two dentists worked together with their assistant(s) to organizations run by a larger team ranging from specialist dentists (for example, implantologists or endodontists), general dentists, dental hygienists and dental assistants (the latter are also involved in treating patients). Primary and secondary preventive tasks are mainly delegated to dental hygienists and assistants. In some group practice settings, a small percentage of dental hygienists also perform treatment tasks such as placing fillings. Delegating treatment tasks to assistants is possible under current law, but the practice is rare.

As there is no “classical” dental association performing lobbying tasks for the dental profession in the Netherlands, who can act in the face of these developments?

Dentists are organized in professional (dental) associations. There are two of them in the Netherlands, and I am President of one of them. These associations perform some duties conferred on them by the Dutch government, such as providing a complaints board for patients. The dental organizations often consult about impending government policy but they do not actually have a right to intervene. This results in many lawsuits between the government and the dental associations; most recently, the fee system has been the target of multiple lawsuits. ››

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[1] Data on file at RTI Surgical, Inc.

Headlines of the strike started. Dentists advocated to stop teaching dental hygienists to drill and fill during their internships.

The Dutch Minister of Health has announced the launch of a detailed catalogue of dental services to relieve dental professionals from some of the burdens of their complex field of responsibility. What is your opinion on that?

Strange things happen when policy makers want to help to "relieve" dentists from something we do not consider a burden.

Are there any stakeholders reacting to this initiative, and what is done or should be done?

The dental associations do everything they can to stop this initiative. The tools we use range from articles in newspapers to media releases elucidating dentists' opinions and highlighting warnings about the things that could go wrong. The public is also being alerted to the insufficient numbers of would-be dentists being admitted to dental schools and that the dental hygienist option is not the right way to try and resolve the existing shortage of dentists.

As a measure of last resort, dentists have proposed a strike and will not train dental hygienists to perform tooth preparation and fillings during their internships. This "strike" got the attention of national newspapers and radio stations.

What do you expect from the European Union on this specific issue?

Since our profession is included in the Professional Qualifications Directive and dentists' freedom to perform services is contingent on minimum educational standards throughout Europe, we would expect the EU to get involved when a country takes measures of significant influence in this area. The attempt to allow another profession to perform a major portion of a dentist's original tasks should be examined on a European scale.

Have you got any contact with the Council of European Dentists, the umbrella organization of all the dental associations of the EU member states?

Yes, we are in contact with the CED. In March, the CED sent a highly critical statement to our Minister of Health that focussed on the role of the dentist as the leader of the dental team and the fact that dental hygienists do not have the education required to inspect an x-ray and diagnose all the anomalies and diseases that might be revealed there.

What do you expect to happen in the long run – in terms of patients and the dental profession – if the move by the Dutch government gains impetus, possibly spreading to other countries?

The future of dentistry is adversely influenced by government policy. Many decisions are made without the consent of the true experts: the dentists. The true underlying motivation seems to be to cut cost – of education by reducing the number of dentists, of dental fees by recurrent fee cuts, by making other members of the dental team or even independent dental hygienists perform dental tasks as some form of "bachelor dentist".

We expect that this will make costs go up rather than down while quality deteriorates. Dental hygienists should be responsible for preventive care, not for dental treatments at large. They should prevent caries from developing and not use the drill to make fillings. Also, a dental team with the university-trained dentist as leader and coordinator can operate much more efficiently and safely than individual healthcare workers with less training and education.

AWU

Dr Jan Willem Vaartjes

- 1998 Graduation from dental school in Amsterdam
- 2004 Registered implantologist (NVOI)
- 2005 Associate fellow of the American Association of Implant Dentistry (AAID)
- 2013 Chairman of the Association of Dutch Dentists (ANT)

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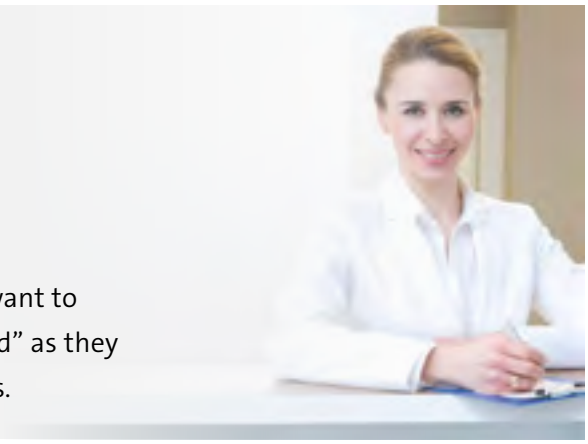
Female dentists in Europe

Profiles



This edition marks the start of a new series of reports: We want to introduce female European dentists who "stand their ground" as they balance their work, their family and their pro-bono activities.

Name:	**Dr Nathalie Khasin**
Profession:	**Dentist, implantologist**
Office:	**Berlin, Germany**
Age:	**41**
Family:	**Married, 3 children**
Active:	**Member of the BDIZ EDI board**

Dr Nathalie Khasin was born and raised in Munich. At the tender age of ten, during her weekly orthodontic visit, she decided to become a dentist because she found the work with the models and resin materials so exciting to look at. And as she grew up, she would do just that. *Dr Khasin* studied dentistry in Halle and Berlin and received her doctoral degree in Berlin in 2002, where she met her husband *Leo Khasin*, who is a dentist by training and today a well-known film director and winner of the German Film Award ("Lola"), the country's most prestigious film industry award. He comes from a family of dentists who emigrated to Germany from Russia in 1981.

Nathalie quickly became interested in dental surgery and completed a two-year Curriculum Implantology, which she today says was an important experience for her – not least because she very much enjoyed the exchange with colleagues in a period when she would divide her time between her family and her practice.

"There was never any break, the two of them had to function hand in hand", she recalls. *Nathalie* is raising three children and managing her Berlin practice together with three employed dentists and the support of her husband and parents. In her free time she follows the call of the mountains – skiing in winter, hiking and travelling. "In winter I want to get out of the city and into the mountains!" *AWU*

Save the date: ADI Team Congress 2019

The partner association of BDIZ EDI in the UK, the Association of Dental Implantology (ADI), announces its biennial team congress which will take place in May 2019. Next year's ADI team congress will be held in Edinburgh.

"Keep your staff up to date on all things dental implantology by attending the ADI Team Congress 2019!", says the announcement. Taking place from 2 to 4 May 2019 at EICC Edinburgh, the ADI Team Congress provides an excellent opportunity for all members of the team to discover new skills, hear the latest information in the field and gain valuable CPD.

Presenting a blend of inspiring lectures by renowned global speakers, the event will also provide great networking opportunities and allow participants to meet other professionals who have a passion for dental implantology.

For information on the ADI and upcoming events, visit www.adi.org.uk *EDI*

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Proposal for the next EU budget

What next for EU health policy?

The European Commission proposal on the next long-term EU budget – the Multiannual Financial Framework (MFF) – has been received by the Council of European Dentists (CED), the Standing Committee of European Doctors (CPME) and the Pharmaceutical Group of the European Union (PGEU) as a positive first step which acknowledges health as a way of investing in people.

The current proposal does not foresee a specific financing tool for EU initiatives in the field of health but allocates health to the European Social Fund. This approach must guarantee a proper allocation of financial resources for health and cannot result in health competing with other social policies. Also, the proposed flexibility for the reallocation of resources may not affect the allocated amount for health. Furthermore, the Commission will have to clarify how this approach will be translated in terms of policy governance and if a dedicated Directorate for health will continue to have the full responsibility for the implementation of EU health policies.

"The Commission's approach to define health as part of social policies is certainly more adequate than opting for a purely economic approach. It must now be ensured that the necessary policy expertise is safeguarded, so this instrument can fulfil this aspiration", commented *Dr Jacques de Haller*, CPME President.

"The next EU budget will shape the EU policy priorities post-2020. It remains to be clarified how this budget will translate into policy and governance on health for the next decade", said *Dr Marco Landi*, CED President.

"The future EU policy priorities need to reflect the EU's responsibility to implement the Sustainable Development Goals on public health, health systems and environment-related health problems and should support Member States in eliminating growing health inequalities. Therefore, it is important to continuously invest in health", argued *Jesus Aguilar Santamaria*, PGEU President. *EDI*

Profiles

The **Council of European Dentists (CED)** is a European not-for-profit association representing over 340,000 dental practitioners across Europe through 32 national dental associations and chambers in 30 European countries. Established in 1961 to advise the European Commission on matters relating to the dental profession, the CED aims to promote high standards on oral healthcare and dentistry with effective patient-safety centred professional practice, and to contribute to safeguarding the protection of public health. The CED is registered in the Transparency Register with the ID number 4885579968-84.

The **Standing Committee of European Doctors (CPME)** represents national medical associations across Europe. The group is committed to contributing the medical profession's point of view to EU institutions and European policy-making through pro-active cooperation on a wide range of health and healthcare related issues.

The **Pharmaceutical Group of the European Union (PGEU)** is the association representing community pharmacists in 33 European countries. In Europe, over 400,000 community pharmacists provide services throughout a network of more than 160,000 pharmacies, to an estimated 46 million European citizens daily. PGEU's objective is to promote the role of pharmacists as key players in healthcare systems throughout Europe and to ensure that the views of the pharmacy profession are taken into account in the EU decision-making process.

Amendment to CED statutes to ensure that the British Dental Association can stay in

CED paves the way for the British

The Council of European Dentists (CED), the umbrella organization of the dental associations of all EU Member States, passed an amendment to its statutes at its May General Assembly in Tallinn, Estonia. One objective is that the British Dental Association (BDA) can remain a member of the CED.

Until now, only associations from an EU Member State could be members of the CED. In future there will be three membership categories:

1. Full CED members from EU member states;
2. New: Associate members from countries of the European Free Trade Association (EFTA), the European Economic Area (EEA) or former EU Member States that have a bilateral agreement with the EU;
3. Observer members from EU candidate or potential EU candidate countries.

This legal construction ensures that the British Dental Association (BDA) can continue to participate in CED proceedings after March 2019, just in time for Brexit. Along with the German Dental Association (BZÄK), the BDA is one of the most active CED member associations and contributes about 13 percent of CED's income.

Associate members will pay the full membership fee but are not eligible to nominate candidates for CED board elections. However, they are entitled to a full vote and have the right to participate in CED working groups and, where appropriate, to chair them. The EFTA countries are Iceland, Liechtenstein, Norway and Switzerland. The EEA is a deeper free trade area between the EU and EFTA (excluding Switzerland).

Observer members cannot propose candidates for board elections, vote or chair a working group. However, they can participate in the working groups and pay 80 per cent of the membership fee.

At the CED General Assembly, the delegates also adopted a resolution on the dental profession and third-party health care payers in Europe, emphasizing the strict separation of the dentist-patient relationship from the role of the payers. The primary relationship in the provision of dental services is between the dentist and the patient, the resolution states. Both work together to develop strategies that ensure positive long-term health outcomes. Third-party payers are not to be allowed to interfere with this primary relationship in any way that abridges the patient's right to the best possible long-term oral health. Inappropriate pressure from payers for economic or budgetary reasons causes actors to lose sight of the goal of oral health. The resolution further declares that "their financial involvement should support appropriate oral health care for the patient and evidence-based treatment decisions agreed upon by the dentist and the patient, rather than by benefit protocols." Third-party payers should pay for the treatment provided by the dentist in an appropriate and timely manner to minimize or eliminate the patient's out-of-pocket expenses. Nonetheless, the resolution recognizes that payers have a role to play in funding health care and that they can help finance it. They can provide a solid foundation for a safe and quality-oriented health care system without interfering with the dentist's professional treatment decisions or the patient-dentist relationship.

Currently, seven countries have the status of EU candidate or potential candidate for EU membership. The five candidates are Albania, Montenegro, Macedonia, Serbia and Turkey. The two potential EU candidates are Bosnia and Herzegovina and Kosovo.

The CED General Assembly unanimously accepted a German proposal by the German Dental Association that observers cannot participate in CED working groups or CED task forces. It also prevented associated members from assuming the chair of any CED working groups, as previously requested by the BDA.

The current decision is intended to ensure that Council opinion is formed by associations from within the EU. *EDI*

Source: zm-online, CED, German Dental Association

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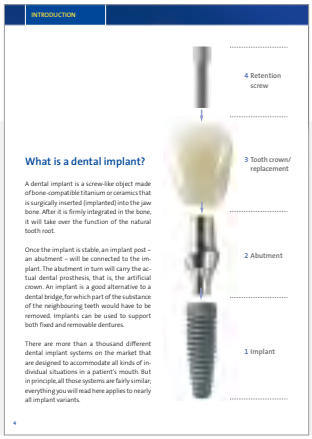

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SSO against compulsory dental insurance

Swiss model of dental care under attack

In Switzerland, political pressure to introduce compulsory dental insurance is rising. However, the Swiss Dental Association (SSO) is determined to protect and strengthen Switzerland's successful model for dental care. Patients usually pay their own dental costs. Initiators argue that in today's system, the socially disadvantaged cannot afford dental care and therefore refrain from seeking dental treatment. According to the Swiss Federal Statistical Office, 2.7 per cent of patients in Switzerland above the age of 16 are affected. However, patients at risk of poverty can apply for financial support for dental treatment even today, regardless of whether they are on social welfare or not. Relief organizations and special relief funds in certain communities can also provide financial support.

The current system of dental care in Switzerland, the SSO points out, is a proven model of success for the benefit of dental patients and public health at large. State-mandated compulsory dental insurance would adversely affect the quality of the individual dental treatment as agreed on between the patient and the dentist. Swiss dentistry, so the SSO, is already successful and socially responsible today and does not need an expensive system of obligatory insurance.

Source: SSO, Switzerland

Photo: pixabay.de/Marisa04

Wave of physicians leaving the Czech Republic

"Escape" to the west

Hundreds of Czech junior physicians have emigrated to Western countries, with the result that Czechia itself is suffering from a shortage of doctors. The government in Prague has now decided to issue exemptions from current regulations to close at least part of the gap with specialists from Ukraine. Physicians from the former Soviet republic already working in the country will have one year to obtain their state licence. The special arrangement affects about 200 physicians and dentists from Ukraine. The Czech Medical Association had sharply criticized the move to promote the influx of Eastern Europeans, adding that all active physicians must be state-certified and complaining that politicians had allowed the health care system to go into a "catastrophic slide". The Association has long been clamouring for higher salaries for physicians amid reports that approximately around a thousand doctors are missing in the country.

Source: dpa

The digital transition in health care

EU-wide exchange

The Commission of the European Union wants to focus on the digital transition in the health sector, placing citizens at the centre of developments, as the German medical journal Deutsches Ärzteblatt has learned. "This approach will form the basis of EU activities in the field of digital health in the next few years", the magazine quoted the European Commission. The initial priority will be on secure cross-border access of citizens to electronic

Photo: fotolia.de/Kawf8

health records and the possibility of sharing their data across borders. The Commission announced that it would make a recommendation on technical specifications for the EU-wide exchange of citizens' electronic health records so that the data would be secure but accessible across borders. The Commission also wants to encourage investment to make national health records interchangeable between countries.

Source: Deutsches Ärzteblatt

One year with the EU MDR

No solutions in sight

The new EU Medical Devices Regulation came into force in May 2017. After twelve months, many questions about its practical implementation are still open, as industry associations – especially in Germany – have complained. Manufacturers, Notified Bodies and other stakeholders in the health care sector are faced with numerous changes as a result of the new regulation. Internal processes and procedures have to be adapted to the new requirements, even though numerous legal questions are still waiting to be resolved. Currently there are only 59 Notified Bodies for medical devices left in the EU, down from an original 90. This means that the Notified Bodies are suffering from a shortage of capacity, and manufacturers have to brace themselves for long waits to get their products certified. At the same time, the number of products that these bodies will control in future is growing rapidly. Many manufacturers fear problems with bringing their products to market that would result in economic losses and might even put their entire business at risk. This would also mean that their innovations would no longer reach the market and their products would no longer reach the patients.

Sources: Various

Nitrogen dioxide levels are too high in many cities

EU Commission sues Germany

The EU Commission is taking Germany to the European Court of Justice (ECJ) for permitting excessive nitrogen dioxide levels in many cities. Germany and five other countries had failed to enforce compliance with the limit values for fine dust and nitrogen oxides, as EU Environment Commissioner *Karmenu Vella* justified the move. *Vella* had invited the environment ministers from nine countries to a meeting in Brussels at the end of January, asking them for their proposals for rapidly improving urban air quality. "The Commission has found that the proposed additional measures are not sufficient to comply with air quality standards as quickly as possible", said the Maltese Commissioner as he explained the charges being brought before the ECJ against six of the nine countries. In the Commission's opinion, the German proposals such as installing an increased number of electric drives in buses, did not go far enough. The German government had been trying to avoid driving bans on diesel vehicles if at all possible. The situation is different in the case of Spain, Czechia and Slovakia, which also had to propose additional measures at the beginning of the year, but will not be sued in Luxembourg for the time being. In addition to Germany, France, Great Britain, Italy, Hungary and Romania will now meet the Commission in court. In the case of Germany, the main issue is the increased nitrogen oxide pollution in cities, which is harmful to health and is primarily caused by diesel cars. By contrast, exceeded limits for particulate matter are no longer a problem in German cities except in exceptional cases.

Source: Gesundheit.de

Photo: fotolia.de/ Bilderbox

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Software as a medical device

For the first time, the European Court of Justice (ECJ) has clearly defined the conditions that software must meet in order to be classified as a medical device pursuant to Directive 93/42/EEC (judgment of 7 December 2017 in case C-329/16).

The Syndicat national de l'industrie des technologies médicales (SNITEM) represents enterprises active in the medical device sector in France. Philips France is one of these enterprises. It manufactures and places on the market, inter alia, the drug prescription assistance software "Intellispace Critical Care and Anaesthesia" (ICCA). This software is used for resuscitation and anaesthesia. It provides a doctor with the necessary information for the correct prescription of drugs, relating, in particular, to possible contraindications, interaction between different drugs and excessive doses.

The ICCA software bears the CE marking, attesting to the fact that it has undergone assessment of its conformity with the requirements of Directive 93/42/EEC. Article 1(3) of Decree 2014-1359 amended the French Social Security Code to include a subsection entitled "Provisions concerning the obligation to certify software to assist in the prescription of medicinal products" comprised of Articles R161-76-1 to R161-76-9.

Article 2 of Decree 2014-1359 states that the certifications according to R161-76-1 and R161-76-10 were to be obligatory effective 1 January 2015.

SNITEM and Philips France brought action before the Council of State, seeking annulment of Article 1(3) and Article 2 of Decree 2014-1359 as not being in conformity with EU law. The corresponding provisions in national law stipulate a need for certification by national authorities even if the respective software already has a CE marking.

The Conseil d'État (Council of State) was uncertain whether software such as the ICCA software must be classified as a medical device within the meaning of Article 1(2)(a) of Directive 93/42/EEC. It therefore sought an interpretation of that provision from the Court, for which purpose it stayed the proceedings and then referred the following question for a preliminary ruling:

"Must … Directive [93/42/EEC] be interpreted as meaning that software, the purpose of which is to offer to prescribers practising in towns, a health establishment or a medico-social establishment support for determining a drug prescription, in order to improve the safety of prescription, facilitate the work of the prescriber, encourage conformity of the prescription with national regulatory requirements and reduce the cost of treatment at the same quality, constitutes a medical device within the meaning of that directive, where that software has at least one function that permits the use of data specific to a patient to help his doctor issue his prescription, in particular by detecting contraindications, drug interactions and excessive doses, even though it does not itself act in or on the human body?"

In its judgment of 7 December 2017, the ECJ answers this question in the affirmative, as the Advocate General had previously recommended in his Opinion of 28 June 2017.

Reasons for the decision by the ECJ

Article 1(2)(a) of Council Directive 93/42/EEC defines the term "medical device". It explicitly stipulates, amongst other things, that software is a medical device if it is intended to be used for the purposes stated in Article 1(2)(a) of Council Directive 93/42/EEC and to be indicated by the manufacturer. In addition, it must have the effect defined by Article 1(2)(a) of Council Directive 93/42/EEC.

However, in the ECJ's opinion, the effect is less significant for the classification as a medical device than the intended purpose. In its judgment (Subs. 32), the ECJ states that it does not matter whether, in order to be classified as a medical device, software acts directly or indirectly on the human body, the essential point being that its purpose is specifically one of those referred to in Article 1(2)(a) of Council Directive 93/42/EEC. In the opinion of the ECJ, the ICCA software meets this purpose. "Moreover, refusing to classify a device which does not act directly in or on the human body as a 'medical device' would in practice exclude from the scope of Directive 93/42 software which is specifically intended by the manufacturer to be used for one or more of the medical purposes set out in the definition of a medical device, even though the EU legislature intended, by Directive 2007/47, to include such software in that definition, whether or not the software works directly in or on the human body." (Subs. 30).

The ICCA software assists drug prescription in anaesthesia services and intensive care units. In the case of the former, when the patient is admitted, the software incorporates preoperative information and information available

in the systems to which the software is connected. The software analyses and processes that data in order to provide the anaesthetist with information during the operation. As regards intensive care, resuscitation or continuing care units, the software is capable of handling the details about the patient that are needed to make informed medical decisions. The ICCA software, in the view of the ECJ, thus has features that allows physicians and health professionals to make calculations regarding the prescription of drugs, identify possible allergies or assess the expected duration of treatment. The software "therefore pursues a specifically medical objective, making it a medical device within the meaning of Article 1(2)(a) of Directive 93/42/EEC (Subs. 25).

As the software is a medical device within the meaning of Council Directive 93/42/EEC, it must be CE-marked in order to be allowed to be placed on the market. However, this also means that, once the CE marking has been obtained, the software may be placed on the market and circulate freely in the European Union without having to undergo any additional (national) certification procedure.

In addition, the ECJ stated that it is the responsibility of the manufacturer to identify the limits and interfaces of the different software modules: "In respect of medical software comprising both modules that meet the definition of the term 'medical device' and others that do not meet it and that are not accessories [...] only the former fall within the scope of the directive and must be marked CE." (Subs. 36).

Summary and conclusion

The interpretation of Council Directive 93/42/EEC by the ECJ in its judgment of 7 December 2017 has direct consequences, because the marketing of software that is not categorized as a medical device is generally subject to less stringent requirements in the respective member states than that of medical devices. Overall, software for the health sector is becoming increasingly important. This development has prompted member states, including France, to adopt national health legislation, which may differ considerably from country to country. Council Directive 93/42/EEC, supplemented by Directive 2007/47/EC, was intended to harmonize these individual provisions of the member states, eliminating any gaps and uncertainties with the aim of ensuring the free circulation of medical devices in the internal market. The ECJ has again done this in its judgment of 7 December 2017 by rejecting the certification procedure introduced by France that goes beyond the CE marking procedure pursuant to EU directives.

If a software in actual practice falls under the definition of medical device and if it bears the appropriate CE marking, the manufacturer declares by means of this CE marking that the software complies with the applicable requirements according to EU rules. No further national testing or certification procedures are required. User (dentists) can generally rely on the CE marking. ■

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Safe immediate restoration of edentulous jaws

Digitally perfected processes and high patient comfort

DR STEFFEN KISTLER[1], STEPHAN ADLER[1], DR FRANK KISTLER[1], DR JÖRG NEUGEBAUER[1,2]

The ongoing digital transformation in dentistry and dental technology has the potential to make implant surgical and prosthetic treatments constantly more effective and more efficient. Highly accurate and reliably predictable results as well as permanent reproducibility coincide with time savings, cost reduction and increased patient comfort. This is especially true of complex therapies, such as the immediate restoration and loading of implants in the edentulous jaw using a reduced number of implants [1]. The excellent long-term results that can be achieved with this method in clinical practice have been confirmed in a number of recent systematic reviews [2,5,7].

The rehabilitation of an edentulous mandible with prosthetic restorations on four intraforaminal implants using the SKY fast & fixed procedure has been established for over ten years and is now an integral part of restorative dentistry. The tilting of the two distal implants moves their emergence profile into the region of the second premolars, creating – together with the two mesially placed implants – a sufficiently wide polygonal area to support a fixed screw-retained provisional restoration. Thus, four implants allow the restoration with fixed bridges without the risk of nerve lateralization [5,10]. In addition, given their inclination, the implants inserted can be longer, which in turn creates more stable biomechanical support [4].

The hard tissue is stabilized as the masticatory forces are transmitted to the tilted implants. The marginal bone loss in tilted implants corresponds to those of straight implants [2]. With this method, which is based on the concept of the working group headed by *Paolo Maló* and *Bob Rangert* [6], patients and practitioners benefit from a streamlined procedure without bone augmentation at manageable cost.

3D planning is a prerequisite

Exact planning is indispensable for immediate restoration and loading. Three-dimensional imaging provides the necessary data about the anatomical structures. Appropriate planning software can be used to perform precise 3D diagnostics, to plan implant positions from a prosthetic perspective, to provide virtual representations or predictions of manual surgical interventions and to visualize the final restorative result. In connection with superstructures and materials optimized for their respective indication, the procedures and production processes are thus further perfected even for solutions already clinically proven.

A CBCT image (Galileos; Dentsply Sirona, Wals, Austria) lets the dentist and dental technician assess the residual bone supply and helps them decide to what extent and at which positions the bone should be reduced horizontally and which vertical dimensions should be provided. In the planning software (Sicat Implant; Dentsply Sirona) they can surgically and prosthetically align the intraforaminal implant sites with the existing bone supply and enable a slightly subcrestal positioning of the implants, facilitating a platform switch on corresponding abutments.

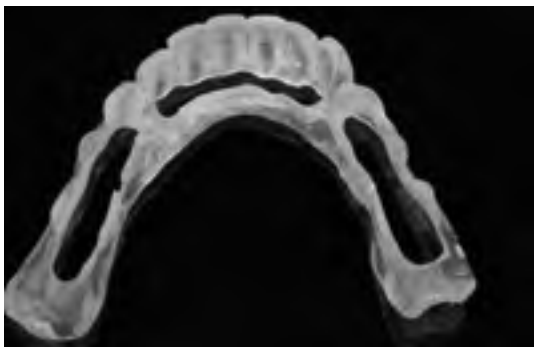
The adjusted diagnostic model with the tooth setup is then scanned, with the scan data serving as the basis for the construction and production of a slotted orientation jig for orientation and the immediate provisional restoration produced before the surgical procedure.

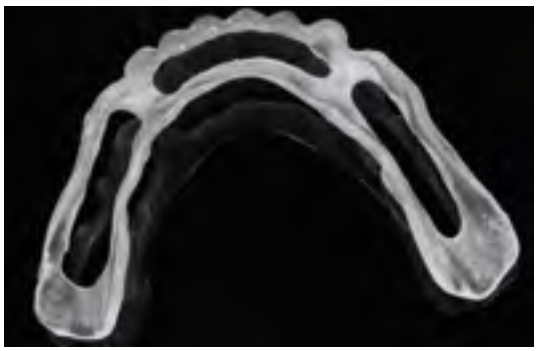
Slotted orientation jig with prosthetic corridor

Depending on the diagnostic result, a slotted orientation jig can be used as an alternative to the usual surgical 3D template with integrated drilling sleeves. However, this presupposes the presence of sufficient horizontal and vertical residual bone supply, which leaves the surgeon some surgical leeway in the prosthetic positioning of the implants,

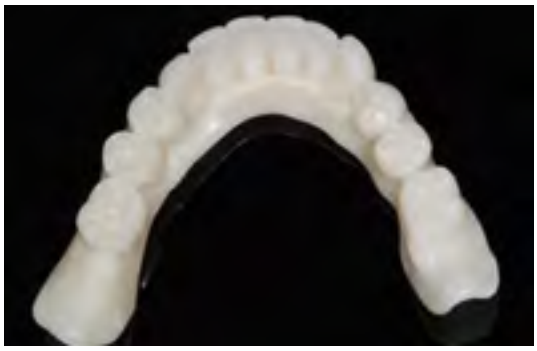
[1] Landsberg am Lech, Germany [2] Cologne, Germany

1 and 2 I
Digitally designed and milled orientation jig, occlusal and intaglio views.





3 and 4 I
Manually slotted orientation jig, occlusal and intaglio views.



5 and 6 I
Digitally constructed and pre-surgical immediate restoration, still without the drill holes for the prosthetic copings, occlusal and intaglio views.

simplifying the process. In patients with a small mouth opening, a slotted orientation jig may facilitate access to the surgical site. However, since the jig is removed after the pilot drilling, the surgeon should have ample experience in freehand implantation.

A slotted orientation jig provides the practitioner with placement corridors, set up in close cooperation with the dental technician, within which they can insert the implants according to surgical aspects, with optimal utilization of the residual bone supply, but still in a prosthetically oriented manner. The implants are positioned and aligned within these corridors such that the appropriate, possibly angled, abutments for the distal implants can be screwed in without complications. For this purpose, the orientation jig is reinforced at the margins to ensure the necessary intraoperative stability. After milling the jigs, the prosthetic corridors are manually ground by the dental technician and the edges are polished.

The breCAM.splint material (bredent, Senden, Germany) used for the orientation jig is not a thermoplastic but a chemoplastic PMMA. As a result, custom-made structures can be produced in a subtractive process ("cold working") without the risk of polymerization shrinkage. In addition, no special tools or milling templates are required (Figs. 1 to 4).

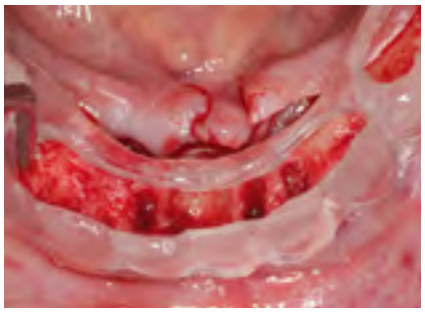
Impressionless digital prefabricated immediate provisional restoration

From the same scan data as those used for the orientation jig, but after removing the reinforcement at the margin, the immediate provisional is milled from a high-density resin blank (breCAM. multiCOM; bredent) in a digital process, before the surgical procedure.

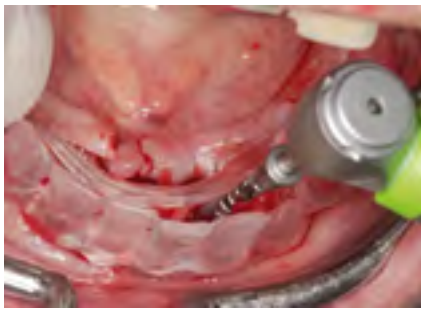
According to the manufacturer, the monolithic polychrome composite resin material will sustain wear for up to two years, meaning that the provisional will not have to be replaced until the final restoration is ready. To increase the strength and to improve the abrasion behaviour, the material is mixed with ceramic particles embedded in the plastic matrix of the organic PMMA and has good milling properties. Its multichromatic layers give the immediate provisional a broadly natural-looking shade (Figs. 5 and 6).

Surgical implementation of the plan

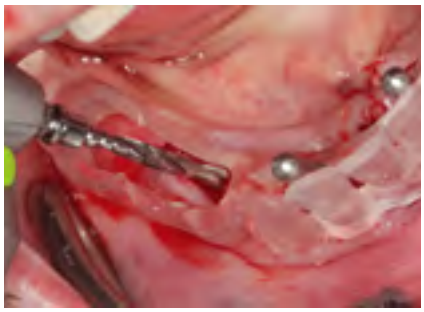
After the remaining teeth have been extracted, the alveolar crest is prepared by reflecting a mucoperiosteal flap and reduced horizontally with Luer pliers



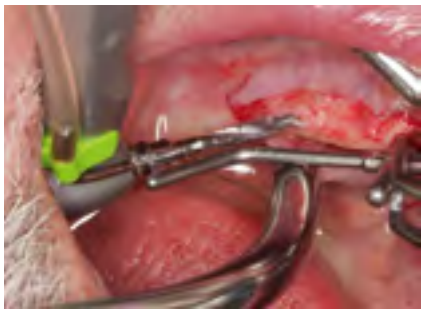
7 I Orientation jig with prosthetic corridor placed on the smoothed alveolar crest.



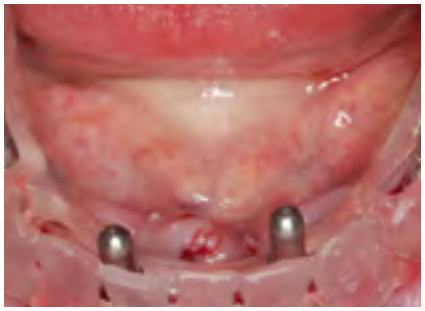
8 I Anterior pilot hole within the prosthetic corridor.

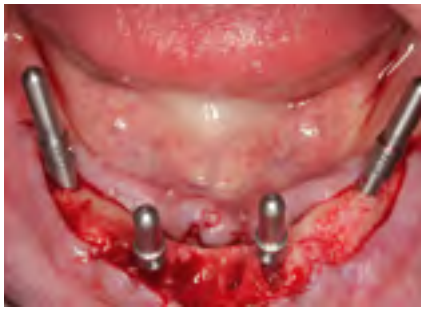


9 I Posterior angled pilot hole within the prosthetic corridor.

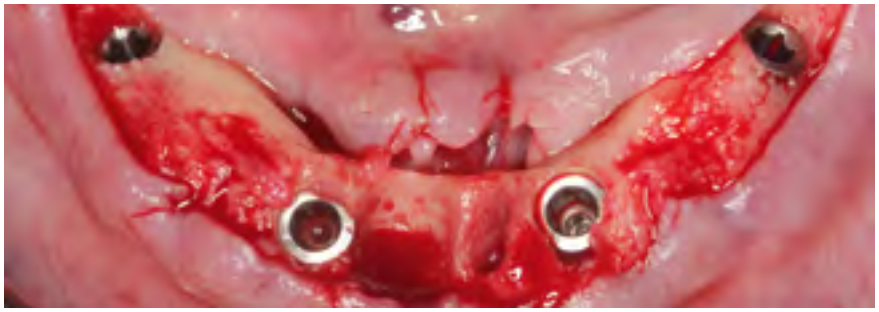


10 I Verifying the alignment of the posterior implants with the angulation aid with the orientation jig removed.





11 and 12 I Inserted parallelism indicators with and without orientation jig.



13 I Subcrestally and intraforaminally positioned blueSky implants.

and spherical cutters as planned. The method provides a good view of the surgical site and surrounding bone as well as adjacent sensitive structures. Surgical freedom within the prosthetic corridor of the jig precludes the risk of mispositioning, which can lead to bone defects and a less favourable prognosis with an elevated risk of peri-implantitis [10].

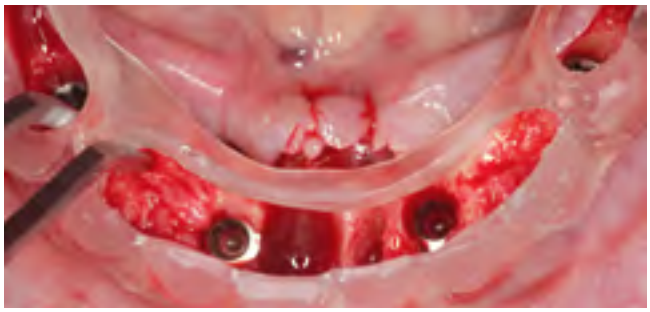
Intraforaminal pilot bores are made with the orientation jig in place, checking their orientation with parallelism indicators. The subsequent preparation of the implant beds and the insertion of the four blueSKY implants are carried out freehandedly, according to the protocol. For stable immediate loading, a primary stability of 30 to 45 Ncm is recommended. For higher torques, the implant bed must be widened correspondingly. The bone chips resulting from the smoothing of the alveolar ridge and the preparation of the cavity can be used for filling the surgical site if needed (Figs. 7 to 13).

Selection of definitive abutments

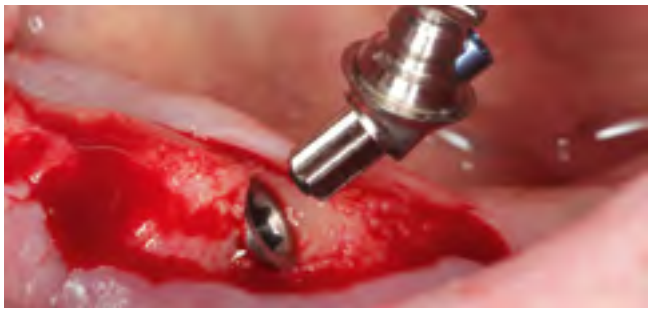
According to the principles of the "one-time abutment therapy", the definitive abutments are screwed on directly after implant placement. Since it is no longer necessary to perform an abutment change and all further treatment steps are performed at the abutment level, the crestal bone level can stabilize and the surrounding soft tissue can mature without irritation.

SKY uni.cone platform-switched abutments (bredent) are used in the anterior mandible. Their narrow emergence profile allows the definitive restoration to be given an attractive aesthetic design. Different abutment heights are available for different levels of mucosal thickness. On the distal implants, angulated abutments with platform switching are used that allow an angular compensation of up to 45°. Their exact alignment can be controlled via the insertion aid. Platform switching and the hourglass abutment shape make collisions with bone on the insertion of the angulated abutment almost impossible. The abutment connection torque is 25 Ncm.

The prosthetic copings are connected and the surgical site is sutured tight to the copings after taking a control radiograph (Figs. 14 to 22).

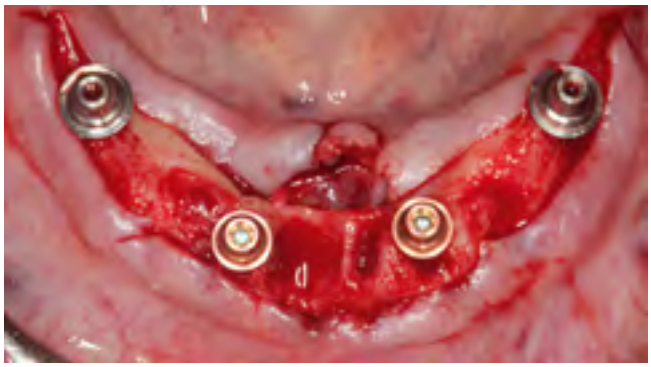


14 I Position control with the orientation jig.

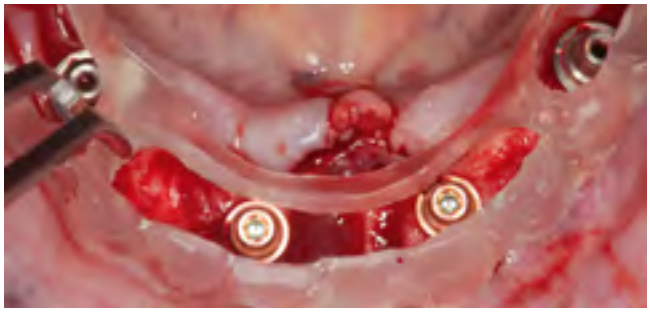


15 I Distal abutment with insertion aid in place.

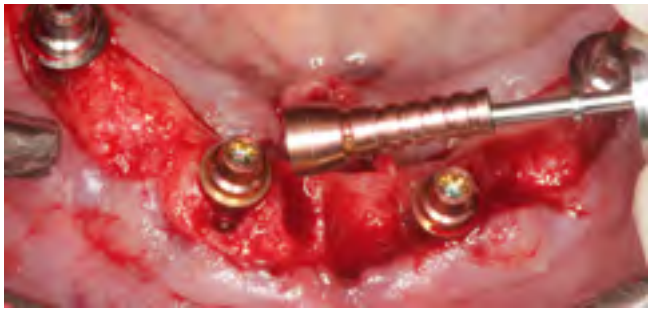
16 I Colour-coded SKY uni.cone abutments for the anterior region.



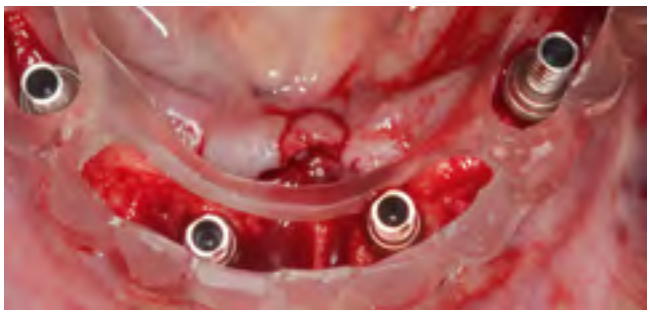
17 I Anterior and posterior screw-retained abutments.



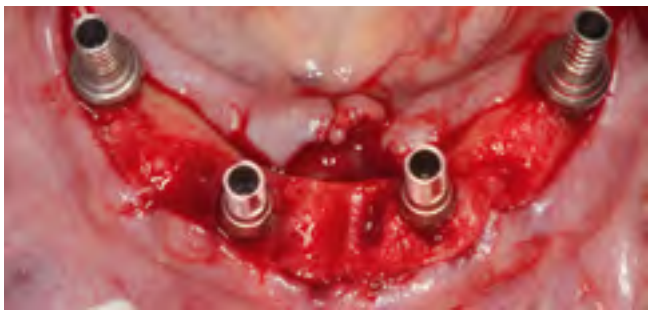
18 I Checking the abutment positions on the orientation jig.



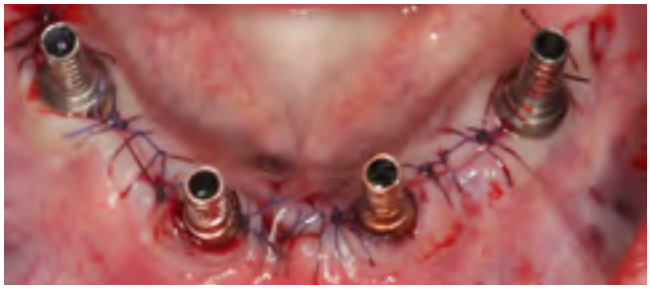
19 I Placing the SKY uni.cone prosthetic copings in the anterior region.



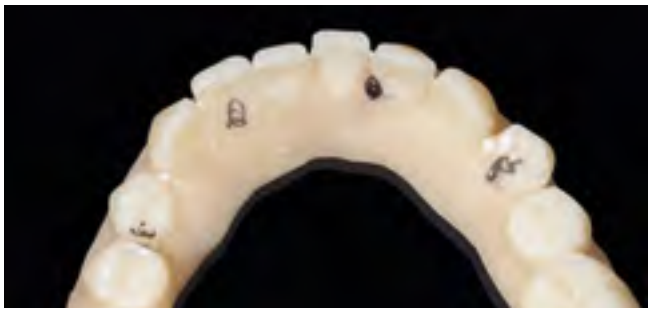
20 I Verifying the positions against the orientation jig.



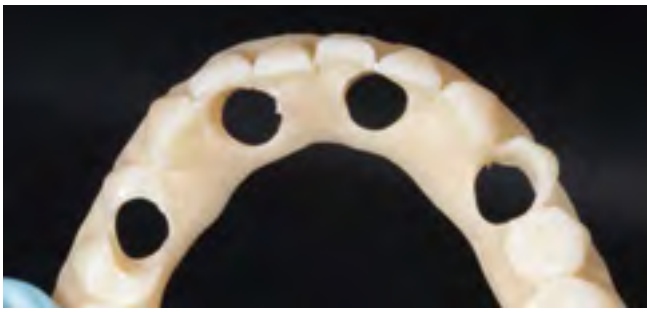
21 I Screwed-in prosthetic copings.



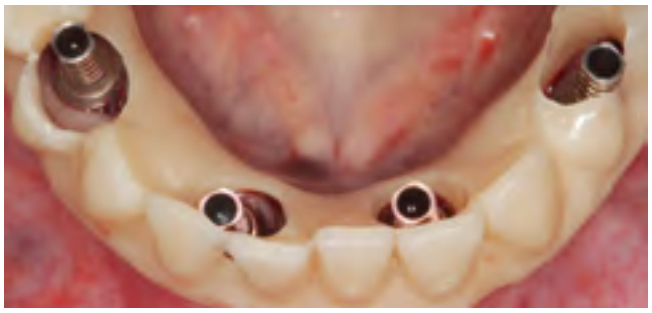
22 I Soft tissue sutured tight to the copings after taking a control radiograph.



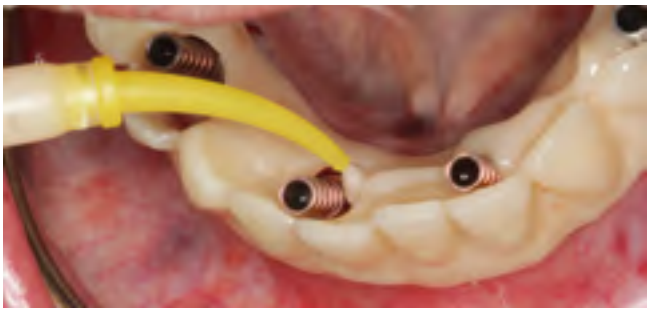
23 I Implant positions transferred to the implant bridge.



24 I Milled openings for bonding the prosthetic copings.



25 I Implant bridge placed on the prosthetic copings.



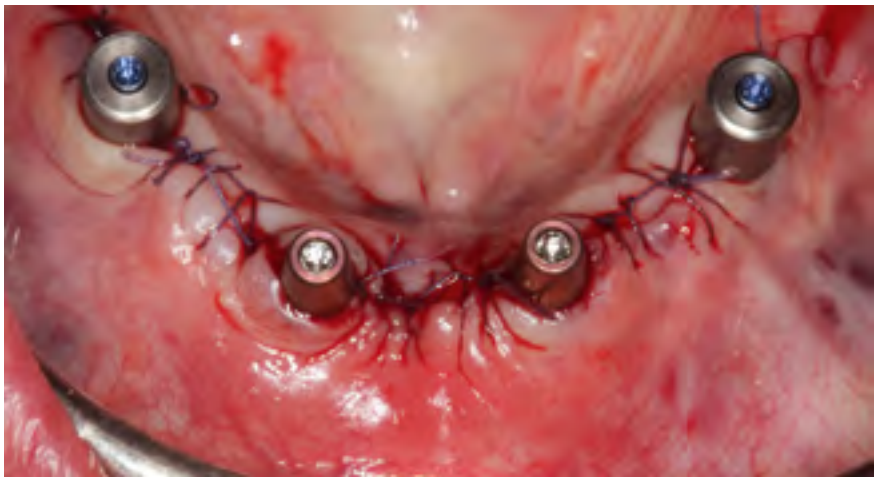
26 I Securing the prosthetic copings in place with Qu-resin.

Immediate restoration made of tooth-coloured PMMA

To bond the prosthetic copings into the implant-supported bridge made of composite (breCAM.multiCOM; bredent), the implant positions on the orientation jig are marked and transferred to the bridge. The slots for the prosthetic copings are relieved generously with a milling cutter to gain sufficient space for fixation and bonding. The fit of the prosthesis body is checked and any pressure points are removed.

The screw access channels are protected with closing pins to prevent adhesive from flowing into them. The prepared bridge is positioned over the prosthetic copings and the first coping is bonded in place passively in a position of maximum intercuspation using a bite index and Qu-resin (bredent).

The occlusion is checked and the rest of the prosthetic copings are bonded as well, again ensuring a passive fit. After a brief curing time, the bridge can be removed and finished extraorally: shortening of the prosthetic copings, filling of the adhesive gaps and basal lacunae for a concave design of the intaglio surface, thinning of the denture edges (which had been more generously dimensioned in the data for the orientation jig) and polishing. The provisional restoration must be out of contact with the peri-implant mucosa in the basal region, allowing it to heal undisturbed. Screwed-on gingiva formers prevent intermittent collapse of the soft tissue in the meantime. After checking the occlusion, the bridge is finally screwed in place and the screw channels are closed (Figs. 23 to 31).

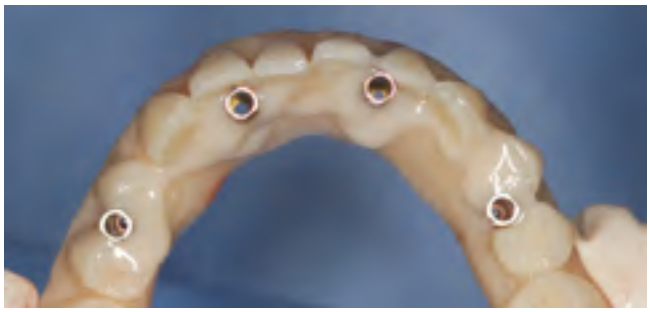


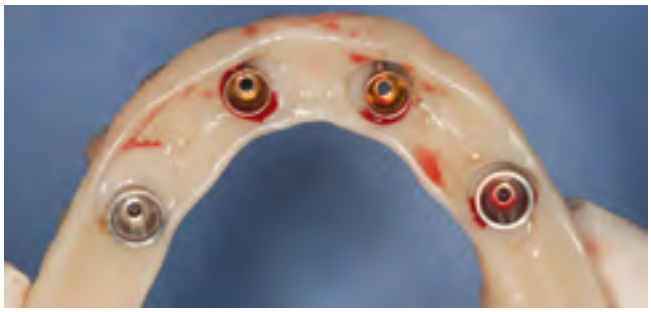
27 I Gingiva formers prevent intermittent collapse of the soft tissue in the meantime.

Definitive restoration

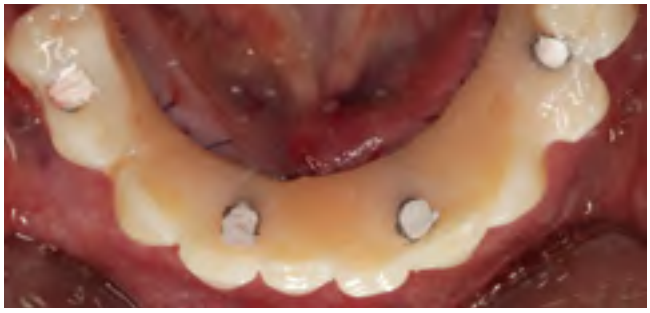
Depending on the prevailing situation, it may be possible to begin work on the definitive restoration after just three months. Any interim changes and corrections to the provisional, including its possible replacement, can be made with relatively little effort based on the existing data.

The framework and veneering are also produced using the CAD/CAM process. The bridge framework is milled from

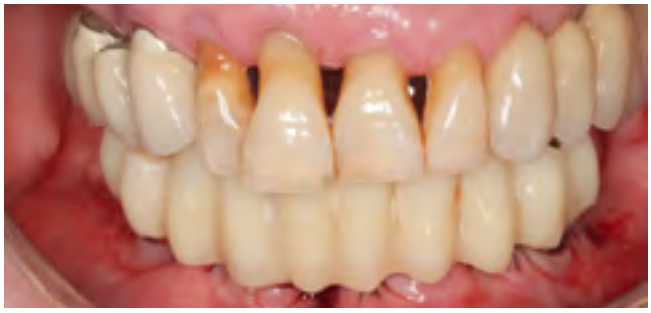




28 and 29 I Retrieved bridge after intraoral fixation of the prosthetic copings.



30 I Finished bridge shortened to the second molar with closed screw access channels.



31 I Inserted implant bridge made of breCAM.multiCOM for immediate loading.

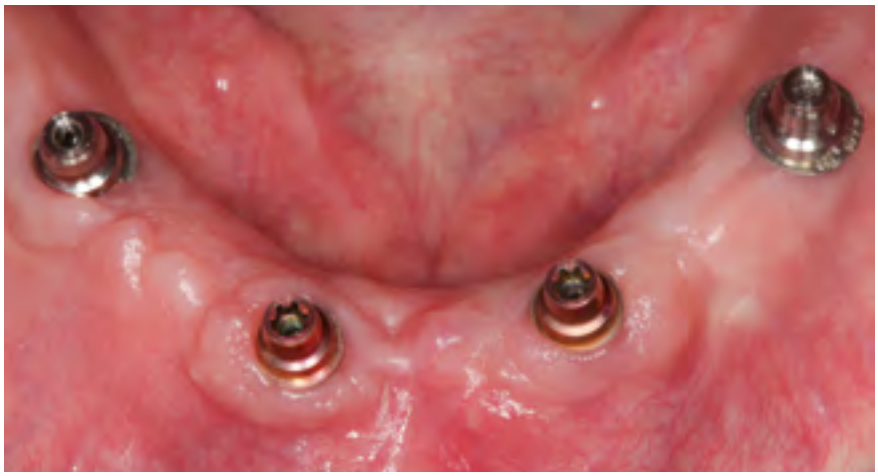
the ceramic-reinforced PEEK material breCAM-BioHPP (bredent), whose low modulus of elasticity gives the superstructure a certain resilience and thereby protects the implants and abutments, especially since materials with low elasticity are comparable in clinical durability to all-ceramic restorations [5]. For the veneering, the scanned set-up is produced in one piece from breCAM.hipc (bredent), a plaque- and discolouration-resistant ceramic-reinforced high-performance polymer. The material is used monolithically and can be customized by cut-back and staining. Should it become necessary to replace the veneer or even the framework, both structures can be reproduced at any time on the basis of the saved data (Figs. 32 to 39).

Conclusion

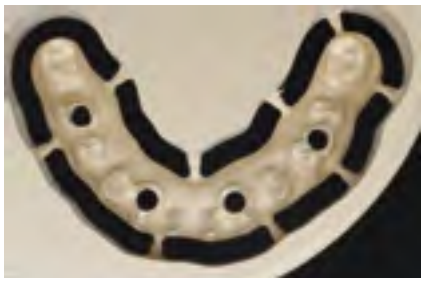
The digital workflow in conjunction with suitable materials can save time and reduce the cost of materials and, not least, increase handling safety, especially with implant-supported restorations – and even more so as this modality offers almost unlimited reproducibility in every processing phase. Close cooperation between the dentist and dental technician regarding surgical and prosthetic requirements and adjuncts is a prerequisite.

Immediate provisional restorations give the treatment team safe planning options in terms of function, phonetics and aesthetics [1], forming the basis for optimal long-term results. Due to the potential extended wearing time of the provisional of up to two years, the dentist can also tailor the definitive restoration to the patient's financial situation.

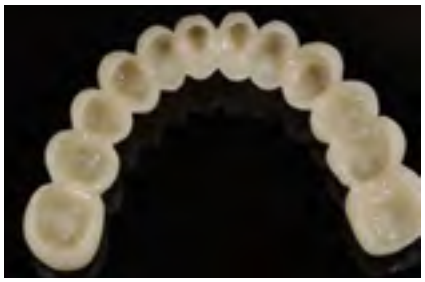
An immediate restoration of an edentulous mandible on a reduced number of implants, including any extractions, is usually completed within a few hours in one session. The provisional restoration is made without an additional impression before the implants have even been placed and remains in situ until the delivery of the definitive restoration. The orientation jig and the provisional are based on the same data, ensuring an exact fit. The monolithic use and digital



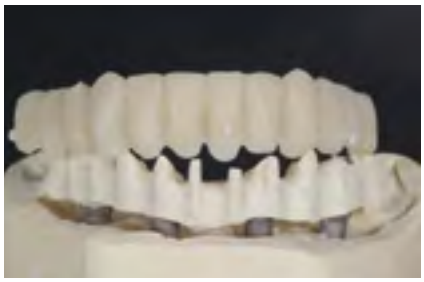
32 I Condition of the peri-implant soft tissue three months after implant placement.



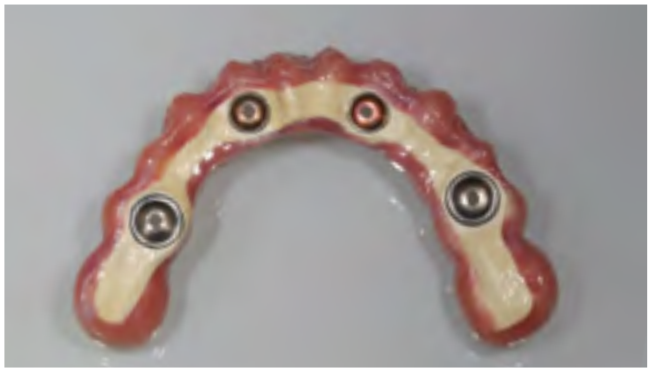
33 I Mandibular framework milled from breCAM.BioHPP.

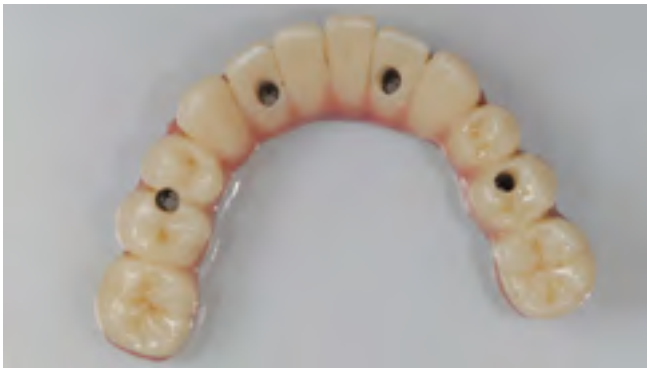


34 I Secondary structure milled from breCAM.hipc.

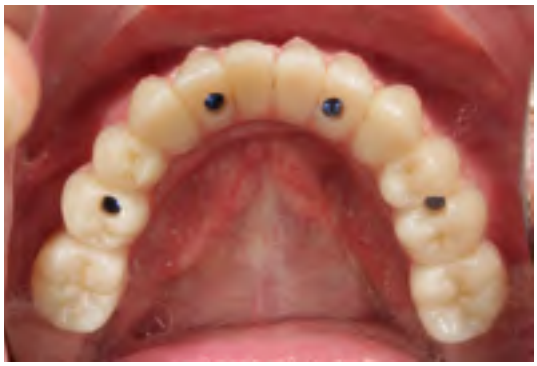


35 I Digitally planned and manufactured structures.

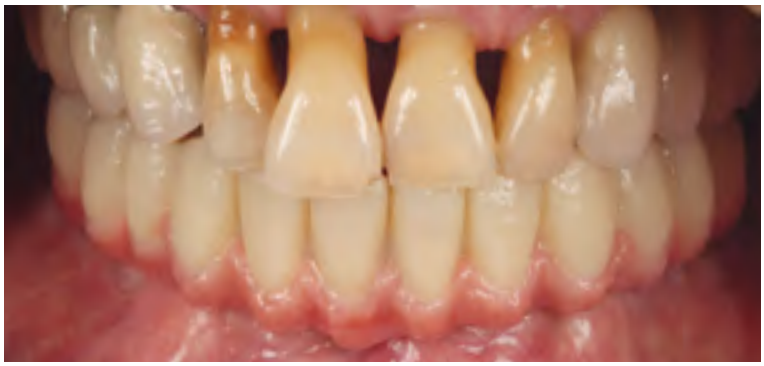




36 and 37 I Finished implant-supported bridge with unveneered BioHPP intaglio surface and occlusal screw connection.



38 I Occlusal view of the inserted bridge before closing of the screw access channels.



39 I Final situation with inserted bridge.

processing of the materials promotes optimal healing.

Since the abutments are connected immediately after implant placement and remain in situ without being changed, all further treatment steps are carried out at abutment level from that point on. This, in turn, promotes stable maturation of the peri-implant soft tissue and contributes to the preservation of the crestal tissues. Depending on the course of therapy, the data used for making the provisional restoration can also be loaded as a template for the definitive restoration.

Several studies found no significant differences in implant success rates between different loading protocols. Thus, immediate implant placement with immediate loading, given an appropriate indication and careful patient selection, will presumably yield results comparable to conventional placement and loading protocols [3,8,12].

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

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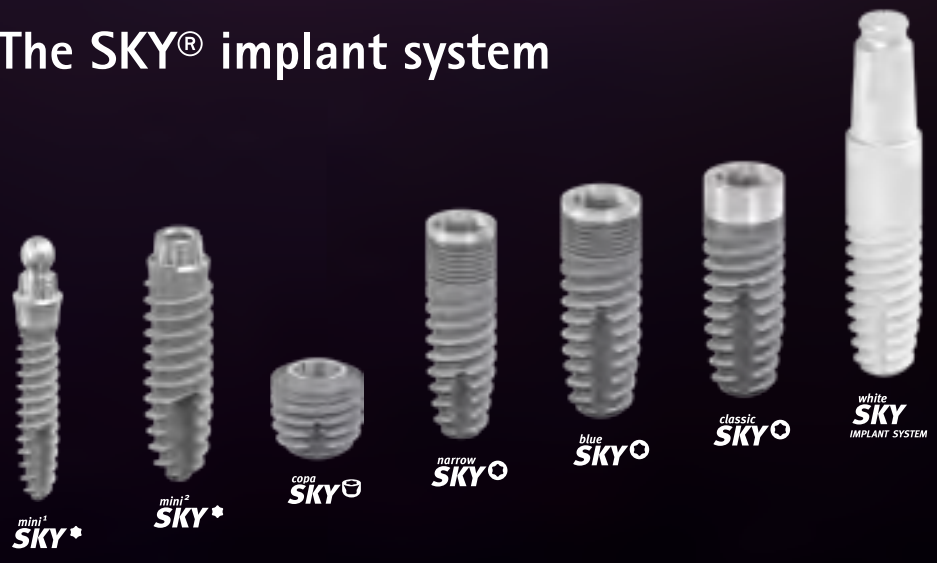

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Type 3 recession defects

Clinical management of recession defects with immediate implant and provisional restoration therapy

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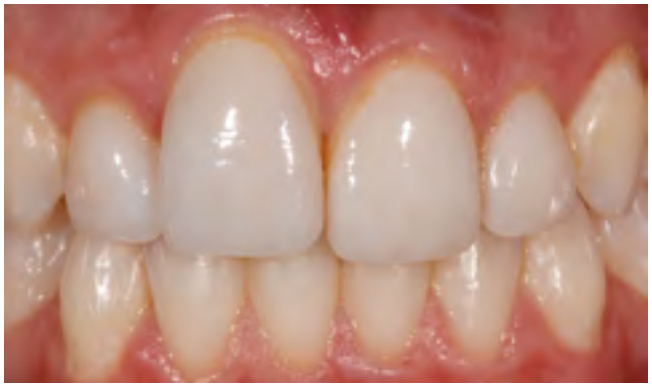
Type 3 extraction sockets present a unique challenge in that they possess gingival recession indicative of facial hard- and soft-tissue loss. When teeth present with prior disease requiring removal and implant replacement, the treatment strategy incorporates palatal implant positioning as well as proper restorative contour management to compensate for the recession defect, thereby allowing the gingival tissues to heal in the correct three-dimensional position. This article describes the case of a patient with a nonrestorable maxillary right central incisor with internal resorption. The case demonstrates the use of immediate implant and provisional restoration therapy in type 3 (recession) clinical situations.

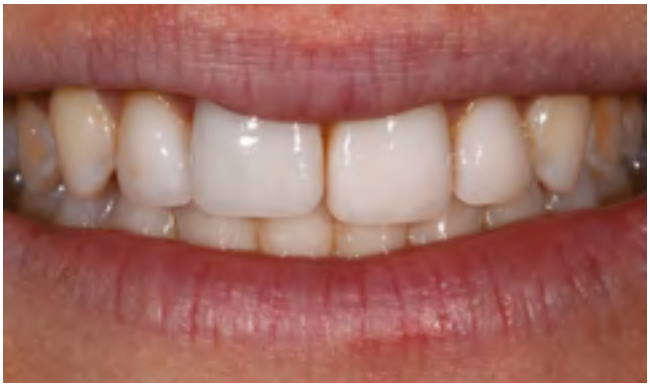
Several extraction socket classifications have been published in the dental literature; however, a simple treatment approach for maxillary anterior teeth was reported in 2007 that categorized whether the labial bone plate and associated soft tissues were present or absent [1]. According to this classification system, type 1 sockets were identified as intact; all the hard and soft tissues were present. Type 2 sockets were identified as having the soft tissue present, but part of the labial bone plate was absent, indicative of a dentoalveolar dehiscence defect. Type 3 sockets were classified as having midfacial recession where portions of the soft and hard tissues were absent. This classification system served to distinguish aesthetic risk for gingival recession in treatment of single-tooth implant sites in the aesthetic zone. Other extraction socket classifications have been published incorporating loss of interdental tissue, which is a separate clinical scenario [2].

Treatment of types 1, 2, or 3 sockets

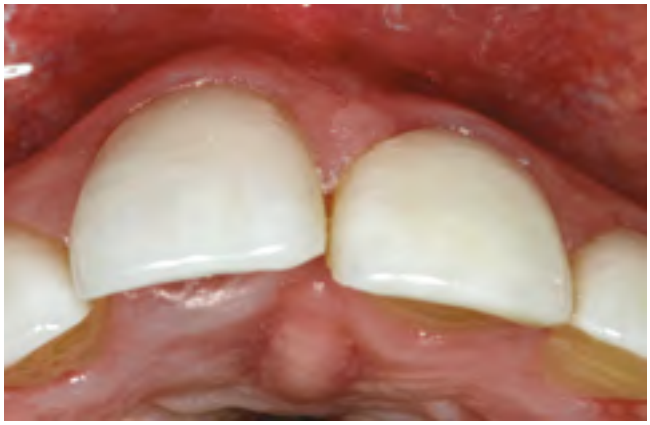
The treatment of type 1, or intact, extraction sockets with immediate tooth replacement therapy has shown consistent

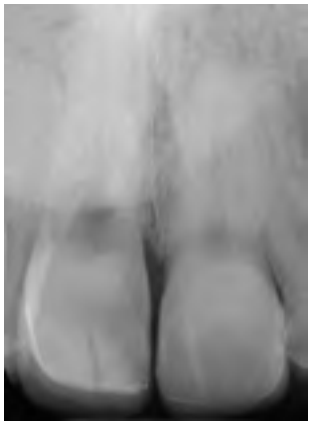


1 I Preoperative extraoral view of tooth No. 8 in labial malposition with midfacial gingiva recession relative to adjacent teeth.



2 I Patient presented with a low smile line that did not expose the recession defect from an aesthetic perspective. However, she was dissatisfied with the discrepancy in tooth and incisal edge position.





3 I The labial malposition of tooth No. 8 was apparent from the occlusal incisal view. The fact that the tooth was malpositioned allowed the strategy of palatal implant positioning within the dental arch and restorative undercontouring to correct the gingival profile and free gingival margin location.

4 I Periapical radiograph showed internal resorption of tooth No. 8 and possible ankylosis of the root.

outcomes in regard to implant survival, osseointegration, and aesthetics since its introduction to implant dentistry in 1998 [3–10]. Implant position and diameter are critical factors to maintaining buccal gap distance for the potential of new labial plate formation [7]. Hard-tissue grafting in conjunction with immediate implant therapy and provisional restoration is important for avoiding gingival recession and buccal ridge collapse and enabling positive aesthetic outcomes [5,8–10].

Type 2 clinical situations present greater challenges in treatment because there is partial or complete absence of the labial bone plate [11]. Type 2 sockets should be approached cautiously because the risk of midfacial recession is always present, especially in the aesthetic zone. The size and extent of the pre-existing defect are defining factors in clinical and aesthetic success [12]. Several authors have proposed clinical techniques to regenerate dehiscence defects, seen on radiographic examination, using various graft techniques and materials, with or without barrier membranes; however, they all have advocated and employed a flapless surgical approach [13–15]. The key clinical determinants to achieve a predictable outcome are implant primary stability and graft containment with a provisional crown or custom healing abutment in non-occlusion [14].

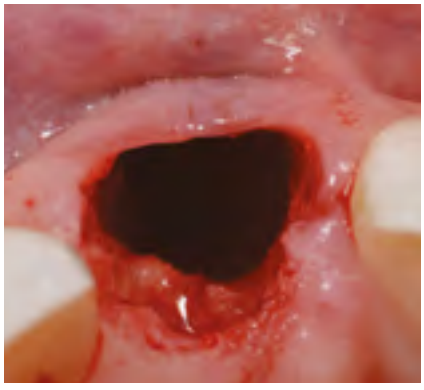
Type 3 extraction sockets present a different challenge because they already possess gingival recession indicative of facial hard- and soft-tissue loss. Gingival recession is often associated with a thin periodontal phenotype, cervical abrasion or erosion, or tooth malposition. Historically, facial overcontour of a restoration was typically associated with gingival recession [16,17]. Excessive labial tooth position is also frequently the cause of recession and can be addressed by altering tooth position through orthodontic therapy. However, when teeth present with prior disease requiring removal and implant replacement, the treatment strategy incorporates palatal implant positioning as well as proper restorative contour management to compensate for the recession defect, thereby allowing the gingival tissues to heal in the correct three-dimensional position [18-19].

The following report describes the case of a patient with a nonrestorable maxillary right central incisor tooth with internal resorption.

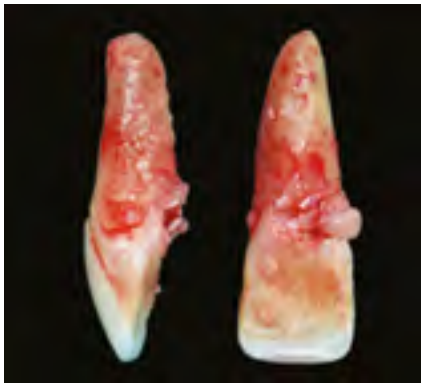
Case report discussion

A 26-year-old woman presented with existing veneer restorations on teeth Nos. 7 through 10, with tooth No. 8 in a more apical position relative to the adjacent dentition (Fig. 1). Although the patient had a low midfacial smile line, she was concerned about the incisal edge discrepancy and the negative gingival architecture due to tooth malposition in both vertical and buccolingual directions (Fig. 2). Prior dental history embraced the use of orthodontic treatment to reposition tooth No. 8 into the dental arch; however, this treatment proved futile because the tooth may have been ankylosed from trauma (Fig. 3). Radiographic examination of tooth No. 8 revealed internal root resorption (Fig. 4).

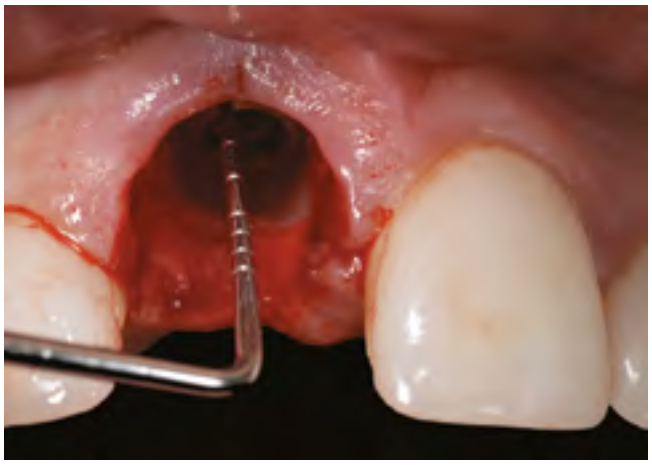
The tooth was removed very carefully in a minimally invasive, atraumatic, flapless manner (Fig. 5). Upon removal of the tooth, the resorption lesion was evident on the palatal aspect (Fig. 6). The vertical



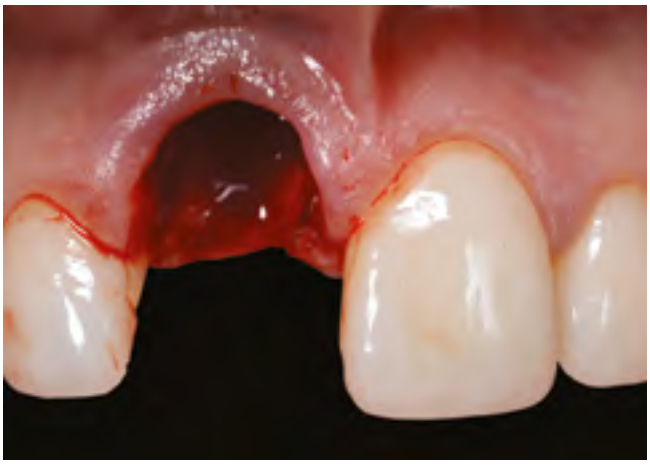
5 I Tooth No. 8 was carefully excised in a flapless surgical approach.



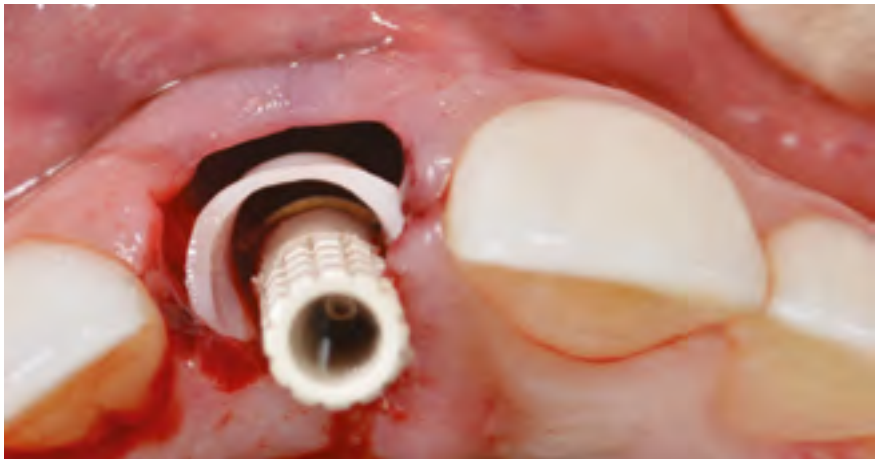
6 I The removed tooth showed the internal resorption lesion had perforated the palatal aspect of the root.



7 I The implant was placed in a palatal position 3 mm from the free gingival margin.



8 I The palatal tissues were coronal and equivalent to the adjacent interdental tissues.



9 I CAD/CAM-fabricated gingival acrylic sleeve used to construct the provisional crown restoration. It was placed in the peri-implant tissues to support them in its pre-extraction state and then joined with the implant screw-retained abutment post.

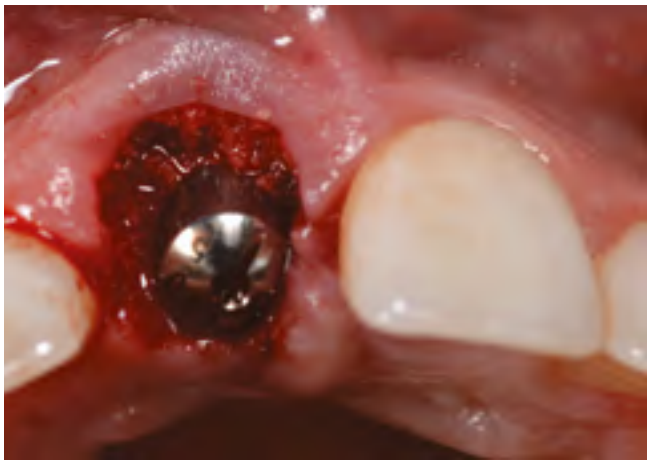
10 I The provisional restoration was fabricated, properly contoured at the gingival level, and verified in the extraction socket.

implant depth was placed relative to the midfacial crest of bone, roughly 3 mm from the free gingival margin (Fig. 7). In addition, the implant was placed in a palatal position – where the existing and correct tooth position should have been – manage the proper restorative contour of the provisional restoration.

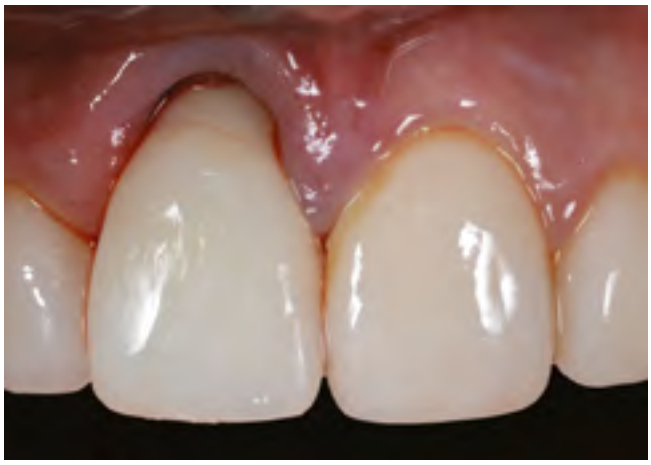
The diagnostic key in the predictable treatment of a type 3 recession defect is the height of the palatal tissues [20], which in this case were in a coronal position and consistent with the adjacent interdental tissues (Fig. 8). An acrylic gingival sleeve, or shell, was fabricated and milled from a prefabricated polymethylmethacrylate block using a CAD/CAM digital file [21]. This sleeve was then luted to a prefabricated implant abutment post using an autopolymerizing acrylic resin (Super-T; American Consolidated Manufacturing, Conshohocken, PA, USA) to create a screw-retained provisional restoration (Fig. 9). Proper contour and spatial gingival undercontour were created in the provisional restoration to allow the facial gingival margin to migrate to a more incisal position (Fig. 10).

After provisional restoration fabrication and its removal, a tall, flat-contoured titanium healing abutment was connected to the implant to allow a small-particle mineralized cancellous bone allograft material (Puros; Zimmer Biomet, Warsaw, IN, USA) to be placed into the facial gap. The dual-zone technique was used to graft not only the bone zone (palatal to the labial bone plate), but also the soft-tissue zone (peri-implant soft tissues) (Fig. 11) [8].

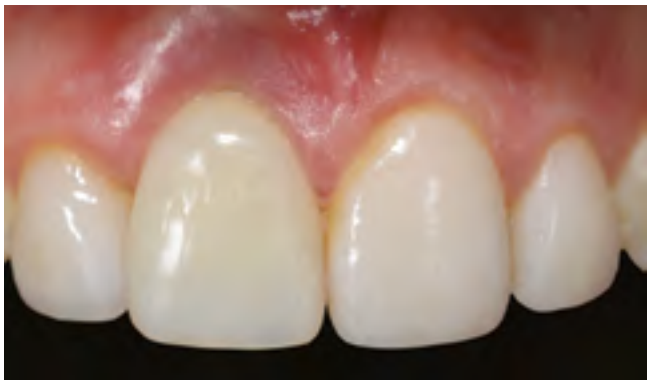
After removal of the titanium healing abutment, the non-occlusal loaded provisional crown restoration was replaced to contain and protect the graft material during the four- to six-month healing phase of treatment. The restorative contour of the provisional restoration was significantly undercontoured relative to the original malposition of the tooth before extraction (Fig. 12). This allowed the gingival tissues to migrate to a more palatal and incisal position to re-establish the correct midfacial free gingival margin location after three weeks of healing (Fig. 13). The bone and soft tissues matured around the implant and provisional restoration; at five months healing the gingival tissues showed excellent shape and fullness (Fig. 14). In the authors' opinion, tissue maturation is



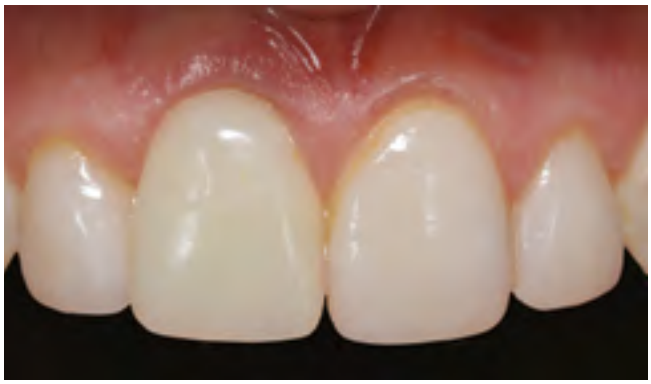
11 I The provisional was removed after contour verification, and a tall, flat-contoured titanium healing abutment was placed to allow access to the labial gap and the condensation of bone allograft material using the dual-zone technique.



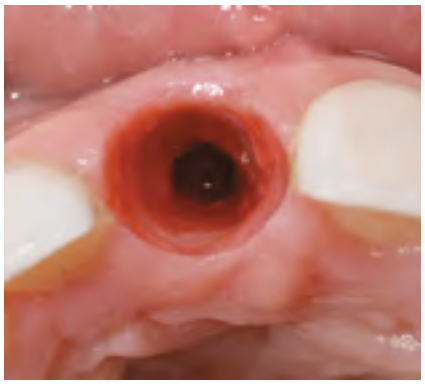
12 I The provisional restoration was replaced after dual-zone grafting to contain and protect the material during the healing phase. Note the facial gingival undercontouring, or proper contouring relative to the corrected implant location, versus the labial malposition of the existing tooth.

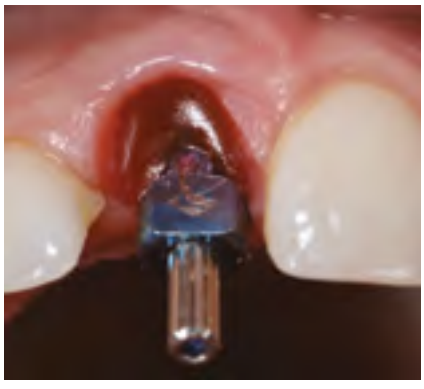


13 I The undercontoured provisional restoration allowed the peri-implant soft tissues to collapse and migrate incisally to a normal free gingival margin position after three weeks of healing.



14 I The hard and soft tissues were given five months to heal before first abutment disconnection for final impression making. The level of the midfacial free gingival margin was re-established and stable.



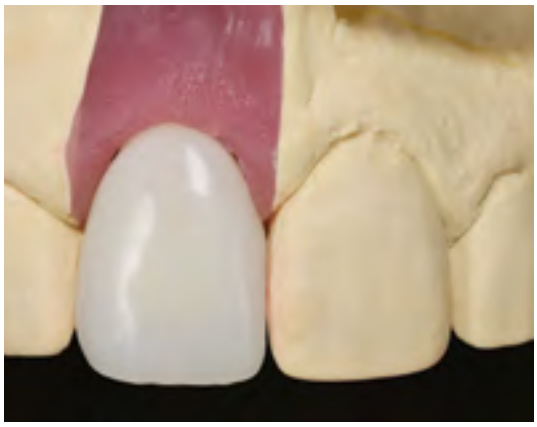


15 I First provisional restoration disconnection showed the corrected facial ridge dimension and profile mimicking that of the adjacent central incisor tooth No. 9. Through proper implant positioning and restorative subgingival contour, the recession defect was corrected.

16 I An implant-level impression transfer coping was seated and pattern resin used to register the soft-tissue profile of the peri-implant soft tissues as well as the ridge dimension and shape.

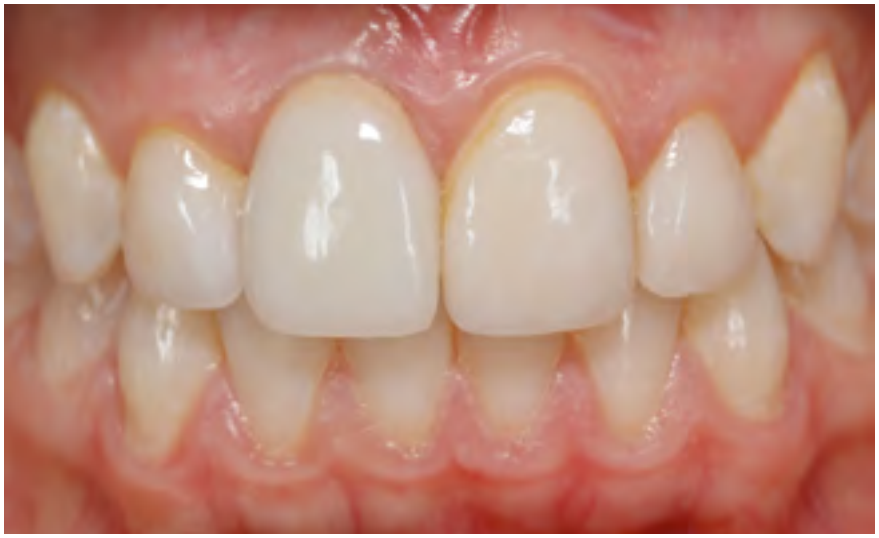
both understated and underestimated in the overall process of achieving aesthetic success of implants placed into anterior extraction sockets. In their experience, hard tissues require six months and soft tissues three months for maturation.

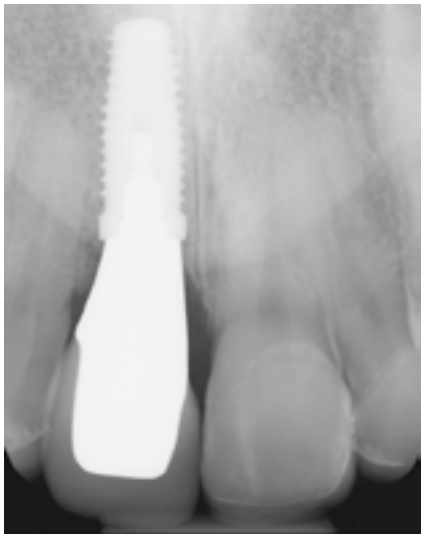
The provisional restoration was first disconnected from the implant after five months of healing (Fig. 15). An implant-level impression coping was seated onto the implant, and a colored resin (Pattern Resin; GC America, Alsip, IL, USA) was used to capture the soft-tissue profile (Fig. 16). A polyvinylsiloxane material (Flexitime; Kulzer, Hanau, Germany) was used to transfer the spatial location of the implant. An implant replica, or analog, was placed onto the implant-level



17 I A metal-ceramic crown was fabricated on the soft-tissue gypsum cast.

18 I The screw-retained metal-ceramic noble alloy crown was gold-plated to improve the color tone of the peri-implant soft tissues.





19 I Intraoral view of the inserted definitive crown in maximum intercuspal position. The level of the free gingival margin was corrected equivalent to and harmonious with the adjacent dentition. 20 I Periapical radiograph of the definitive restoration exhibiting adequate bone levels around the immediate implant.

impression coping, and a gypsum soft-tissue hybrid master cast was created to allow laboratory fabrication of a screw-retained definitive restoration.

Metal-ceramic was selected as the definitive material of choice due to its optimal strength and aesthetics with regard to the final screw-retained restoration (Fig. 17) [22]. This material allowed proper subgingival contouring while maintaining maximum strength of the restoration with a platform-switched design. Gold plating the noble metal alloy also enhanced the aesthetic outcome with respect to gingival colour tone (Fig. 18) [23]. The final screw-retained restoration was inserted according to the manufacturer's recommendation of screw preload.

One year after surgery, the tissue contour and gingival tone of the implant restoration of tooth No. 8 integrated well with the adjacent teeth (Fig. 19). Additionally, periapical radiography showed positive bone levels (Fig. 20).

Conclusion

The use of immediate implant and provisional restoration therapy in type 3 (recession) clinical situations can result in predictable aesthetic outcomes. The diagnostic keys for success are: (1) pre-existing labial tooth malposition; (2) flapless tooth removal with the palatal tissues at the proper height; (3) palatal implant placement; (4) dual-zone bone grafting; (5) provisional restoration placement in non-occlusal function; and (6) proper tissue healing for four to six months. ■

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

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Evolution of a digital workflow

Hand in hand: practice meets industry

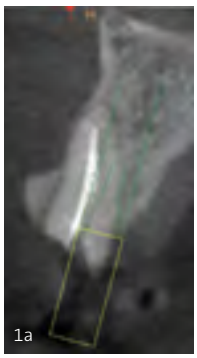
DR MATHIEU ROUSSET, MALEMORT, FRANCE

The digital transformation is becoming more and more important in our profession. For more than twenty years, our dental technicians have used CAD/CAM to make zirconia, cobalt chromium, titanium and lithium disilicate frameworks. Plaster cast impressions are scanned with a lab scanner, and the prosthesis is digitally designed and machined. In 2015, following consultation with our dental technicians, we decided to transition to intraoral optical impressions. Our goal was to replace physical analogue impressions with intraoral optical impressions [1–3]. The focus of our activities is mainly on periodontology and oral implantology, so we had to address some shortcomings of our implant system and certain pitfalls caused to the complexity of taking optical impression in implantology [4,5]. This article documents how the abutments and scanbodies of our implant system (Thommen Medical, Grenchen, Switzerland) evolved to adapt to the specific requirements of optical impressions. It demonstrates the benefits of a close cooperation between practitioners and engineers.

When we took our first optical impression (Figs. 1a to i), we also took a physical impression and created plaster casts to validate the process. The milled restoration based on the optical impression showed a perfect fit of the restoration on the plaster cast. For many years we routinely used Ti-base titanium abutments (Fig. 2) to which we cemented zirconia or lithium disilicate frameworks for our implant-supported prostheses.

In the first case we attempted to cement the crown onto the abutment. The Ti-base abutment (Figs. 2a to d) was not designed for bonding without a cast, resulting in three to five degrees of rotation. In the actual case we were able to perform the cementing anyway because we had the additional plaster cast available.

In the light of the difficulties encountered, we contacted the company's engineers to show them that it was impossible to switch to all-digital with the Ti-Base abutment available at that time because its small anti-rotational beak did not allow bonding without a cast. Milling can only produce a curved surface (Fig. 2e), not a flat one, on the tissue side of the restoration, which explains the lack of precision. We were nevertheless able to treat about fifteen cases by using both optical and physical impressions. This allowed us to validate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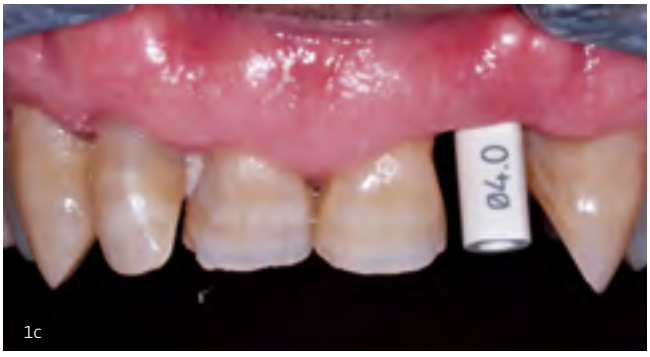

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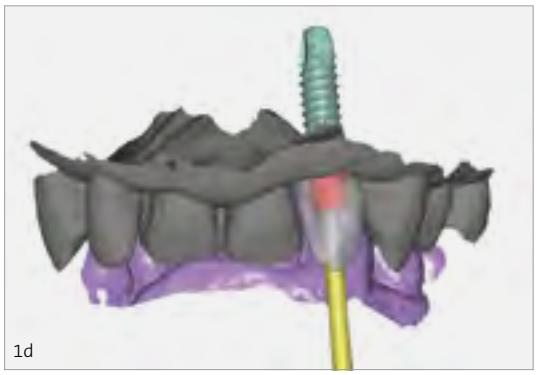

1d

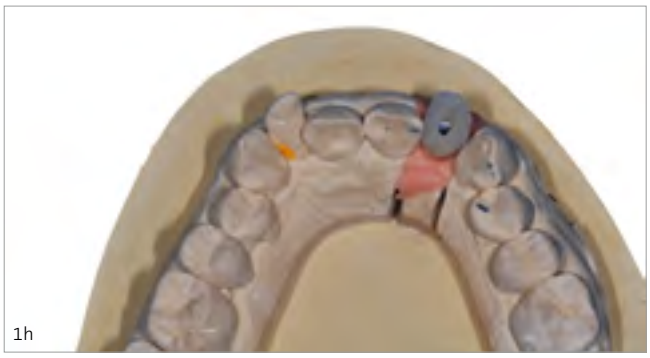

1e


1f

1a to j I First clinical case with CS 3500, Ti-base, and lab scanbody.

a I Pre-implant CBCT.
b I Carestream 3500 camera.
c I Thommen lab scanbody.
d I Prosthetic design in Exocad.
e I Thommen Ti-Base.
f I Lithium disilicate crown directly transferred to the implant.
g I Follow-up radiograph.
h I Bonding on the cast.
i I Completed case.


1g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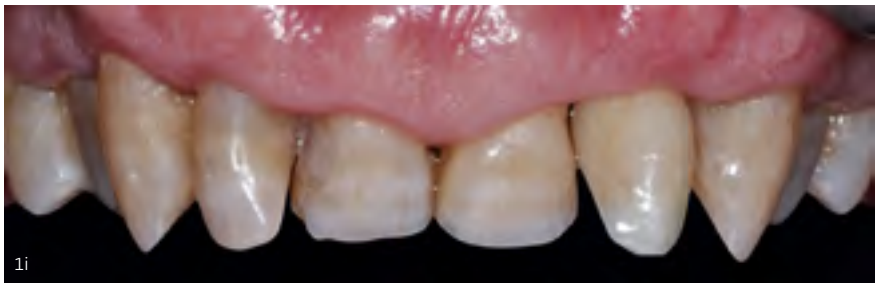
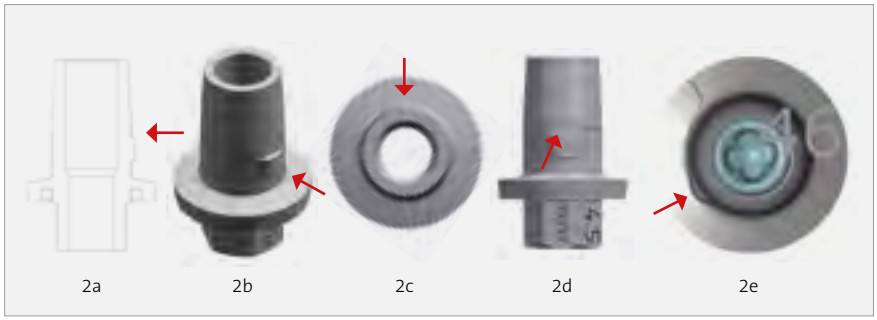

1i

the reliability of this technique for cases with one or two implants.

Another challenge with abutments of this type is their low height (Fig. 3). We noted in cases where prosthetic space is important that this abutment has a very low bonding height. For the case shown in Figure 3, this might lead to unfavourable shear forces.

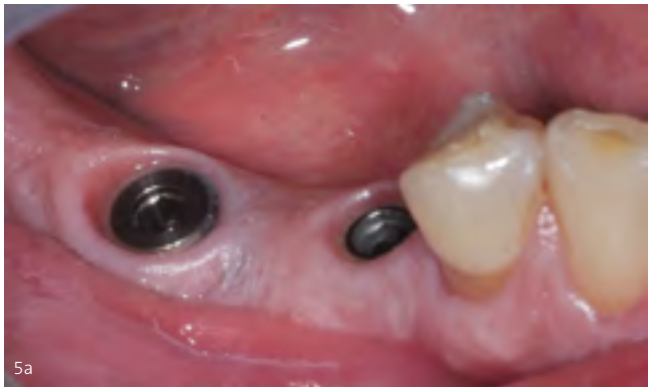
For this first series of impressions we used lab scanbodies [6,7] made entirely of PEEK (cf. Fig. 1c) as there were no dedicated intraoral scanbodies at the time. The problem with all PEEK scanbodies is that they cannot be torqued the same way as abutments (to 25 Ncm) which generates a slight inaccuracy. We asked the engineers to provide scanbodies with a titanium base that allowed torquing at 25 Ncm. PEEK remains the most suitable material for scanbodies, as it is non-reflective white and autoclavable [8]. We also requested changes to the shape of the scanbody, as the lab scanbodies are strictly cylindrical with only a small flat surface, resulting in a lack of landmarks for the intraoral scanner.

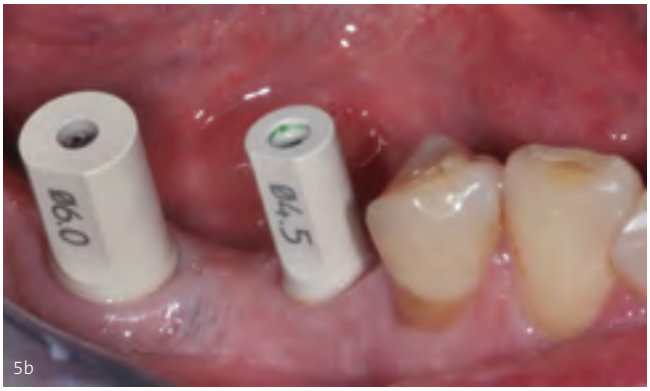

2a 2b 2c 2d 2e

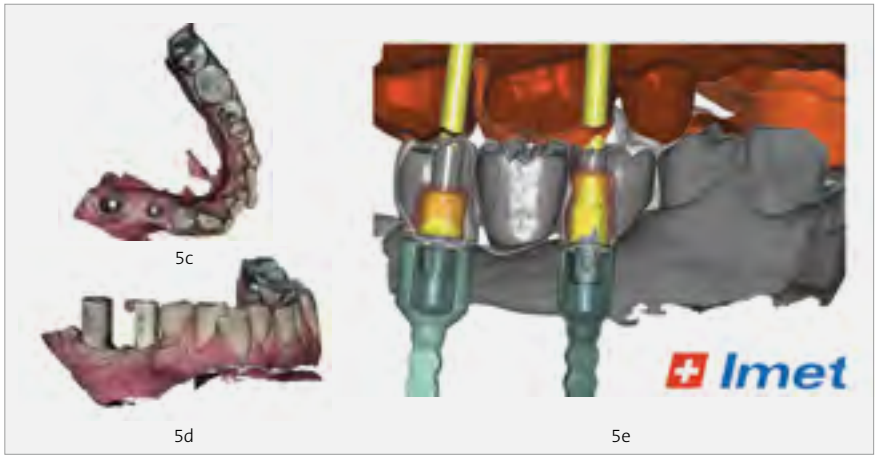
2a to e I 'Thommen Ti-base abutment. 2e shows the tissue side of the restoration.

3 I Unfavourable shear forces.

4 I The Thommen Varioflex abutment.

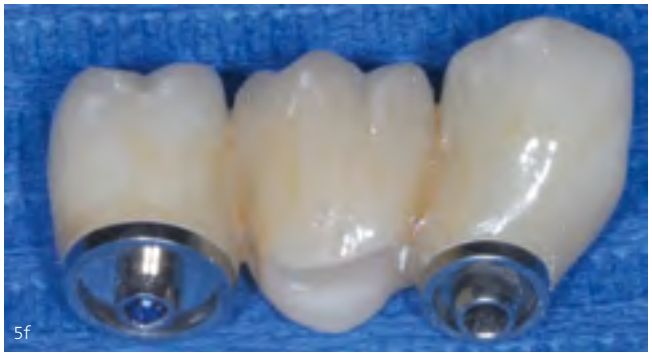


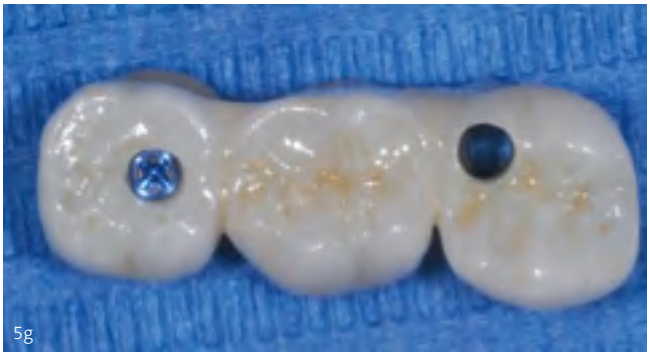


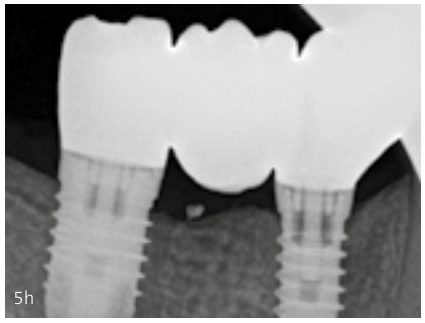


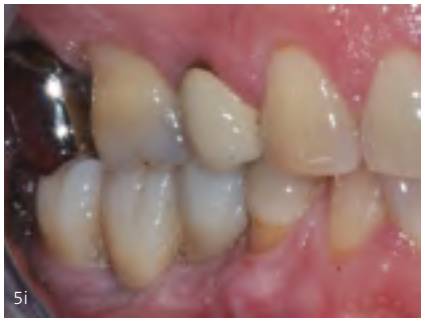
5a–j I First bridge made with CS 3600 and a Thommen Varioflex without cast. Lab scanbodies were used (Laboratoire Mobifix).

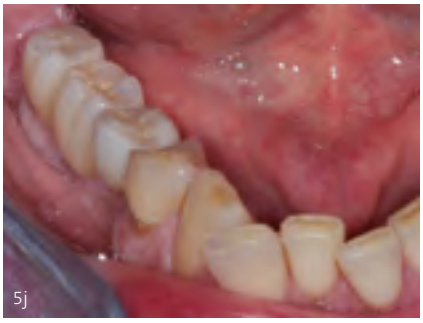
a I Osseointegrated implants.
b I Lab scanbodies in place.
c and d I Impression without and with scanbody.
e I Model design in Exocad.
f and g I Zirconia crown attached to Ti-base.
h I Follow-up radiograph.
i and j I Final situation.

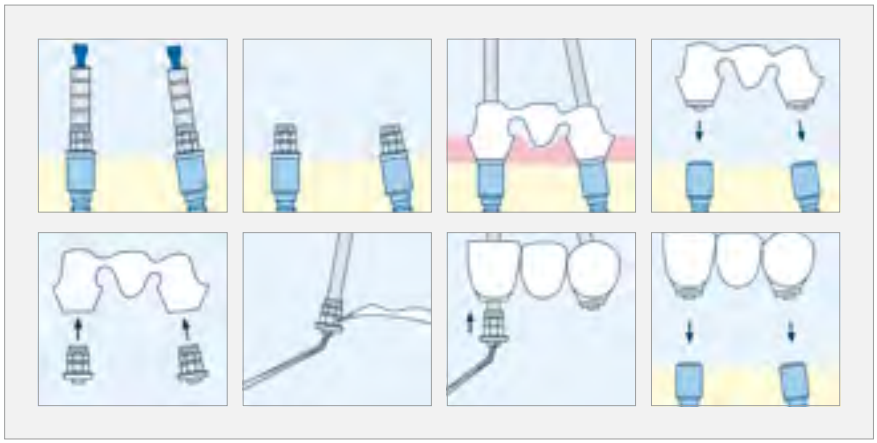












6 I Hybrid prosthetic design: Zirconia framework/abutment.

7a 7b 7c

7a I The new scanbody. 7b and c I Impression without and with scanbody.

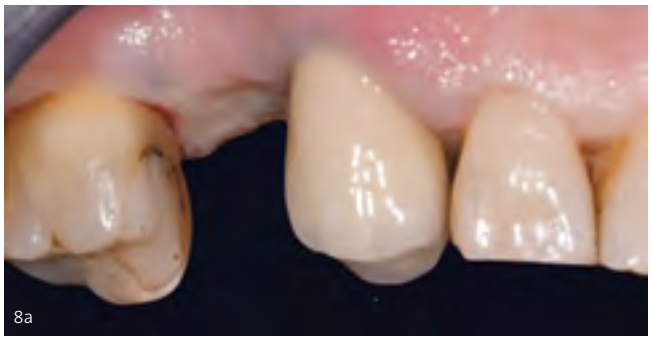
In 2016 Thommen Medical launched the Varioflex abutment (Fig. 4), a titanium abutment for hybrid lithium disilicate restorations, castable for pressable ceramics. The height of this abutment can be adjusted at the laboratory, and it has two large opposing flat surfaces. These surfaces help keep the framework from rotating around the abutment. We immediately asked the engineers to create a virtual library to use in our optical impressions. It allowed the dental technician to trim the abutment to the desired height and to change it virtually when designing the restoration.

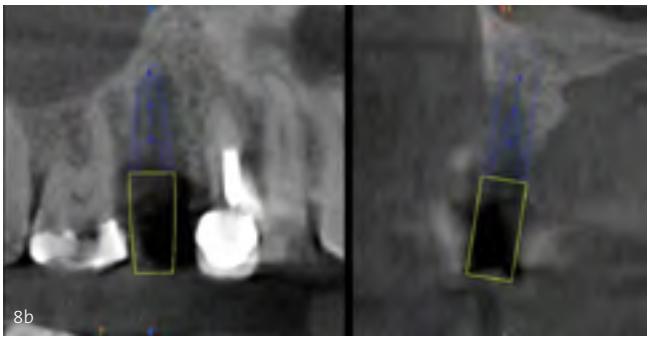
A library was created for all lengths and all diameters. As shown in Figures 5a to j, the bridge made with the CS 3600 oral scanner (Carestream, Rochester NY, USA) is supported by implants 47 (Varioflex; 6 mm diameter; height adjusted to 6 mm) and 45 (Varioflex; 4.5 mm diameter, height adjusted to 8 mm). This significantly increases the bonding height (Fig. 6) and makes this abutment more versatile than a fixed-height abutment. It can be adapted to many different situations, depending on the available prosthetic space. We initiated a series of tests comparing optical and physical impressions. Our use of this new abutment has given us complete freedom from cast models. After a few adjustments, bonding without casts became possible without minimal rotation because of the two flat surfaces.

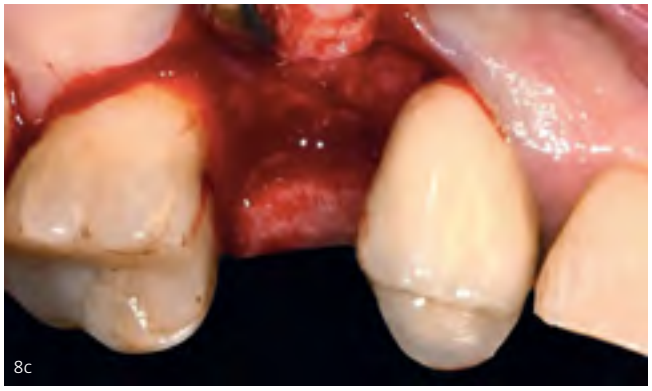
At the beginning of 2017, we received new scanbodies with titanium bases and PEEK bodies (Figs. 7a to c). They provide greater accuracy as they are connected to the implant. Their added relief is more suitable for an intraoral camera. We then treated a new, conclusive series of 15 cases, with both optical and physical impressions. After that we treated many other cases of different types with fully digital designs without physical casts – 91 in all so far (Table 1). These cases represent 162 Varioflex abutments, ranging from simple crowns, double crowns and bridges all the way to fully digital all-on-four and all-on-six procedures.

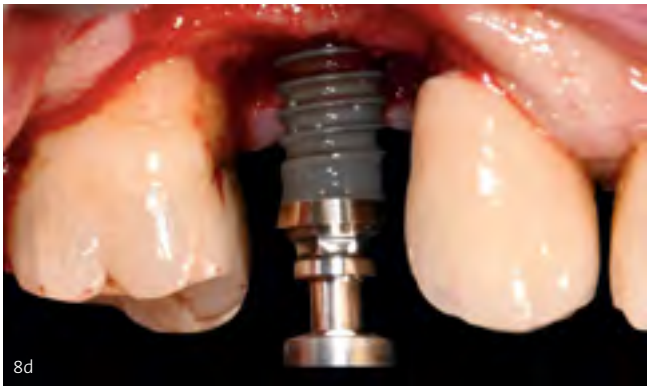
Prosthesis type Frame/abutment	Number of cases
Single crown	52
Two double crowns	14
Three double crowns	8
Bridge, three elements (two abutments)	10
Bridge, four elements (two abutments)	1
Bridge, four elements (three abutments)	3
All-on-four	1
All-on-six	2

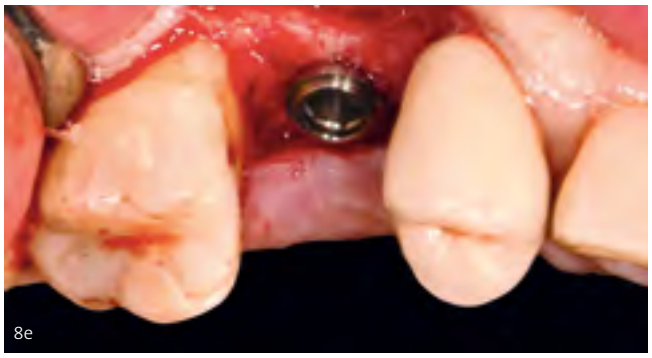
Table 1: Detailed table of the number of cases treated.

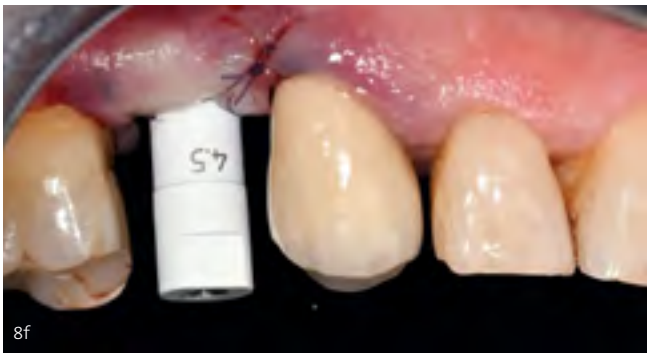


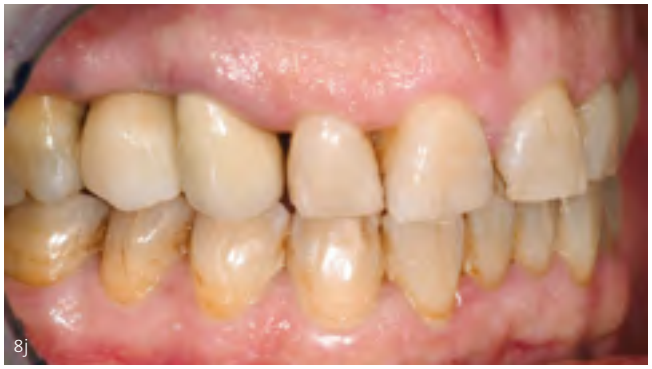


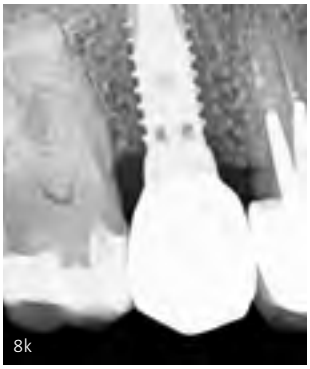


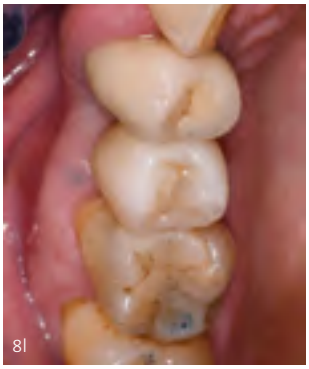












8a–l I "All in two" implant loaded at four weeks. a I Initial situation. b I Presurgical CBCT. c I Site after tooth extraction. d I Implant placement. e I Implant in situ. f I Scanbody in place for optical impression. g I Optical impression. h I Model design in Exocad. i I Zirconia crown attached to Ti-base. j I Screw-attached crown in place. k I Follow-up radiograph. 8l I Final situation.

Single-unit cases with direct crown implants

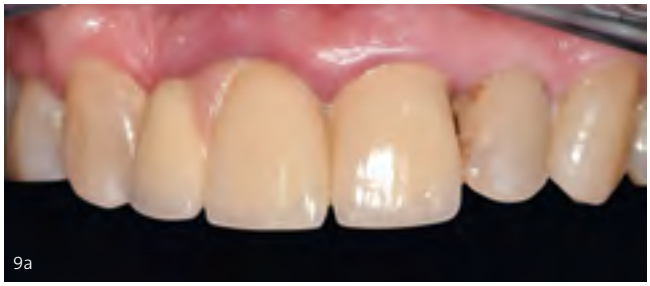
The procedure in these 52 cases is quite simple: taking impressions of the two arches, registering the bite and then taking the scanbody impressions. The results are convincing, although there continues to be a challenge with the insertion axes that might require a proximal adjustment of the restoration. Complexity arises from the double connection (internal hexagon and external stabilization ring on the Thommen implants) and the axis of insertion – but this is equally true of other systems.

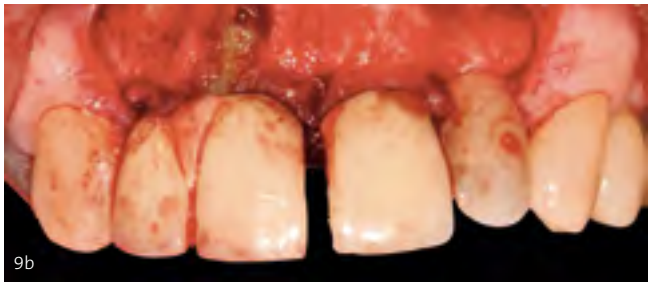
Figures 8a to l show a single-unit "all in two" case. The protocol was simple: an optical impression was taken prior to surgery. The gingival area where the implant was to be positioned was reduced virtually. After surgery, an impression was taken with a scanbody. The final screw-retained crown based on this impression was delivered four weeks later [9]. This protocol significantly reduces the number of visits, which simplifies matters for patients travelling from far away. Implant loading at four weeks is possible due to the active surface of the implant.

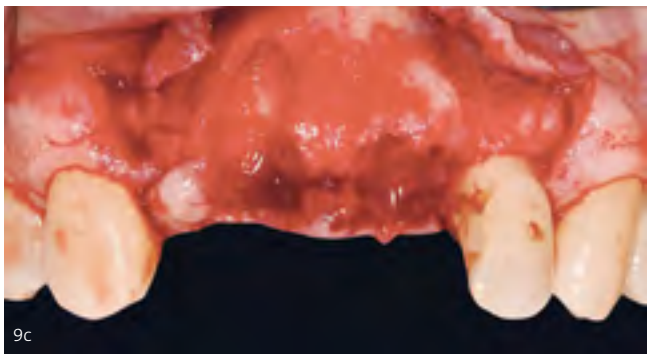
Multi-unit cases

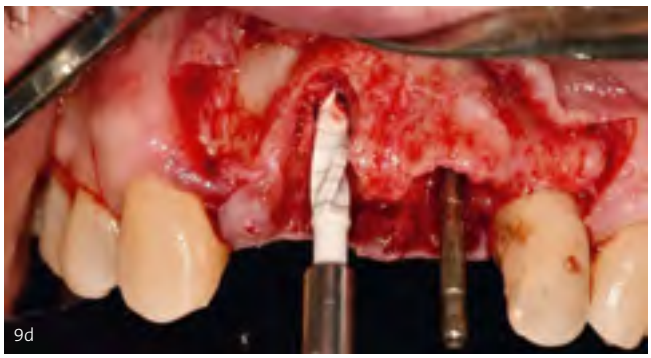
We treated 40 multi-unit cases with "live" (splinted) implants with two to six abutments. Of these 40 cases, two cases exhibited occlusal imperfections at the end of multi-tooth edentulous spaces. Occlusion was one of the weak points of optical impressions. All the bridges were well adapted. Adaptation was clinically measured on a retroalveolar follow-up x-ray with an angulator.

Figures 9a to p show a case of two incisors with a unilateral distal cantilever. The two central incisors were extracted in one session, followed by guided bone regeneration. Four months later, an optical impression was taken and two crowns with one distal cantilever were fabricated. The restoration was modelled in Exocad, machined in multilayer zirconia at 880 MPa and fabricated by our lab technician. The access hole for a very narrow screw (with a small diameter) allowed a more aesthetic connection and reduced mechanical weakening of the prosthesis. As can be seen on the in-situ x-rays, the fit of the restoration is excellent.


9a


9b


9c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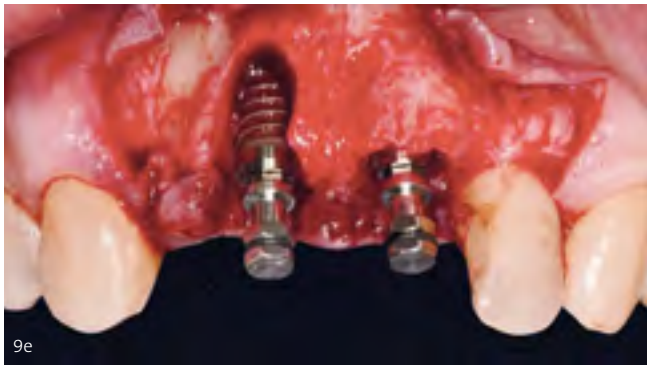
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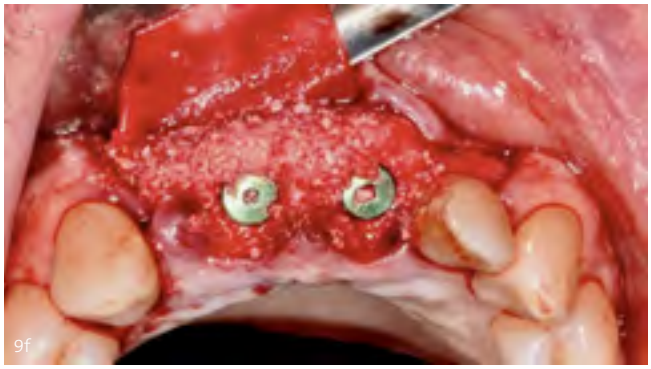
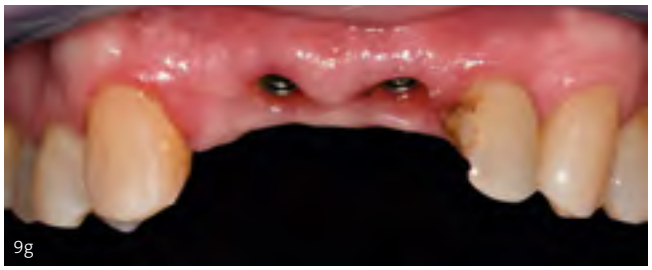
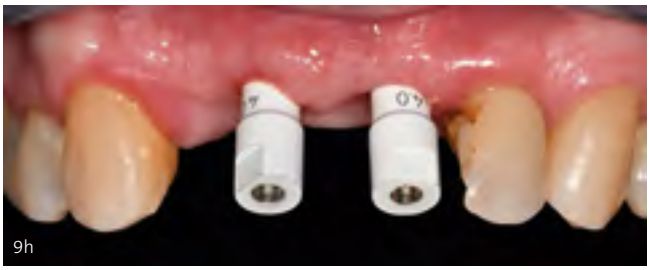
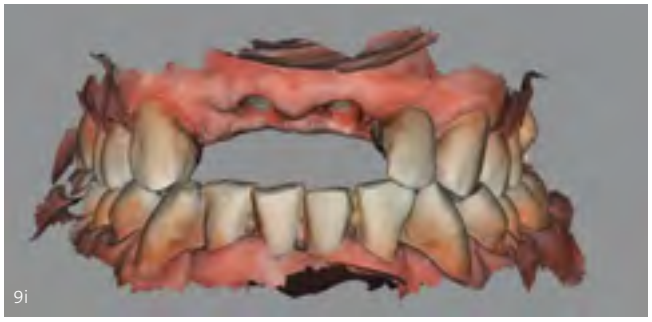
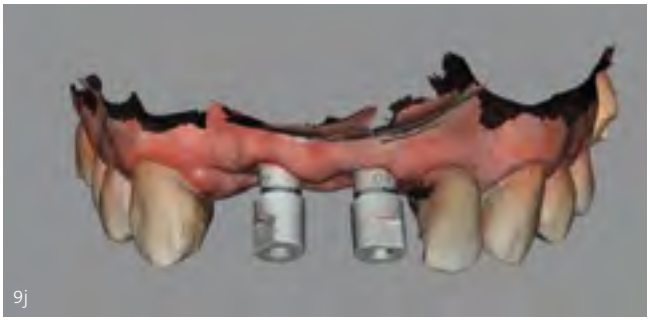

9f

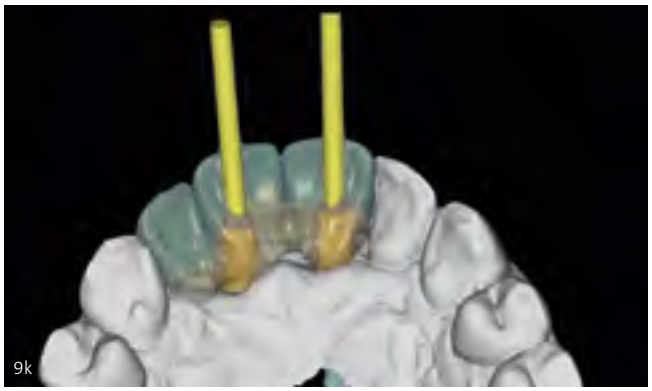
9a–f I Case of two incisors with a unilateral distal cantilever. a I Initial situation. b I Tooth extraction. c I Site after extraction. d I Drilling. e I Implant placement. f I Guided bone regeneration (continued on next page).

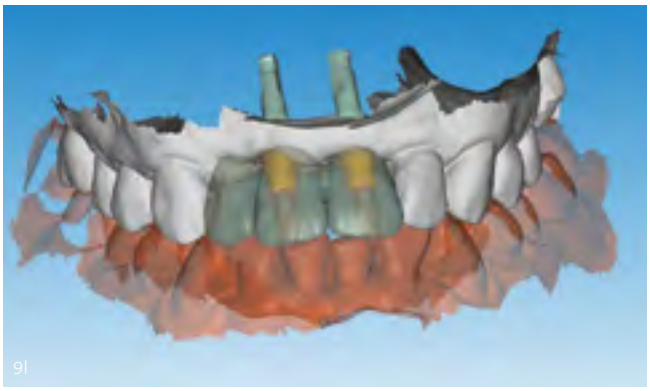


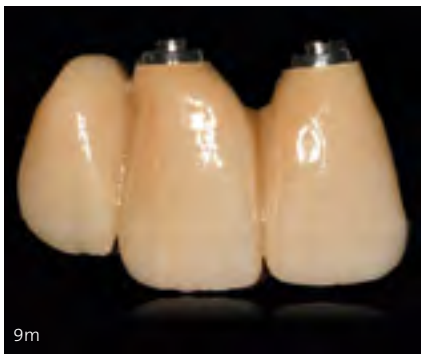


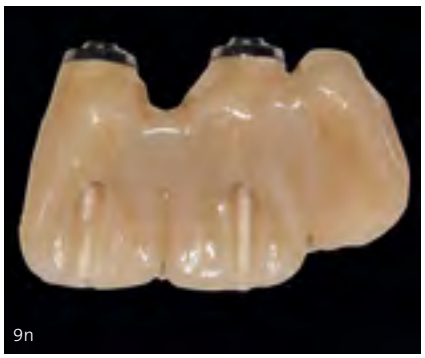


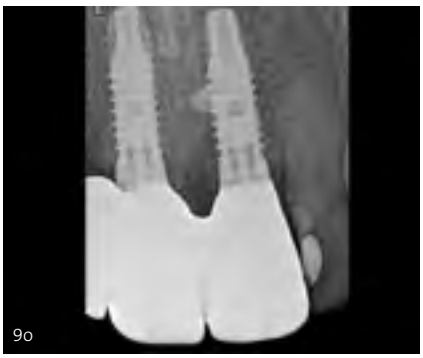


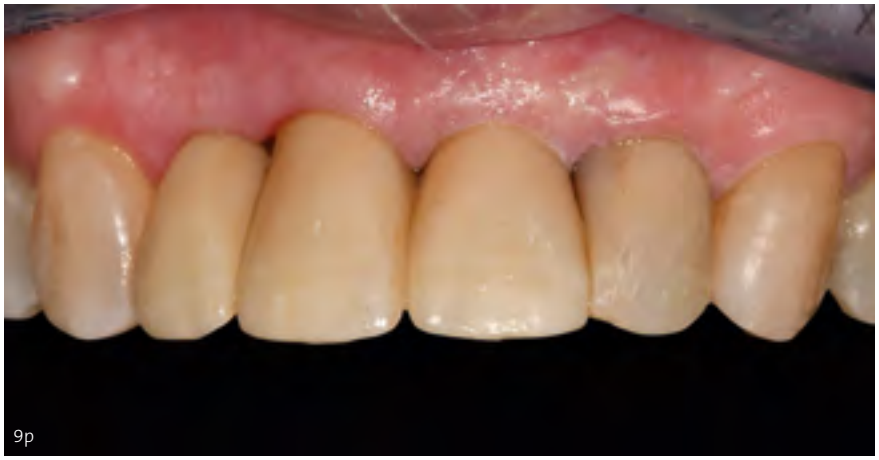






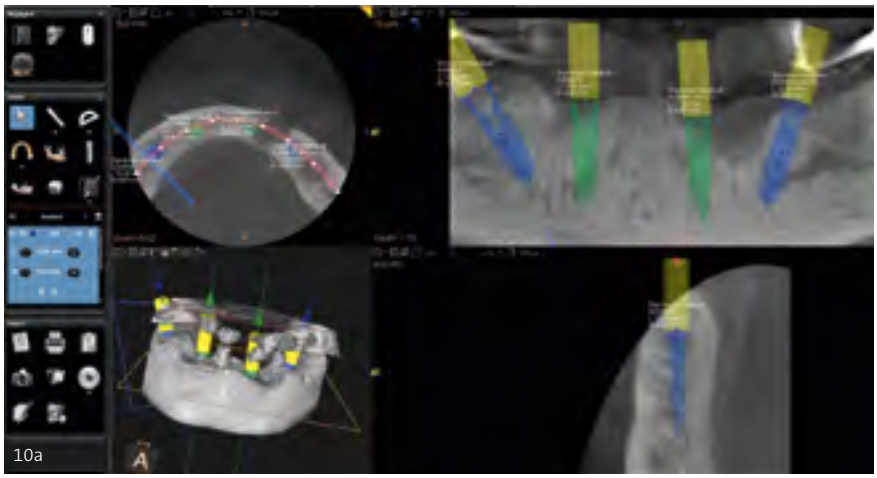


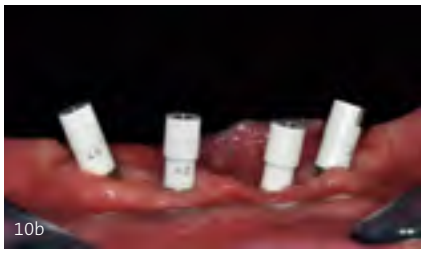


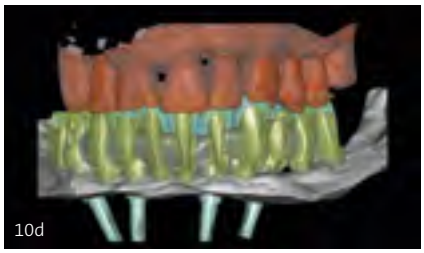


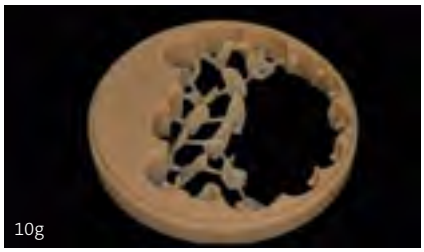
9g–p I Bridge with CS 3600 and a Thommen Varioflex without cast. Dedicated intraoral scanbodies were used (Laboratoire Mobifix).

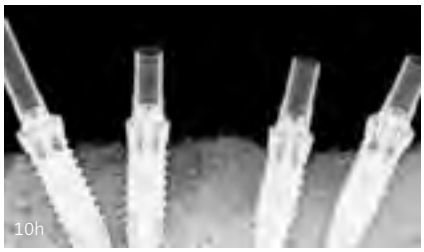
g I Situation at four months.
h I Scanbody in place.
I and j I Optical impression.
k and l I Model design in Exocad.
m and n I Zirconia crown attached toTi-base.
o I Follow-up radiograph.
p I Final situation.

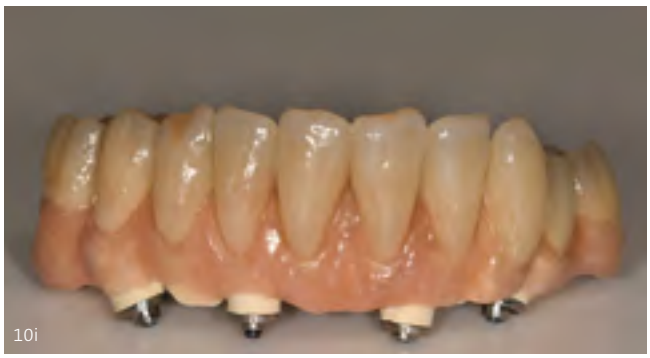


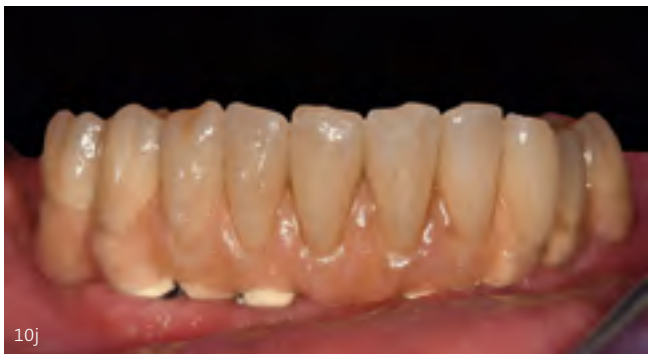








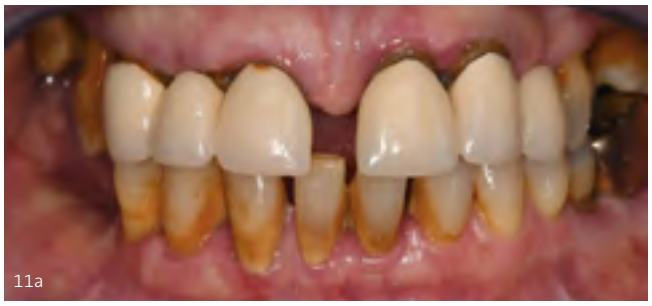


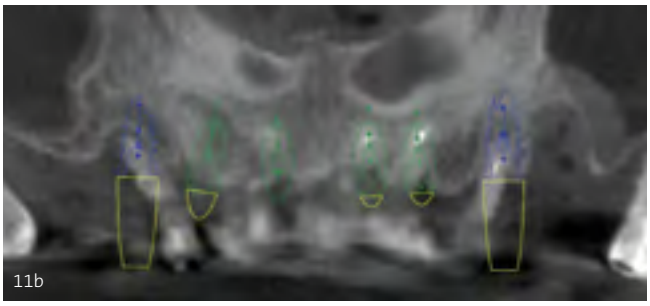


10a–j I Completely digital all-on-four. CS 3600 scanner, PEEK framework, Varioflex abutments and machined resin teeth. a I Initial CBCT. b I Scanbody in place. c I Optical impression. d I Model design in Exocad. e I Resin framework with milled resin teeth to verify fit and occlusion. f I Framework in PEEK with Ti base. g I Multilayered resin crowns. h I Follow-up radiograph of the framework. i I Final restoration. j I Final situation (Laboratoire Mobifix).

Tolerances of the implant/abutment interface varies greatly in the literature, from *Jemt*'s 30 µm [10] to *Klineberg*'s 150 µm [11]. It is therefore difficult to appraise the true level of precision required. Just as in the literature, we encountered more difficulties when the distance between two scanbodies is greater [8] or when there are discrepancies between the scanbodies [12]. Such difficulties tend to diminish as the scanner software improves.

We also attempted more complex types of restorations than reported in the literature – first of all an all-digital all-on-four (Figs. 10a to j). Our lab technician machined a PEEK frame after cutting back the initial prosthetic contour (in Exocad). A framework was machined from a resin ingot to validate the impression. Teeth machined in wax were bonded to this frame. This assembly was tried in intraorally, confirming a passive fit of the framework and an adequate occlusion, this being one of the main pitfalls when attempting to provide all-digital restorations. Subsequently,


11a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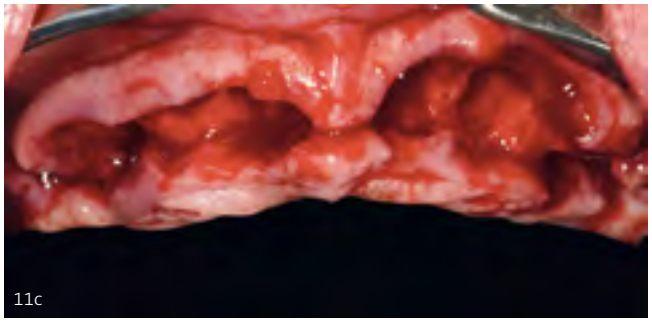
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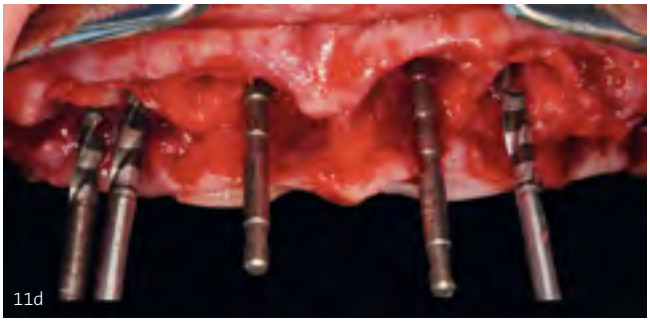
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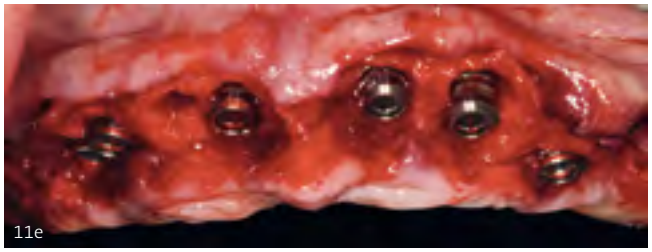
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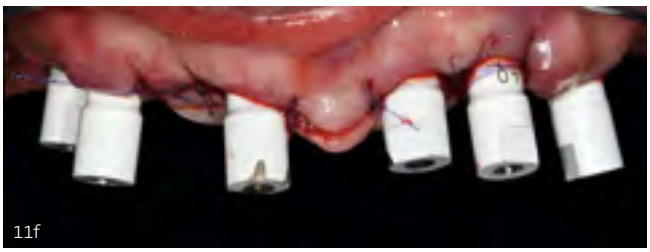
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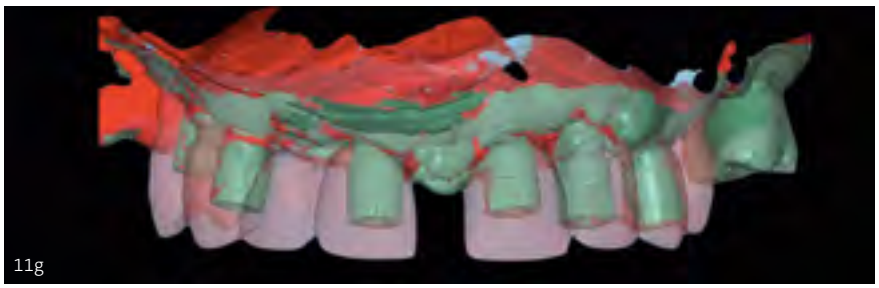
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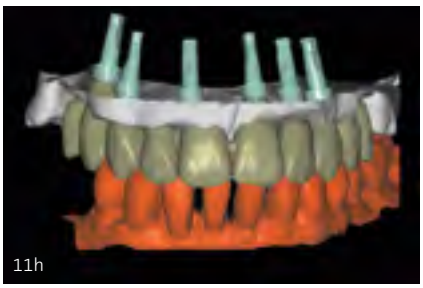
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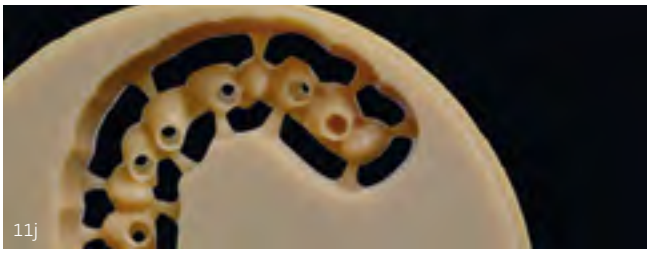
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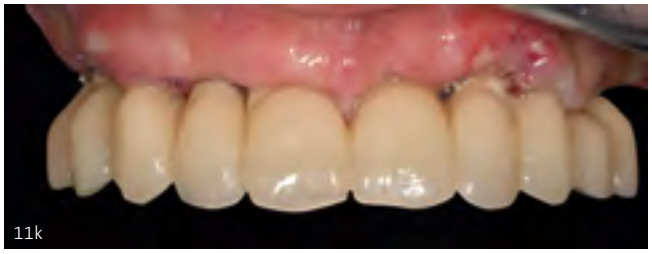
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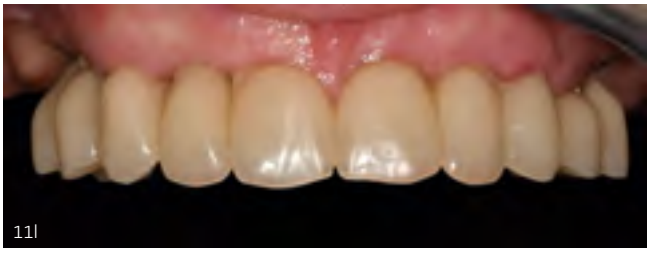
11l

11a–l I All-digital all-on-six. CS 3600 scanner, multilayer resin and Varioflex abutment. a I Initial situation. b I CBCT image. c I Tooth extraction. d I Drilling. e I Implant placement. f I Placement of scanbodies after guided bone regeneration. g to i I Model design in Exocad. j I Milling of the temporary bridge. k I Placing the bridge 48 hours after surgery. 11l I Situation at ten days after surgery (Laboratoire Mobifix).

ceramic-filled composite crowns were machined and bonded individually and gingival resin was affixed (without physical support, which explains the inaccuracies in this complex case). This test was a success that we will attempt to repeat.

We then attempted an all-digital all-on-six (Figs. 11a to l) for immediate loading. The patient presented with a distal edentulous space and required extraction of all maxillary teeth. It was decided to place six implants and immediately load them with a bridge. To accomplish this, we took our initial impression (maxillary, mandibular and bite registration) before the surgery. The teeth were milled digitally. At the end of the surgical intervention, an impression was made using scanbodies. The bridge can be designed based on the volume of the initial impression, which ensures better aesthetic and functional adaptation. The temporary multilayer resin bridge is milled, and the Varioflex abutments are connected. The distal implants were not angulated to make impression-taking easier and to ensure the accuracy of the result. The restoration fit well, as did the definite restoration made using an optical impression.

We attempted two more multi-unit cases that went smoothly. The first featured six implants with two distal implants that were widely spaced and angulated. The second case featured eight implants, of which the most distal ones showed a significant lack of adaptation [13].

Conclusion

The new Varioflex abutment allowed us to proceed to all-digital restorations with no physical casts. It meets all reasonable expectations of a CAD/CAM abutment. Using optical impressions, the accuracy we currently achieve in cases with one to three implants is as high or even higher than with physical impressions. We still need improvement in cases with four or more abutments.

The virtual Varioflex library that the engineers created to improve optical impressions was recently launched on the market. As the software and cameras improve further, it will certainly be possible in future to treat all types of edentulousness.

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

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Modern CAD/CAM technology supports implantology

An individualized 3D-printed solution for complex bone augmentation

DR ALEXANDER VOLKMANN, JENA AND EISENACH, GERMANY

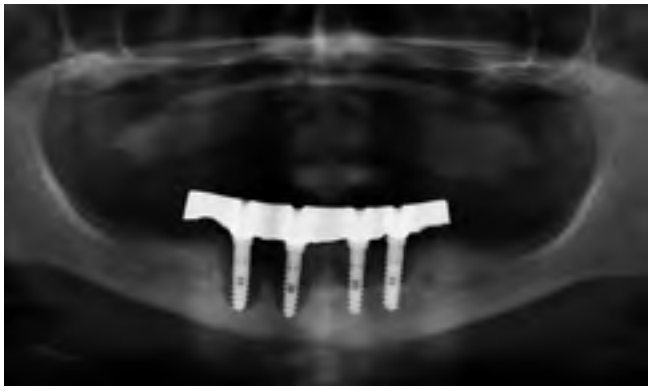
CAD/CAM-designed and -manufactured titanium meshes can be used in lieu of conventional titanium scaffolds for complex bone augmentation. This approach can offer various advantages, such as simpler clinical handling and reduced surgical time.

Dental implants allow an effective replacement of lost teeth, with high long-term survival rates [1–3]. Nevertheless, the long-term success and stability of implants directly correlate with the ridge contour, the bone quality, and with the width and height of the residual bone at the implant site [4,5]. In spite of the development of various augmentation techniques and materials, the reestablishment of an adequate amount of bone in areas with major ridge deficiencies, especially vertical and combined defects, remains challenging.

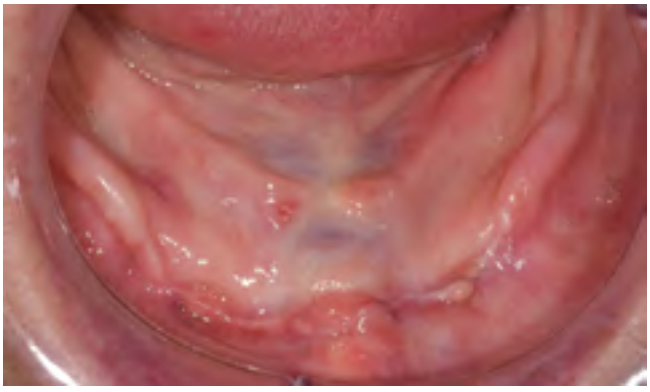
Extensive in vivo pre-clinical and clinical studies evaluated healing processes via histological and radiological outcomes of various augmentation procedures, depending on location and size of the defect [6]. Techniques such as interpositional grafting or distraction osteogenesis, use of form-stable reinforcements provided by form-stable membranes, titanium meshes, bone shields, bone blocks, or the osseous walls themselves have been extensively used.

Conventional titanium meshes

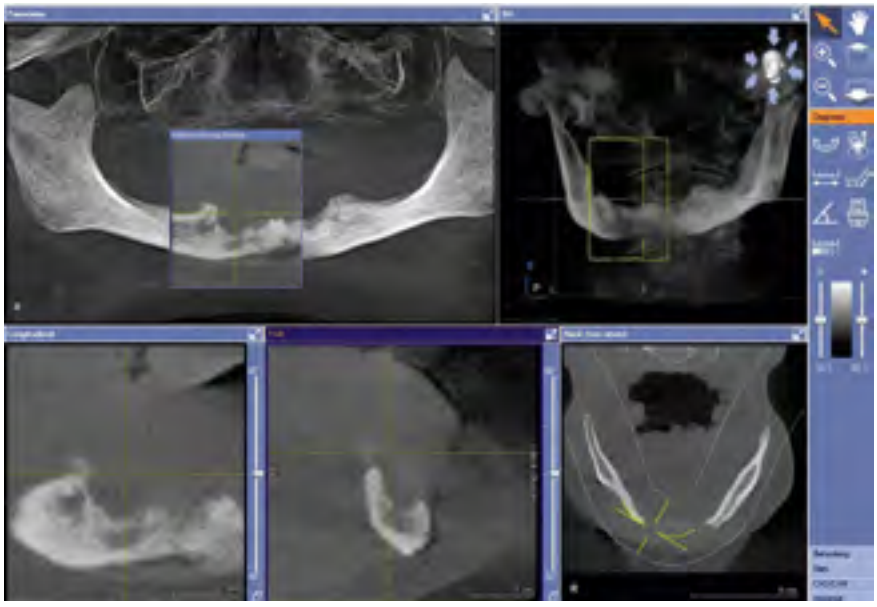
Conventional titanium meshes were first used for the reconstruction in cases of osseous maxillo-facial defects, and secondarily introduced for the osseous restoration of deficient edentulous maxillary ridges [7–9]. Moreover, they were used for augmentation in localized alveolar ridge defects with simultaneous and with subsequent implant insertion [10–12]. Further clinical studies demonstrated consistent results for both horizontal and vertical bone reconstruction with this titanium mesh technique [13], and a recent systematic review showed that titanium meshes are recommendable over other techniques when there is a need for more than 3.7 mm of vertical augmentation in alveolar ridges [14]. In addition, use of 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 bone block harvesting and time-consuming adap-



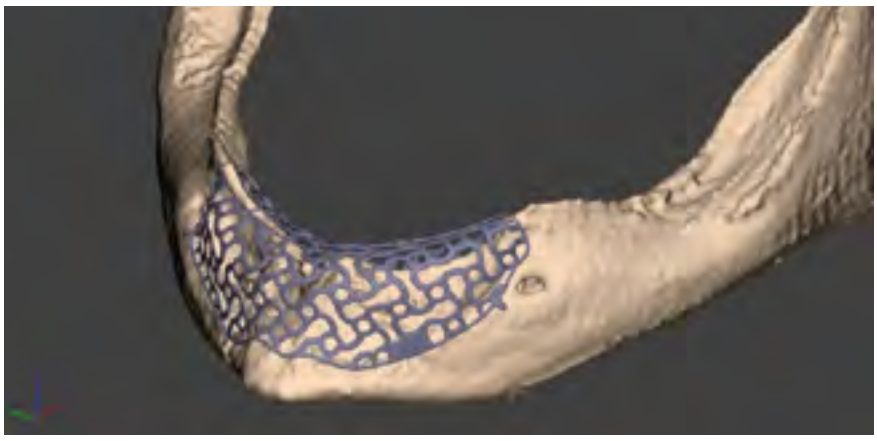
1 I The radiographic image before implant removal shows extensive bone defects.



2 I The clinical situation before explantation shows a severely diminished ridge dimension.



3 I CBCT showing the 3D buccal bone defect.



4 I A precise 3D planning model created based on CBCT data.

tation of blocks to the defect morphology. Nonetheless, conventional titanium meshes are associated with a high risk of complications [14–16]. They are supplied in form of planar plates, which means that intraoperative manual trimming and bending of the mesh according to the patient-specific defect is necessary, which is manually challenging and time-consuming [17–18]. Furthermore, the corners and edges of these cut and bent meshes possibly cause damage to the gingiva and subsequent mesh exposure.

A customized and innovative 3D-printed solution

CAD/CAM technology offers solutions to overcome these disadvantages [19]. Based on patient-specific computed tomography (CT) or cone beam computed tomography (CBCT) scan data of the bony defect and a digital workflow system, individualized titanium mesh cages can be created for a precision fit that accurately reflects the specific data provided. Yxoss CBR (ReOss Ltd., Filderstadt, Germany) is a 3D-printed titanium scaffold engineered and developed as a customized treatment for patients with complex alveolar ridge defects. It combines the advantages of 3D imaging, planning tools and 3D printing.

The following two case reports describe the treatment protocol from diagnosis to conclusion, with step-by-step description of the treatment procedure adopted in each case.

Case 1

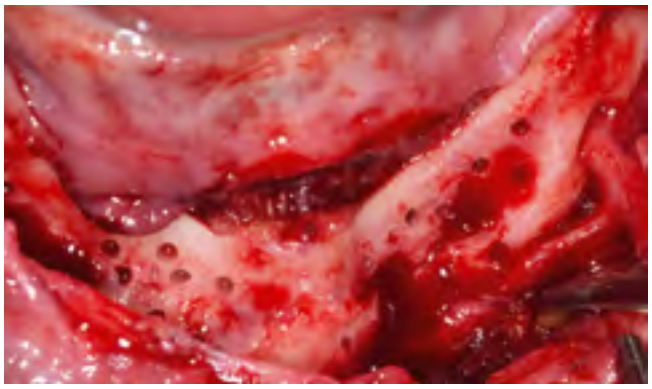
The case is presented in order to demonstrate a practicable solution for moving from severe peri-implantitis to the complete restoration of the intraforaminal area, using a new implant-supported, fixed prosthesis in an edentulous mandible, performed in an outpatient setting.

A 79-year-old female patient wearing a ten-year-old fixed implant restoration (first implant treatment in 2006) presented with increasing bone loss caused by progressive peri-implantitis. Because of the impossibility of having a conventional prostheses attached in her edentulous mandible, she requested a new fixed implant prosthesis. Indeed, the implants had been loaded after conventional bone healing (three months) with a bar-end cover-denture prosthesis (Fig. 1). After four years in function, a peri-implantitis treatment was performed. Due to progressive bone loss and inflammation combined with permanent pain, all implants had to be explanted six years later, in 2016.

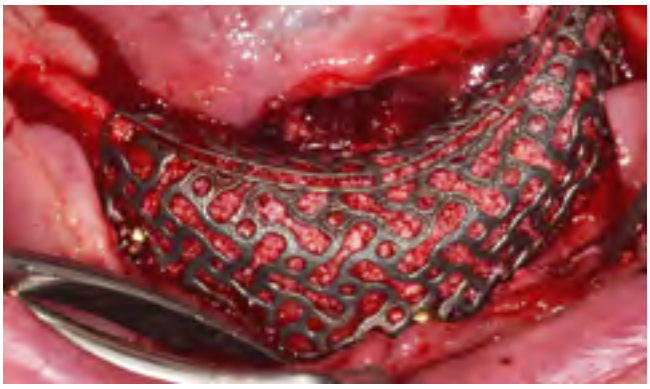
The basic situation was marked by a major 3D bone defect in area 35 to 45. The inflammation and the subsequent explantation had left an ungentle and scar-penetrated soft tissue. In the intraforaminal area, there was no attached gingiva. The floor of mouth communicated with the oral vestibule.

Using dental cone-beam computed tomography (CBCT), an augmentation with Yxoss CBR was planned (Figs. 2 to 4). The titanium scaffold was filled entirely with Geistlich Bio-Oss (Geistlich Pharma AG, Wolhusen, Switzerland) due to the complete absence of autologous bone. The scaffold was fixed using three screws (MidFace 1.7; Stryker, Portage, MI, USA) and covered with a Geistlich Bio-Gide membrane (Figs. 5 and 6). The flap was adapted to ensure complete soft-tissue closure.

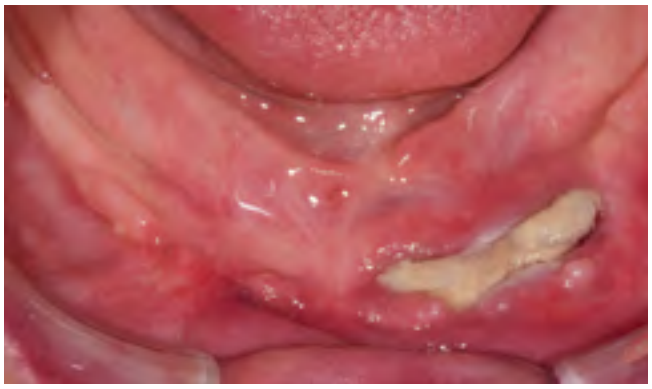
Antibiotic therapy with Amoxicillin 2 grams per day was started, and during the following days, primary wound healing was uneventful. After ten days, the stitches were removed, and the patient received no provisional prostheses.



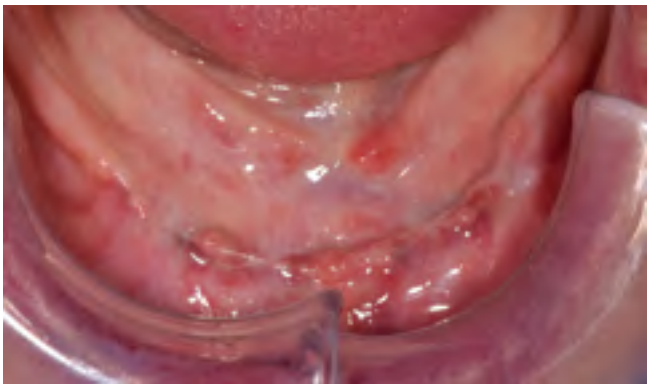
5 I Preparation of the hard tissue.



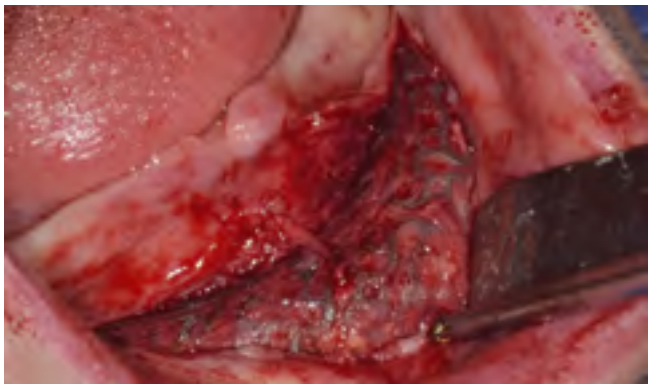
6 I The titanium scaffold is filled with 100 per cent Geistlich Bio-Oss. Fixation is performed with three screws and the entire area is covered with a Geistlich Bio-Gide membrane.



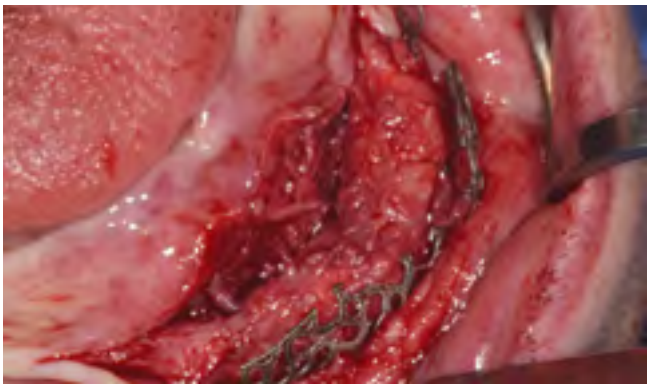
7 I Dehiscence occurred in area 32 to 34.



8 I Five months after augmentation with healed dehiscence.



9 I Reopening after five months showing the regenerated alveolar ridge.



10 I The 3D scaffold is removed using the pre-defined breaking points. Even though there was dehiscence, the bone regeneration was satisfactory.

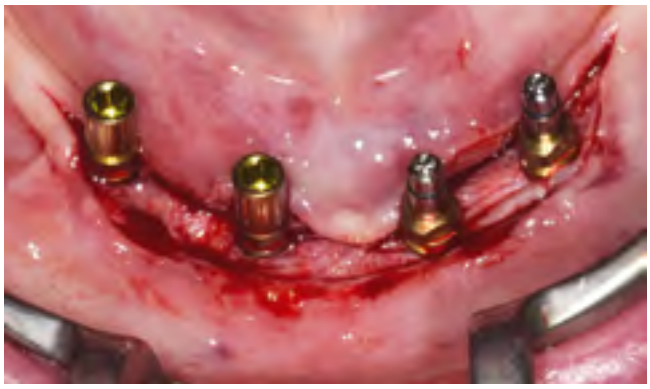
After five weeks, dehiscence occurred in area 32 to 34 (Fig. 7). Since there were no signs of infection, the area was cleaned with chlorhexidine gel 1 %, and the patient was asked to be very careful during eating.

After five months, the dehiscence healed, and the Yxoss CBR was removed (Figs. 8 to 10). Even though there had been soft-tissue dehiscence, the bone regeneration was satisfactory. To allow for formation of fully functional bone and soft tissue at the time of implantation, implant placement was performed two months after mesh removal (Figs. 11 and 12).

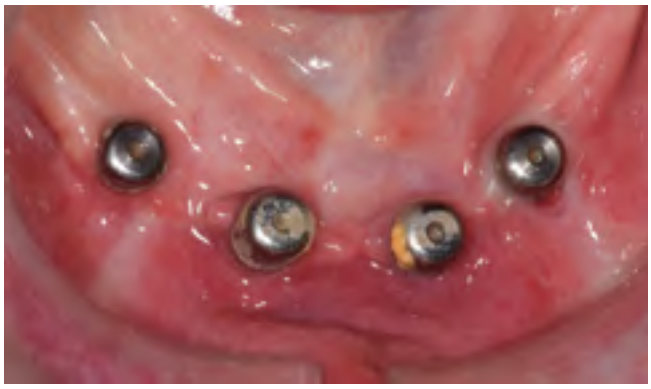
The horizontal dimension of the ridge was approximately 8 mm; for that reason, a drilling template was not necessary. To get a gentle initial loading on the implants, healing abutments were placed for soft tissue modeling.

After three months, implant healing was checked by radiography (Fig. 13). To harmonize the soft tissue, an apical vestibuloplasty was performed (Fig. 14).

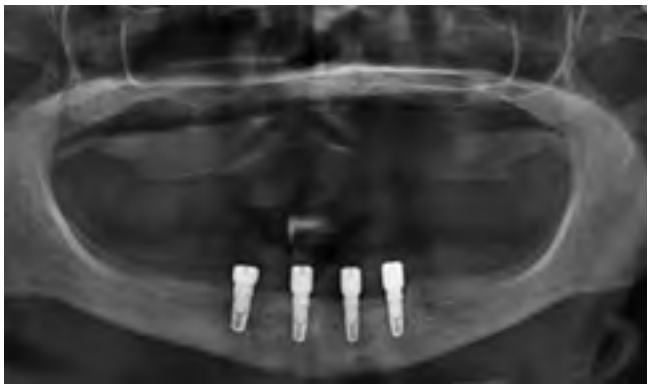
After seven days, the stitches were removed (Fig. 15), and the clinical situation was checked after placement of ceramic abutments (Figs. 16 and 17). The patient was then sent to her home dentist for final restoration, where an initial telescopic zirconia overdenture followed by secondary galvanic passive fit was provided (Fig. 18).



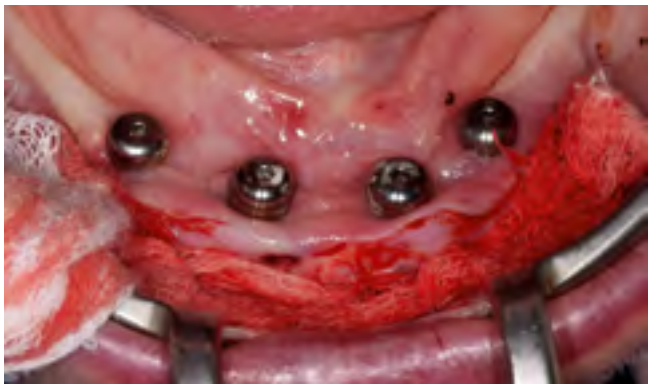
11 I Implantation of four Camlog Screw Line implants three months after scaffold removal.



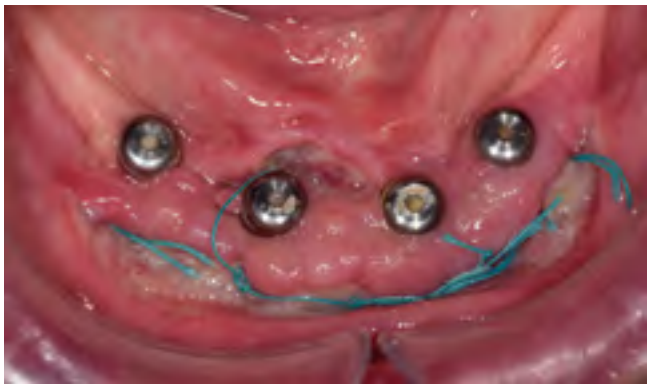
12 I Placement of the healing abutments for soft-tissue modeling.



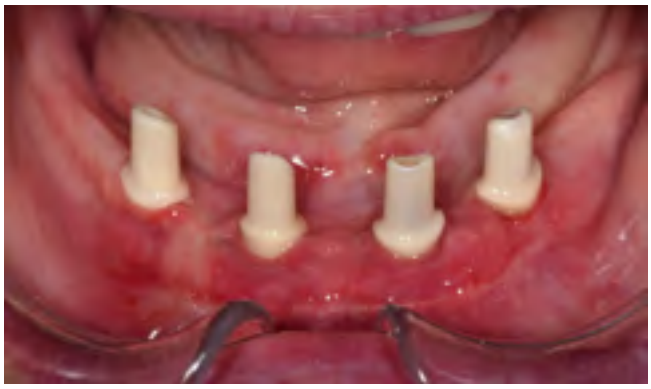
13 I Radiographic image after implant placement.



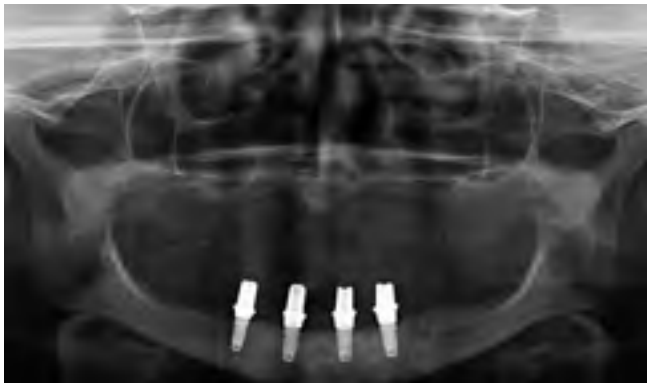
14 I An apical vestibuloplasty is performed to harmonize the soft tissue.



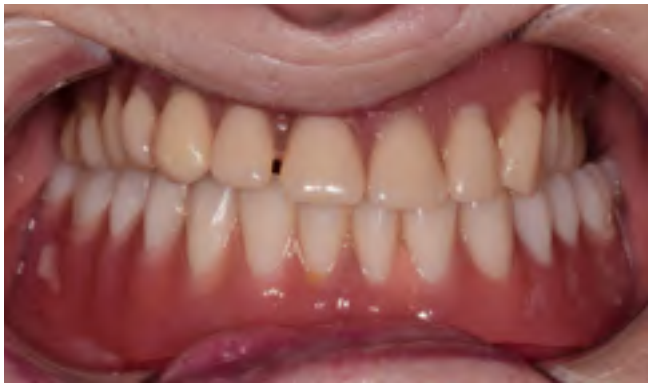
15 I Removal of the stitches.



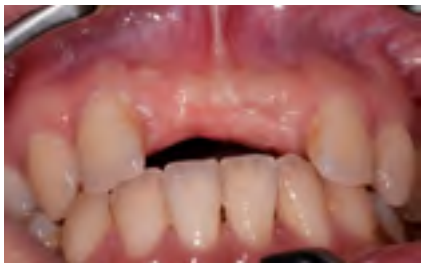
16 I Clinical situation after placement of four ceramic abutments.



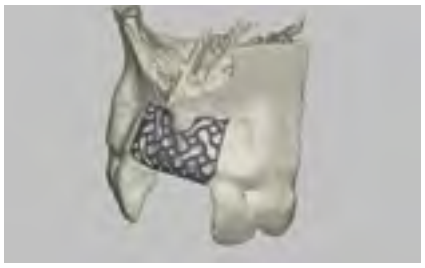
17 I Postoperative panoramic radiograph after abutment placement.



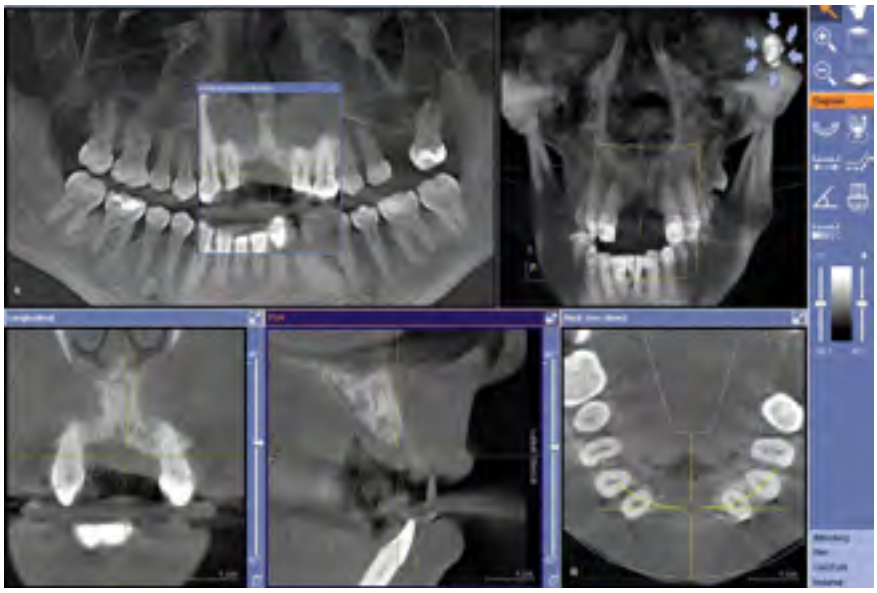
18 I Final prosthetic restoration ten months after 3D regenerative procedure.



19 I Clinical situation before augmentation.



21 I A precise 3D planning model created based on CBCT data.



20 I CBCT showing the 3D buccal bone defect.

Case 2

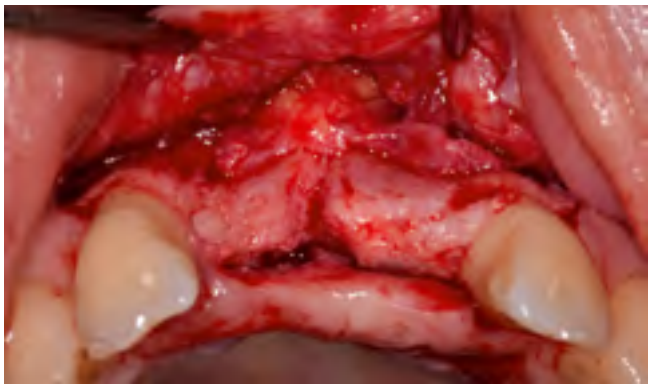
The second case is likewise intended to demonstrate a possible solution for moving from a severe juvenile periodontitis and malocclusion situation (mandibular protrusion) to a complete restoration using the Yxoss CBR scaffold, in an outpatient setting.

A 30-year-old female patient wearing a provisional prosthesis since orthodontic treatment and extraction of teeth 11 and 21 in 2010 presented with increasing bone loss caused by progressive periodontitis. She requested restoration of the anterior region of the maxilla.

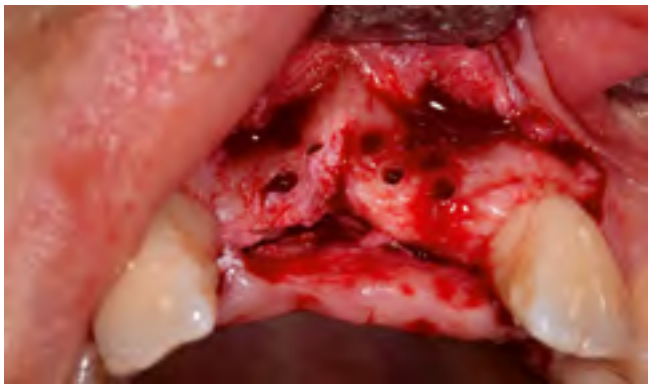
The basic situation was marked by a major combined vertical and horizontal bone defect in area 11 and 21 (Fig. 19). Using CBCT, an augmentation with an Yxoss CBR was planned (Figs. 20 and 21). After preparation of the soft tissue with a dual-sided split-flap technique, and of the hard tissue via bone drilling (Figs. 22 and 23), the titanium scaffold was produced specifically for the patient. It was fixed with two screws (Midface 1.7, Stryker) and filled with Geistlich Bio-Oss (Fig. 24). A Geistlich Bio-Gide collagen membrane shielded the graft from the soft tissue (Fig. 25).

After four months, the soft-tissue conditions were clinically stable and free of any dehiscences (Fig. 26). A ridge incision was selected for removal of the grid structure. After removing the fixing screws, the grid structure could be carefully split into two parts by applying small extrusion movements to the target breakpoint with the periostal elevator, and was easily removed (Fig. 27).

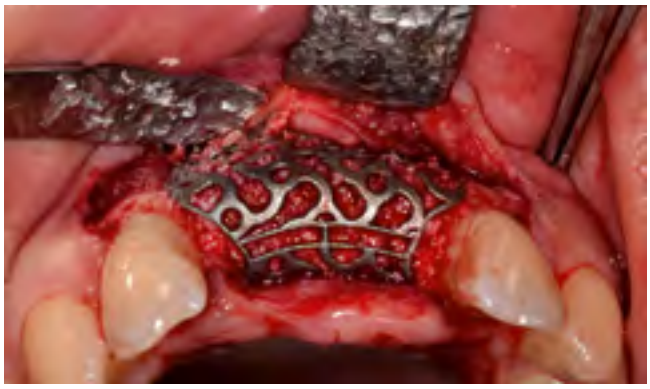
Implant placement was performed delayed by two months in order to obtain fully functional bone and soft tissue of good quality (Fig. 28). The horizontal ridge was approximately 7 mm. A drilling guide was used (Fig. 29), as well a surgical indexing process for recording the position of the implants relative to adjacent teeth and the opposing occlusion (Fig. 30). The wound healing process proceeded uneventfully, and the stitches were removed after seven days (Fig. 31).



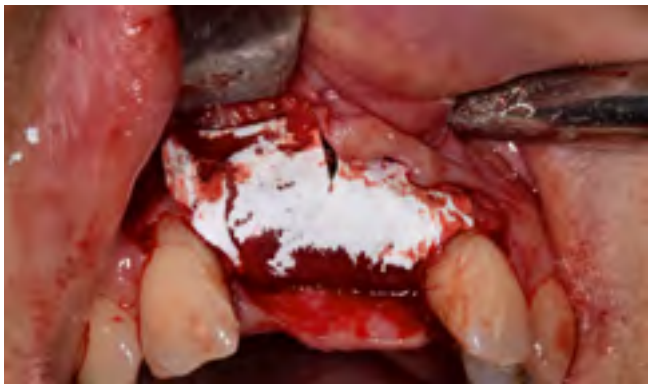
22 I Preparation of the soft tissue.



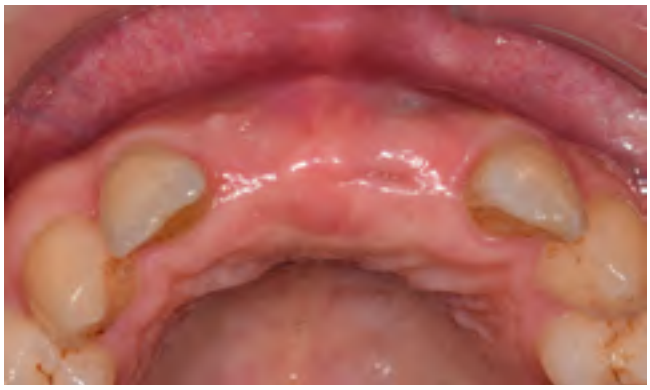
23 I Preparation of the hard tissue.



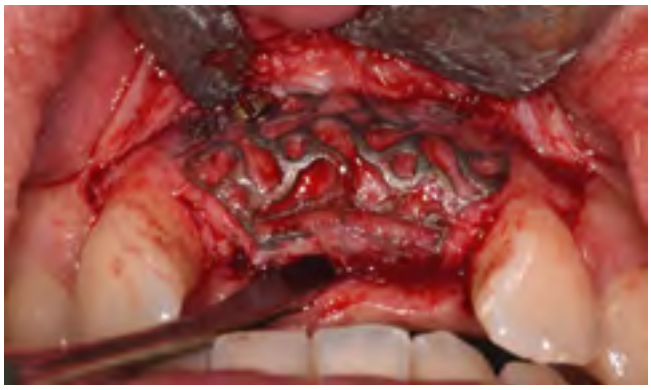
24 I The titanium scaffold is filled with 100 per cent Geistlich Bio-Oss. Fixation is performed with two screws.



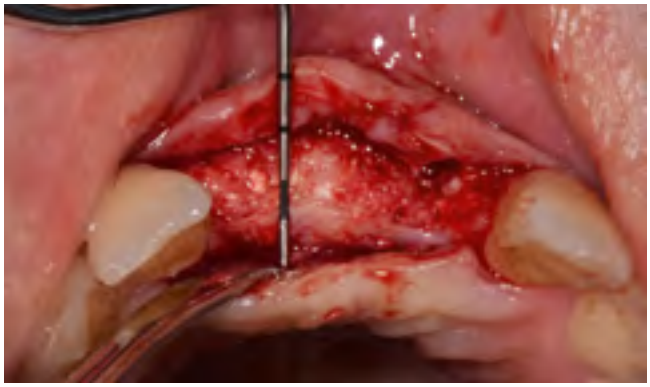
25 I The titanium scaffold is entirely covered with a Geistlich Bio-Gide membrane.



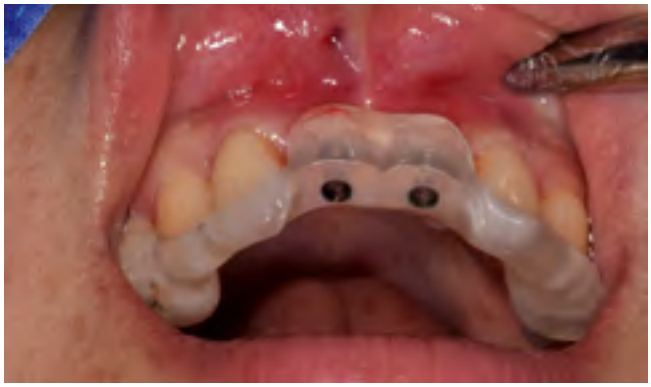
26 I Clinical situation four months after augmentation.



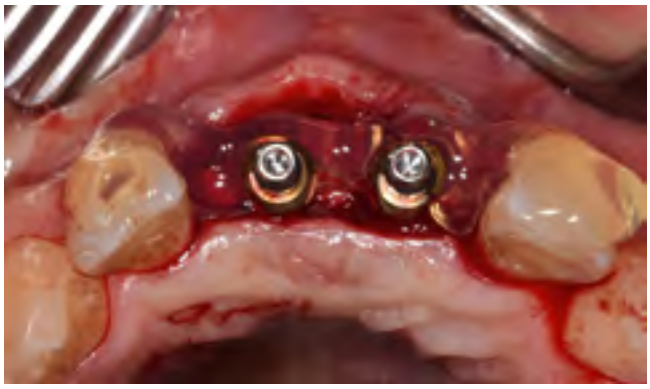
27 I The 3D scaffold is removed using the pre-defined breaking points.



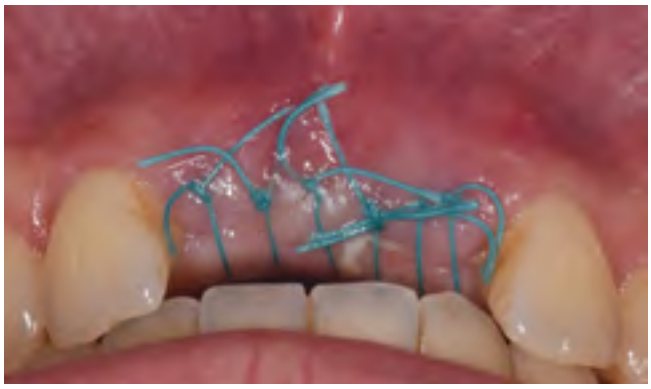
28 I Reopening after two months shows vital regenerated bone with a 7 mm horizontal bone gain.



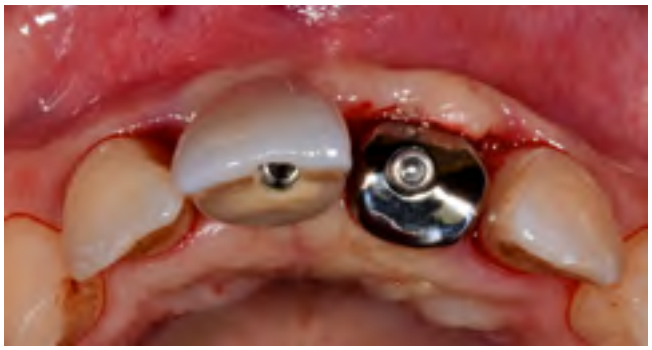
29 I Implant placement in prosthetically correct position using a drilling guide.



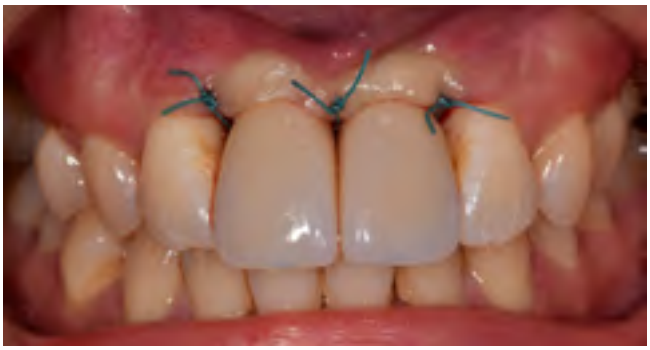
30 I Indexing of the implant position.



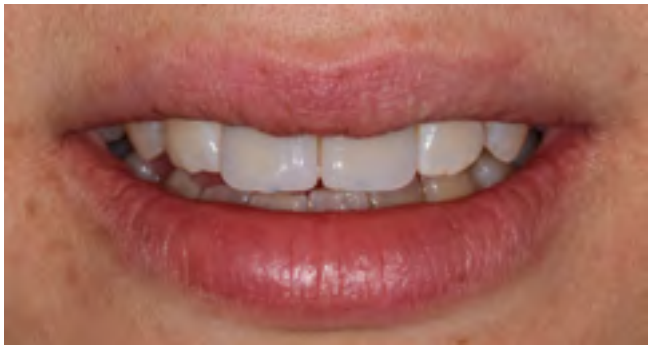
31 I Clinical situation with the closed wound seven days after implant positioning.



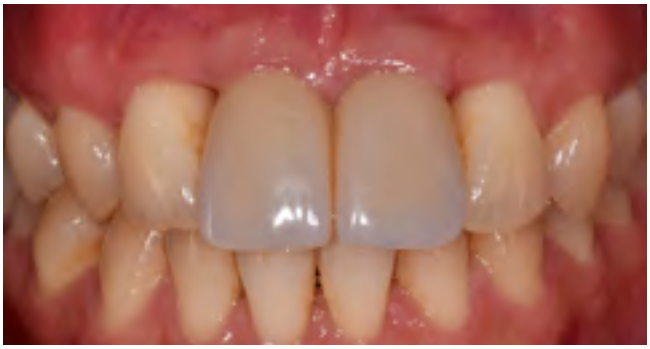
32 I Clinical situation three months later, showing the provisional crown and the healing abutment for soft tissue modelling.



33 I Soft tissue immediately after provisional crown placement.



34 I Clinical situation immediately after crown placement. The mandibular protrusion is resolved.

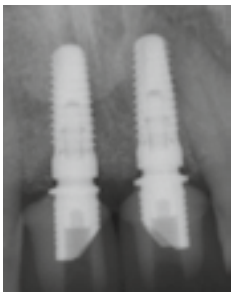


35 I Clinical situation four weeks after provisional crown placement.

After three months, the provisional crowns were placed (Fig. 32), the stitches were removed after seven days (Figs. 33 and 34), and the soft tissue was left to regenerate (Fig. 35). The radiological evaluation was performed two months after provisional crown placement (Fig. 36), and the final restoration planned for approximately three months after provisional loading using a titanium adhesive base with veneered zirconia and Empress ceramic veneered crowns.

Conclusions

The vertical and horizontal regeneration of resorbed alveolar ridges remains a challenging surgical procedure, especially in cases of extensive bone atrophy. A wide variety of augmentation techniques have been proposed to restore adequate bone volume. Individualized CAD/CAM-produced titanium mesh, such as Yxoss CBR, has been successfully used more than 30 times in our private practice for bone reestablishment, in patients with disparate initial conditions and requirements. Even though the titanium scaffold still presents the risk of soft tissue dehiscence with exposure of the graft and possible partial loss of graft material due to the stiffness of the titanium mesh with mechanical irritation to the mucosal flap [15,20,21], it combines the advantages of 3D-imaging, planning tools and 3D-printing. Time-consuming impressions, cutting, shaping and adapting are no longer necessary, and thus the surgery time is reduced. Sharp edges from cutting conventional meshes are eliminated. Furthermore, being customized, the mesh has an optimized fit to the individual anatomy of each patient and preserves volume for osteogenesis. In contrast to other techniques, the Yxoss CBR technology allows combined autologous and xenogeneic bone graft augmentation. Due to their low resorption rates, xenogeneic biomaterials such as Geistlich Bio-Oss protect the grafted bone volume, and given their osteoconductivity, the materials support rapid and integrated bone growth [22–24]. Autologous bone combines osteogenesis, osteoconductivity and osteoinductivity [24]. Moreover, the Geistlich Bio-Gide collagen membrane, as a preserved native bilayer structure, effectively protects the graft from soft tissue ingrowth [25] and mechanical dislocation [26]. The combination of autologous and xenogeneic products placed together with a titanium scaffold enables us to rebuild even major 3D defects in our daily outpatient practice.



36 I Radiological evaluation at two-month follow-up.

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

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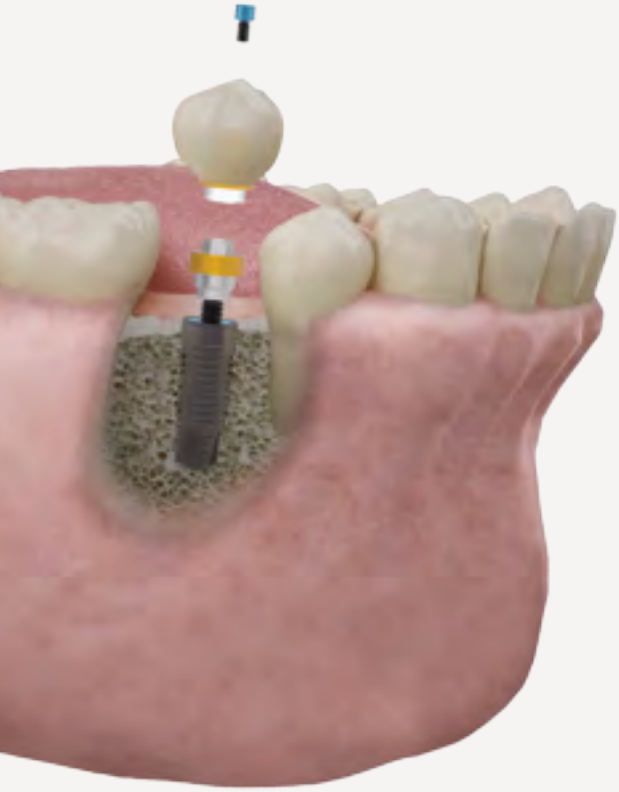

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39 national scientific societies joined European Gum Health Day 2018

Periodontology in the spotlight

"Health begins with healthy gums" was the slogan chosen to sum up the message of European Gum Health Day 2018, an awareness initiative that took place on 12 May in 39 countries in Europe, northern Africa, the Middle East, and Latin America. The aim of this event was to raise public understanding of the importance of gum health and the growing threat that gum diseases imply for overall health and public health.

Gingivitis and periodontitis are two chronic, inflammatory gum diseases which affect eight out of ten people aged 35 years and over, so they are among the most widespread conditions that affect human beings. Unfortunately, gum diseases are still poorly acknowledged, even if scientific evidence shows that they are associated with cardiovascular disease, type 2 diabetes, chronic kidney disease, rheumatoid arthritis, and other serious, chronic conditions.

European Gum Health Day 2018 was promoted by the European Federation of Periodontology (EFP) and involved a wide range of activities – including free periodontal check-ups, scientific events, conferences, and other educational and communication initiatives – which were organized at the local level by national scientific societies of periodontology. *Xavier Struillou*, coordinator of European Gum Health Day 2018, and *Anton Sculean*, President of the EFP, presented European Gum Health Day 2018 at a press conference in Bern, Switzerland, in early May.

European Gum Health Day 2018 went global

In a great leap forward in terms of international impact, a total of 39 national periodontal societies took part in European Gum Health Day 2018, including 29 EFP-affiliated societies and ten Latin American societies, which joined this initiative for the first time. It included the active involvement of the national societies of periodontology of Austria, Azerbaijan, Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Israel, Ireland, Lithuania, Morocco, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, and the United Kingdom. All these societies have used the logos, posters, infographics, and templates provided by the EFP to convey a common message across borders. In addition, European Gum Health Day 2018 received official support from the Ibero-Panamerican Federation of Periodontology (FIPP), whose eight Caribbean and South American members (the periodontal societies of Argentina, Bolivia, Chile, the Dominican Republic, Ecuador, Peru, Uruguay, and Venezuela) organized themed events around the same message and material. The societies from Colombia and Panama also joined European Gum Health Day 2018.

In the framework of European Gum Health Day 2018, the EFP encourages dentists, oral care professionals and other health professionals to sign and disseminate the "EFP Manifesto: Perio and General Health", an international call to action for the prevention, early detection, and treatment of gum disease.

European Gum Health Day 2018 was also used to disseminate the Perio Focus paper "Impact of the global burden of periodontal diseases on health, nutrition and well-being of mankind: a call for global action," written by experts *Søren Jepsen, Maurizio Tonetti, Lijan Jin,* and *Joan Otomo-Corgel*. The Perio Focus paper has been endorsed by the EFP and more than 50 international and national societies of periodontology.

"Gum health can help us to save many lives, to detect or prevent many severe conditions, and to save billions in medical costs", says *Xavier Struillou*, coordinator of European Gum Health Day 2018. *Anton Sculean*, EFP President adds, "Gum disease's prevalence and gravity increase with age and as a result of contributing factors such as smoking and obesity, but it can be prevented and successfully treated, especially if diagnosed early. That is why 'Health begins with healthy gums', and we have an opportunity to take action."

Xavier Struillou (left), coordinator of European Gum Health Day 2018, and Anton Sculean, President of the EFP, presented European Gum Health Day 2018 at a press conference in Bern, Switzerland, in early May.

More information

www.efp.org
ww.efp.org/efp-manifesto/sign.php

Oral Reconstruction Global Symposium 2018

A well-differentiated programme with pioneering ideas

The Oral Reconstruction Global Symposium 2018 attracted about 1,200 participants to Rotterdam on the last weekend in April. Under the motto of "The Future of the Art of Implant Dentistry", more than 57 speakers, moderators and experts from twelve countries under the scientific direction of Dr Ben Derksen (Arnhem, The Netherlands) and Professor Irena Sailer (Geneva, Switzerland) delivered an exciting congress programme and a number of interesting workshops.

The extremely well attended practical workshops started on Thursday, including the step-by-step guide by *Professor Edward P. Allen* (Dallas, TX, USA) on soft tissue grafting using the tunnelling technique and the practical presentations by *Professor Frank Schwarz* (Frankfurt, Germany) on soft-tissue augmentation and corrections for the prevention and management of peri-implant diseases. One of his recommendations: "Forget about augmenting techniques in case of class 1 defects – in those cases, you should go for implantoplasty right away." Friday started with the opening session on the topic of peri-implant soft-tissue management led by *Ass. Professor Gerhard Iglhaut* (Memmingen, Germany). The key factors for this were outlined by *Professor Mariano Sanz* (Madrid, Spain). He is an advocate of the one-abutment – one-time concept and demonstrated the benefits for the soft tissue as shown by different case studies. In order to ensure implant stability and hygiene, he said, a certain

Photo: Camlog

The Oral Reconstruction Global Symposium 2018 recorded about 1,200 visitors.

width of firm, preferably keratinized mucosa is required. *Professor Anton Sculean* (Bern, Switzerland) added that this leads to more soft-tissue and hard-tissue stability. For soft-tissue recession in excess of 3 mm in the posterior region, *Sculean* advises soft-tissue augmentation using free mucosal or autologous connective-tissue grafts. Minor instances of recessions could be controlled by connective-tissue replacement materials.

The session on "Digital workflow in implant dentistry" was hosted by *Professor Florian Beuer* (Berlin, Germany). The acquisition of image data by CBCT and intraoral scanning of implants was the topic of *Dr Tabea Flügge* (Freiburg, Germany). Her message was that the digital workflow is being implemented in actual practice and works well if you know what you are doing. Clinical trials, however, are not available at this time. Data on the accuracy of implant scans are currently only available from experimental studies. For a beginner, it is therefore not easy to choose any particular scanning technique.

The next session was on implantological treatment concepts. Various options are available: immediate implant placement, early placement with soft-tissue healing four to eight weeks after extraction, early placement with partial bone healing 12 to 16 weeks after extraction and late placement in a fully healed site after six months or more. When to choose which concept depends on the patient's wishes and the clinical situation, said *Professor Bilal Al-Nawas* (Mainz, Germany), adding that for him, correct implant placement was more important than the time of implantation. With regard to immediate placement plus immediate loading, he emphasized the importance of adequate primary

A question on the sidelines

Dr Edward P. Allen is past president of the American Academy of Esthetic Dentistry, the American Academy of Restorative Dentistry and the American Academy of Periodontology Foundation. Currently, he serves on the editorial boards of several dental magazines and runs an educational facility in Dallas, Texas where he teaches surgical technique courses. EDI Journal Project Manager My To asked him about the workshop that he held at the Oral Reconstruction Global Symposium in Rotterdam.

What do the participants take home from this workshop?

Half of the lecture goes into the backgrounds of the parameters of success with a minimally invasive technique of soft tissue grafting, particularly for root coverage, but also for treating soft tissue defects at implant sites. The theory is complemented by a series of video clips on how the procedure is done step by step and that is followed by a hands-on workshop where the participants do three different exercises on custom models that have recession-type defects that will be encountered in a practice as well as an implant site to treat for augmentation of the soft tissue. They use an illustrated descriptive step-guide to do the procedures, so they can tell exactly how to do every step by virtual illustrations and description. After they complete this, participants should have the ability to go to their office and actually perform the procedure, because they will have learned about it and then done it with instruction from me and my assistant on how to do it, where they may need changes, where they can improve it. And they have the step-guide to take with them to their office and refer back to. So with some basic previous surgical experience, they should be able to apply this in their practice.

In addition to that and keeping up with current times, we have now established a closed Facebook group where participants can ask to become a member. Once they are in, it's a group of people who have taken the course and have been exposed to how to do the technique, and if they encounter treatment planning problems or some complication that occur during the treatment, they can simply post photos of their concern and ask a question – or simply show off something they did really well. Everyone has the opportunity to see that and to comment on it. It's a way to continue to learn after the course and to share with others so that everyone benefits. *MT*

stability. *Dr Kai Zwanzig* (Bielefeld, Germany) and *Christian Rähle*, Director of R & D at Camlog, talked about new treatment options with the Camlog Implants System, and *Jan Klenke* (Hamburg, Germany) explained the advantages of the smart treatment concept with iSy in the aesthetic zone. Hosted by *Professor Jürgen Becker* (Düsseldorf, Germany), the next session turned to the evaluation of results from scientific research and their relevance to clinical practice, one of the main concerns of the Oral Reconstruction Foundation.

The first Saturday session then addressed the question of whether and under which conditions ceramic implants could be an alternative to titanium implants. *Ass. Professor Daniel S. Thoma* (Zürich, Switzerland) compared the biological properties and tissue integration of zirconia and titanium dental implants. *Dr Vladimir Kokovic* (Shrajah, United Arab Emirates) described the indications for the Ceralog implant system, sharing insights from his experience after four years. "White Roots - when and where?" asked *Dr Frank Maier* (Tübingen, Germany). Even though the biological advantages of ceramics are obvious – zirconia particles induce less inflammatory responses in human macrophages than titanium particles, and the material is significantly less susceptible to bacterial adhesion – the material might be a good solution for single-tooth restorations or short bridges, but not for more extensive or even full-arch rehabilitations or for removable dentures, where titanium implants are still preferred.

Restorative concepts, especially in elderly and edentulous patients, were discussed by *Dr Luca Cordaro* (Rome, Italy), *Dr Claudio Cacaci* (Munich, Germany) and *Dr Rémy Tanimura* (Paris, France) during the next session hosted by *Professor Irena Sailer*. The speakers agreed above all that the long-term success of a restoration largely depends on regular recall with professional implant cleaning. The final session on the extensive agenda, titled "Problems, complications and failures – what can we learn from them?", featured case presentations and provided a panel of experts with ample space for discussions and technical discourse.

In parallel with the main symposium, a separate symposium for qualified dental assistants was held on Friday. On Friday evening, many participants seized the opportunity to celebrate the Dutch national holiday Koningsdag at the impressive St. Laurence Church.

News from Camlog and the Foundation

During the press conference on Thursday, Camlog announced the market launch of a new implant at IDS 2019: The "Progressive Line" will be introduced as a symbiosis of the Camlog and Biohorizons worlds and combines the progressive implant thread of the proven Biohorizons implants for immediate loading with the popular Camlog tube-in-tube connection and the conical Conelog connection.

Photo: Camlog

Professor Irena Sailer, Symposium chairman alongside Dr Ben Derksen, also moderated the session on restorative concepts.

The Oral Reconstruction Foundation presented *Professor Robert Sader* (Frankfurt am Main, Germany) as the new Chairman of the Foundation, and *Professor Irena Sailer* as a new member of the Scientific Board. *Dr Alex Schär*, CEO and Member of the Board of Directors of the OR Foundation, introduced the new Insights Dental app by Medical Insights and the Oral Reconstruction Foundation. Insights is already being used by many surgeons in the field of orthopaedics and CMF, because the app offers constant access and networking with the specialist community. The app is freely accessible and can be downloaded from the Apple Store and Google Play. This means that the community can remain connected beyond the symposium until it meets again two years from now at the next Oral Reconstruction Global Symposium in New York City. *EDI*

Photo: Camlog

Professor Frank Schwarz (front) and the fully focussed participants of his hands-on workshop.

1st Zimmer Biomet Dental Congress in Salzburg, Austria

Different approaches – intensive discussions

Around 170 participants attended the 1st Zimmer Biomet Dental Congress in Salzburg. In addition to an extensive range of workshops, the new, interactive approaches that were integrated as part of the event under the motto of "Innovative. Controversial. Practical." triggered highly instructive discussions about treatment options for various clinical situations on the second day of the congress.

Friday saw an intensive programme with a total of twelve 2.5-hour workshops, some of them very much practice-oriented. Since each participant was able to attend only three of the parallel workshops, speakers introduced themselves again at a panel discussion held afterward. The wrap-up sessions briefly summarized the contents of the individual workshops.

An excerpt from the workshop programme

In their workshop entitled "Management of simple and complex cases in a modern clinical practice", *Dr Alessandro Agnini* and *Dr Andrea Agnini* emphasized the importance of standardizing the overall treatment flow. One of the advantages of digitalization is the significantly shorter treatment time: the workflow for crowns or single bridges is shortened from the original 15 steps to five steps by resorting to digital technology and monolithic materials.

Expertise times six: the participants of the panel discussion.

Dr Kristina Bertl and *Professor Dritan Turhani* spoke about failed implant treatment and how to learn from mistakes in their presentation on "Implantation – peri-implantitis therapy – explantation – bone deficiency – and what comes next?". *Turhani* recommended waiting longer with a sinus lift if enough bone is not initially available: "Better wait six to nine months." *Bertl* explained her treatment concept for peri-implantitis. In non-surgical peri-implantitis therapy she follows a concept very similar to perio treatment around natural teeth.

"Hands on" was the motto of the day at the workshop of *Professor Patrick Schmidlin* and *Dr Kai Fischer* where a porcine jaw was in focus. The two clinicians presented simple concepts for complex cases building on the KISS philosophy ("keep it simple, stupid"). They demonstrated the practical implementation of simple but successful ideas, including incision techniques, flap design and where to place one's sutures.

Three approaches to prosthetic rehabilitation that take into account the patients' periodontal status were explained by *Dr Lukas Fürhauser* in a joint workshop with *Dr Frederik Kauffmann*: removable restorations on natural teeth, removable restorations on teeth and implants, and fixed restorations on implants. *Fürhauser* endorses telescopic restorations with evidence-based long-term stability. Hands on was then also the name of the game for *Kauffmann* and *Fürhauser*. Participants were able to try posterior implant procedures using surgical templates on a model of the lower jaw, one with and one without elevating an access flap.

The workshop of *Dr Roger Naef* and *Professor Christian Stappert* focused on sinus floor elevation using a variety of materials. Here, too, the practical

aspect was not neglected as participants were able to try out the sinus lift technique on a model. The necessary augmentation material was harvested from a rabbit jaw using the piezo technique. Training on implant-supported prosthetic superstructures was provided to the participants during the hands-on course by *Dr Michael Weinländer* and *MDT Martin Fischer.*

Dr Markus Bechtold and *Dr Martin Schneider* presented the practical concept of their Cologne dental office "Zahnkultur" on the basis of various case reports, presenting complex surgical and periodontal cases.

Saturday keynote lecture and arena

The second day of the congress began with the welcoming address by *Krista Strauss*, General Manager of Zimmer Biomet for Germany, Austria and Switzerland. Keynote speaker *Matthias Horx* then enthralled the participants with an exciting presentation. In his speech, the futurologist, founder and owner of the Future Institute looked at the "power of megatrends". He showed that global trends and especially the globalization megatrend of recent years have been a much more positive development than imagined. As far as the digital transformation, *Horx* recommended being very careful with the terminology. He summed up his lecture with this phrase: "The future will come when relationships are working".

In the subsequent panel discussion in the arena, six experts presented their own individual patient cases. The participants of the Zimmer Biomet congress then discussed possible treatment options. Some of the debates were controversial but highly interesting. Under the scientific direction of *Professor Stefan Fickl* and moderated by *Dr Jörn Thiemer, Dr Daniel Engler-Hamm, Dr Kai Fischer, Dr Konrad H. Meyenberg* and *Professor Werner Zechner* covered aspects of augmentation, socket preservation, prosthetics and local bone replacement.

Zimmer Biomet General Manager *Krista Strauss* was very pleased with the positive feedback from participants and speakers. "One of our goals following the merger of Zimmer Dental and Biomet 3i was to strengthen the Zimmer Biomet brand. We succeeded in doing that at this event", said *Strauss*.

MT

More information

www.zimmerbiometdental.com

A question on the sidelines

After completing his studies, Dr Roger Naef worked at the Department of Fixed and Removable Prosthodontics and Dental Material Science of the University of Zürich, Switzerland, first as an assistant and later in a teaching position in implantology and as clinic director. Today he works in a private practice in Zurich. Together with Professor Christian Stappert he led a hands-on workshop on "Sinus with different materials" at the Zimmer Biomet Dental Congress in Salzburg. EDI Journal Project Manager My To asked Dr Naef for a short statement on healing times.

Dr Roger Naef and Professor Christian Stappert

How do you communicate to the patient a healing time of six months or more in the age of "implant in a day"?

The most important thing is that the patient has confidence in the treatment and that we can guarantee success to the greatest extent possible, especially in the absence of viable treatment alternatives. And it is simply a scientifically proven fact today that healing will take at least three to six or even eight months. It is my responsibility as a dentist to inform my patients about this fact so that they, too, can assume their share of this responsibility by giving biology enough time for everything to be completely ossified rather than cutting that time short. As a dentist, I cannot assume sole responsibility because I can never know in advance just how well the implant will actually heal. This is simply a matter of time, and the best thing we can do is to give biology the time it needs.

MT

Osstem World Meeting in Moscow, Russia

Beyond Korea, towards the world

Osstem Implant has successfully finished its 2018 Osstem World Meeting on 28 and 29 April in Moscow, Russia. It was the 11th Osstem World Meeting since the premiere, the 1st World Meeting held in Seoul, South Korea, in 2008. This year, 1,700 people from 36 countries participated in the event, setting a new record in its history, and celebrating at the same time the company's 21st anniversary.

From Russia with passion: The Osstem World Meeting in Moscow met with great interest from the international audience.

On day one, five hands-on workshops were conducted with a focus on topics ranging from alveolar bone augmentation to ridge expansion to full mouth rehabilitaton. The limited seats of the practical courses had been sold out early and 200 pre-registered participants took the opportunity to learn from experienced Osstem course directors how to solve complex cases, experiencing Osstem's advanced surgical kits designed to overcome various complications.

The symposium day was divided into four sessions with seven lectures and one live surgery. The first session was led by *Dr Sooyoung Lee* and *Dr Yongjin Kim*, both from South Korea, who discussed current techniques and concepts in digital implant dentistry and the state of the art of implant placement with the Osstem OneGuide System.

In the second session, *Dr Jerry C. Lin,* Taiwan, gave a lecture on implant site development for long-term success. He was followed by *Dr Yongseok Cho,* South Korea, who delivered a speech on "Impact of a hydraulic lift system in sinus bone augmentation", and by *Dr Keisuke Wada,* Japan, who extensively discussed "Sinus elevations for implant dentistry: diagnosis, treatment planning, surgical techniques and management of complications".

Dr David Chong, USA, opened the third session; in his fascinating speech, he drew the audience's attention to contemporary aesthetic solutions for the anterior maxilla. The highlight of the day was the live surgery conducted by *Dr Kiseoung Kim,* South Korea. During the procedure that was broadcasted live to the three big screens in the Congress Center of Moscow's World Trade Center, he placed five implants using the Osstem OneGuide Surgery System. The live surgery could also be watched on "Denple", Osstem's online education platform, and 2,400 people all over the world followed the procedure on the screen of their PC or mobile device. Session four concluded the attractive programme with lectures by *Dr Marcus Lastimado*, USA, on "All-on-X" and *Dr Cesaltino Remédios*, Portugal, who explained how to choose the number of implants to use on a rehabilitation.

A question & answer session at the end of every session offered the audience an opportunity to dive deeper into specific issues and to enter into a close dialogue with the speakers.

"It was thanks to all our customers that we were able to carry out this year's meeting fruitful and successful", underlined *Tae-kwan Eom*, CEO of Osstem Implant Co Ltd., adding that "we'll return their love by achieving our vision to become a number one dental implant company by 2023."

The next Osstem World Meeting will be held in Tokyo, Japan, in May 2019.

More information
www.osstem.de

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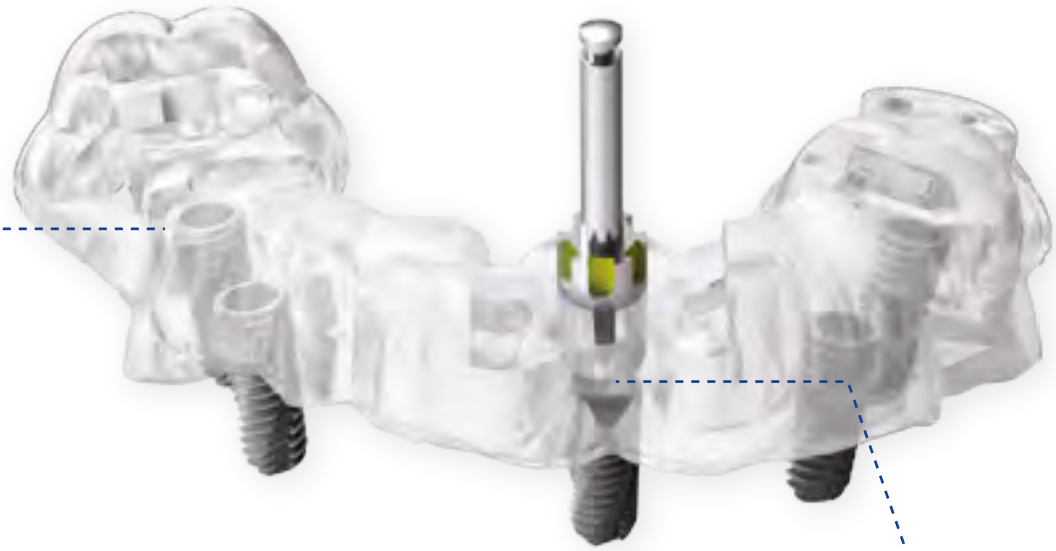

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National Osteology Symposium in London, United Kingdom: Soft Tissue Special

One event – double benefit

On 20 April 2018, a special National Osteology Symposium took place at the Royal College of Physicians in London with 140 participants. The event focussed on soft tissue regeneration and featured lectures in the morning as well as the possibility to choose among different workshops in the afternoon.

When the day's work is done (from left): Professor Nikolaos Donos, Adj. Professor Daniel Thoma, Professor Giovanni Zucchelli, and Professor Christer Dahlin.

The novel concept of the Osteology UK symposium included that participants could choose two of the three workshops by *Professor Nikolaos Donos*, *Professor Giovanni Zucchelli*, and *Adj. Professor Daniel Thoma*. The three renowned experts were also speakers in the programme under the chairmanship of *Professor Christer Dahlin*.

Live on The Box

The symposium had been sold out already for quite a while. To make the excellent lectures available not only to the 140 participants who were able to attend, the morning programme was streamed live on The Box, allowing every dentist worldwide to watch the lectures live and to submit questions in real time. And even better: The recorded livestream can still be watched online on The Box.

Mucogingival surgery and the treatment of gingival recessions

Professor Donos started the programme with an extensive introduction into mucogingival surgery, followed by *Professor Zucchelli*, who discussed in his presentation which technique should be used for which recession. He explained that the treatment of gingival recessions has become an important therapeutic issue due to the increasing number of cosmetic requests from patients. Very often, the most coronal millimetre of the root exposure is the only visible part of the recession when smiling, which means that the presence and/or the persistence after therapy, even of a shallow recession, may constitute an aesthetic problem for the patient. As a consequence, complete root coverage up to the cemento-enamel junction is the goal to be achieved when patients complain about the aesthetic appearance.

Autogenous tissue or alternatives?

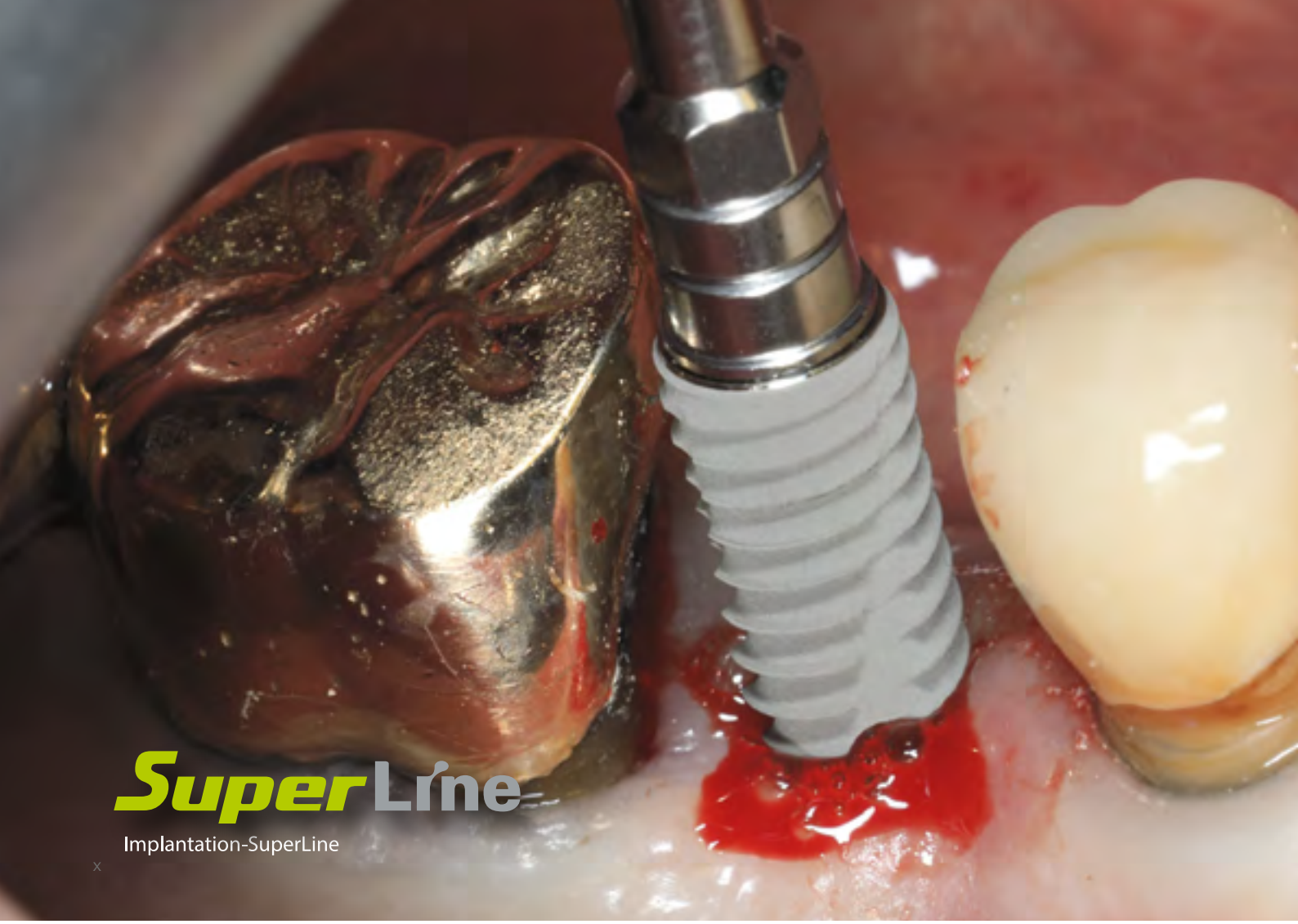
Adj. Professor Thoma, the third speaker in the morning, discussed whether autogenous soft tissue grafts are still needed. He explained that treatment strategies using implants in the aesthetic zone are complex, and long-term stability of functional and aesthetic outcomes rely on healthy biological conditions. Clinical data suggest that hard tissue regeneration is responsible for roughly 60 per cent and soft tissue augmentation for roughly 40 per cent of the final volume at implant sites. This underlines the importance of adding a soft tissue grafting procedure to provide healthy peri-implant tissues and favourable aesthetics. Consequently, the number of soft tissue grafting procedures is increasing. Autogenous soft tissue transplants are considered to be the gold standard. However, recently developed collagen-based soft tissue substitutes provide similar outcomes with respect to soft tissue volume, but are associated with less morbidity and complications than autogenous grafts, thereby offering significant benefits for patients and clinicians.

Professor Donos also announced a new educational initiative of the Osteology Foundation, which will be launched by the end of 2018: the National Osteology Group UK & Ireland (NOG UK & IRL). It will be a blended learning concept, comprising webinars on The Box, lectures and practical courses. Further information will be announced soon, *Donos* explained, but he invited the audience to already sign up on The Box to make sure that they get the information as soon as it is available.

Dr Heike Fania

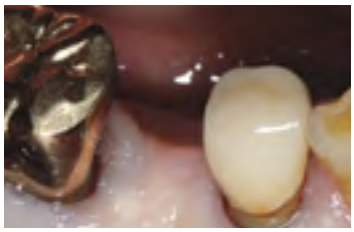
More information

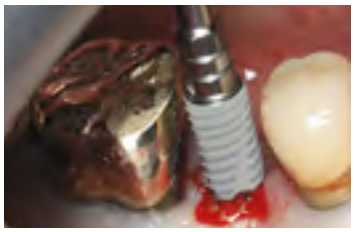
www.osteology.org
www.box.osteology.org

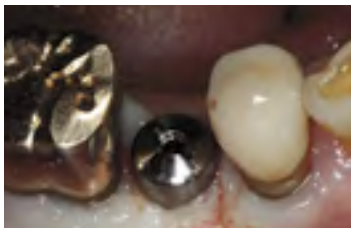


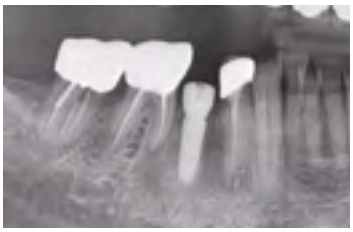
Higher joint strength for zirconia crown / Concave gingival design for more soft tissue space
Less internal space for higher fixture strength / Sharper and higher thread for early loading

Clinical Case


Pre-Op


SuperLine


Post-Op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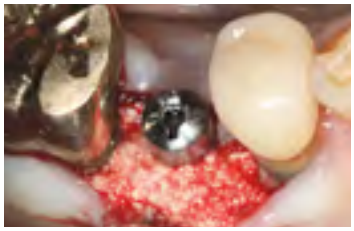
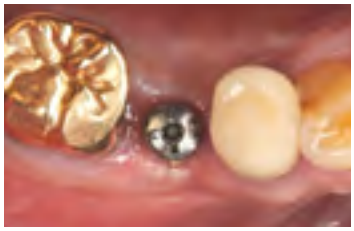
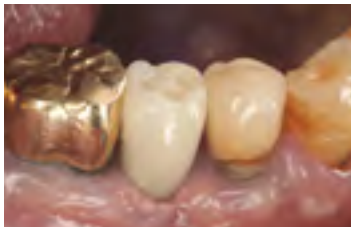
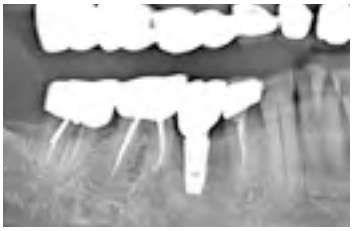

Second Stage Surgery


Healing 3months
(After Second Stage Surgery)


Final Prosthesis


Final Prosthesis

TRI Dental Implants master course with Dr Marius Steigmann

“Soft tissue management is mathematics!”

An international group of clinicians from the Middle East, Spain, United Kingdom, Portugal, Switzerland and Germany had accepted the exclusive invitation of the TRI Academy and gathered on the sunny island of Ibiza, Spain, to participate in the two-day master course with Dr Marius Steigmann. The well-versed implant expert inspired the audience with a comprehensive round trip through the world of soft and hard tissue management.

Trainee and mentor: Dr Mariette Zoghbi from Lebanon and Dr Marius Steigmann during the hands-on workshop.

Due to the intentionally limited number of participants, the course soon gained the character of a custom-made professional training. With specific and even provoking questions, *Dr Marius Steigmann* verified the audience’s level – or sometimes lack – of knowledge which he then used as initial point of his discourse. “It depends!” was the thread running through the theoretical part, based on the fact that every decision has to be judged individually according to the treatment area, the given situation, the planned treatment and the materials to be used. Nevertheless, certain indications follow fixed rules.

“Soft tissue management is mathematics!”, suggested the renowned implantologist, claiming clearly defined minimum distances and maximum heights. He remains sceptical about many technical tools: “Don’t fall victim of the digital disease! It is still the clinician’s skills and his decision-making competence that are the key success factors of every treatment.” According to *Steigmann*, adhering to a predefined digital procedure without considering the tissue biology can even lead to prosthetically induced peri-implantitis. “That’s why I don’t teach techniques, but try to raise your awareness for tissue biology”, he underlined.

From the Why to the How

For *Steigmann*, the treatment plan consists of three consecutive steps: examine all existing factors, carry out a precise evaluation based on literature and evidence, and take a clinical decision on the basis of these facts. He emphasized that the incision technique could already decide on success or failure of the final outcome and seasoned his lecture on the handling of different biotypes, augmentation and incision techniques, use of various materials and the combination of horizontal and vertical augmentations with many helpful practical hints and tricks. Extensive and very detailed case documentations completed the theoretical discourse.

Practice makes perfect

The second day of the master course started with various video tutorials on different suture techniques. “Don’t attempt a vertical augmentation before you have learned to tie your shoes correctly”, was *Steigmann*’s metaphor for his advice to intensively practice the basic techniques for specific situations. Closely monitored by the watchful eye of the experienced clinician, the participants then had sufficient opportunity to exercise on pig mandibles what they had learned before.

The event pleasantly concluded with a get-together at Nikki Beach, contributing to the fact that the participants returned home not only with a satchelful of “take home messages”, but also many cheerful memories.

TRI Dental Implants, the Swiss manufacturer of innovative aesthetic solutions in the field of oral implantology, supports its broad product portfolio with a practice-oriented global education programme provided by its own TRI Academy. Dates for upcoming courses can be found on the TRI Dental Implants website. *EDI*

More information
www.tri.swiss

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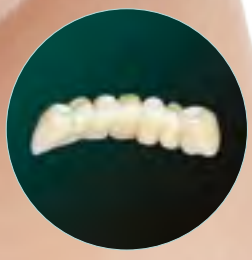
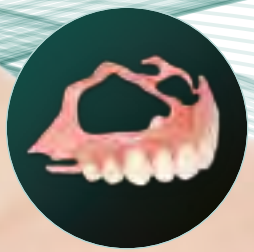
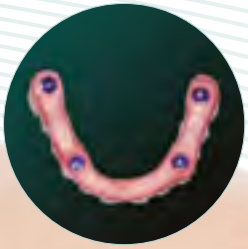


Prosthetic Frameworks



Removeable Prosthetics



Fixed Prostheses

www.trinia.com

6th VIP-ZM Congress in Poland

Updates in Krakow

The Association of Innovative Dental Practitioners (VIP-ZM) held its sixth congress on 11 and 12 May 2018. Almost 100 participants had accepted the invitation to meet at the Sheraton Grand Krakow. The practical course programme with well-chosen scientific topics related to oral implantology and big names among the speakers drew visitors to the attractive Polish metropolis.

VIP-ZM President *Dr Armin Nedjat* welcomed the visitors and kicked off the programme featuring navigation via CNIP (Cortical Navigated Implant Procedure) and the internal direct sinus lift using the MIMI procedure. He then presented the new one- and two-piece BioRevo ceramic implants from Champions-Implants. *Nedjat* pointed out that the implant is practically metal-free. In addition, the abutment is made of fiberglass and is adhesively connected, meaning that it is gap-free and does not present a surface for bacteria to attack. "A scientific study conducted by the University of Düsseldorf under the direction of *Professor Jürgen Becker* found 95.8 per cent osseointegration could be detected", commented *Nedjat* on the clinical success of the ceramic implant. He concluded by emphasizing that he and his team were continuously working on simplifying implantological procedures while improving the quality of care, which is why, he said, he was committed to a truly minimally invasive approach.

Next speaker was *Professor Itzhak Binderman,* Tel Aviv, Israel, with his presentation on "The Revolution of augmentation: extracted teeth as the best autologous graft". The renowned practitioner explained the use of extracted teeth for autologous bone augmentation and spoke of a paradigm shift. Using a Smart Grinder (KometaBio), the extracted tooth becomes an articulated autologous bone replacement material that can be used in chairside procedures. The results may well be equivalent to those with the alloplastic and synthetic materials on the market. *Binderman* concluded his presentation by recommending that extracted teeth should be regarded as an important grafting source for high-quality bone replacement. *Dr Manuel Waldmeyer,* Kassel, Germany, who has had extensive experience with the Smart Grinder, shared tips and tricks on the system itself and explained what perfect patient compliance means when using the grinder. *Dr Manuel Bras de Silva*, Dortmund, Germany, presented an alternative to autologous grafts and elucidated the benefits of synthetic bone replacement materials using the example of EthOss, now marketed by Champions-Implants.

Although the congress focus was on implantology, the inclusion of more marginal topics was greatly appreciated. *Jens Kleinschmidt,* specialist lawyer for medical law, explained possible pitfalls in the review and discovery procedure in dentistry based on recent court decisions. *Ann-Kathrin Grießе*, Dresden, Germany, explained the procedure of official tax audits and economic performance reviews conducted by state associations of statutory health insurance dentists.

The concept of the 6th VIP-ZM Congress was very well received by the participants – lectures at eye level rather than pontification ex cathedra. After this wealth of information, the congress ended on a lighter and entertaining note with a dinner, rock music, a magic show and a party. *EDI*

Dr Armin Nedjat (centre) with cheerful congress participants.

More information

www.vip-zm.de
championsimplants.com

Interview with Adj. Professor Stefan Fickl, Nürnberg, Germany

A focus on soft-tissue management

In late 2017, the title of Adjunct Professor was conferred on Dr Stefan Fickl by the University of Würzburg. Shortly thereafter, Fickl announced that he was taking over a private practice in Nürnberg/Fürth. However, he will continue to engage in research and teaching at the university. EDI Journal conducted an interview with Professor Fickl on the occasion of the recent Bego Implants Systems Global Symposium in Dubai, where he held the keynote lecture.

As a periodontist you have contributed decisively to the development of the tooth-preserving Würzburg concept. This concept also provides for the preservation of teeth that others consider hopeless. Which periodontal treatment steps do you perform – and when do you decide to extract a tooth after all?

A lot has already changed in periodontology. Today we know more about periodontal disease per se, about biofilm and the like. Non-surgical treatment options have improved thanks to probiotics and antibiotics, for example. Today we can treat a tooth for much longer – first with non-surgical procedures and later surgically. This means that extractions can often be postponed. Of course, if you do have to extract a tooth – which will often be the case with molars with furcation involvement – then of course an implant is the right treatment choice.

In what situations do you opt for an implant in a periodontally compromised patient or a patient with a high perio risk?

I think that has a lot to do with the success of periodontal treatment. Three things are important here: signs of inflammation – such as bleeding on probing –, suppuration, and probing depth. If we can manage these with the full periodontal treatment arsenal available today, we can preserve the tooth. If not, we will tend to use an implant. But we also have to create a situation where implant placement is possible in the first place, such as freedom from inflammation or a supply of keratinized gingiva.

Are there any cases where practitioners admit they cannot preserve the tooth over the long term, but they still try to keep it in place for another two to three years?

If periodontal therapy does not work, we need to pull the plug. We know that bone loss will continue to occur around a tooth that we cannot rid of inflammation; nor is chronic inflammation any good for the patient in systemic terms. There is no way for clinicians to be in denial about this. Of course there are "compromise patients" – in elderly, multimorbid patients you do not pull out a tooth just like that merely to perform a sinus lift. But if perio therapy – whether surgical or non-surgical – does not help, it is time for that implant.

Immediate implants in the aesthetic zone – where are we today?

That is an interesting topic, and it also happens to be the topic of my presentation here in Dubai. We have "rediscovered" immediate implant placement in the aesthetic zone – where it was long frowned upon because we were seeing so many complications. Implant diameters have become smaller and we can achieve a perfect implant position – for instance with a surgical template – and preserve the soft tissue very well – for instance with a direct temporary restoration. This is why we can now place many more implants in the aesthetic zone. But an intact buccal lamella is still a key prerequisite.

What are the important factors and strategies to achieve soft-tissue stability around implants, especially in the aesthetic zone?

We have a lot of experience with periodontal plastic surgery. Subepithelial connective-tissue grafts remain the treatment of choice. Applied to implantology, this means that we provide additional connective-tissue grafts in many anterior situations in order to obtain extra soft-tissue volume. We like to combine this kind of treatment with the use of enamel matrix proteins because we know that the soft tissue heals much better with these materials in place. In the aesthetic zone, it is of course par-

Adj. Professor Stefan Fickl during his lecture at the Bego Implant Systems Global Symposium in Dubai.

ticularly important that no wound-healing complications arise.

You have been working in private practice in Nürnberg/Fürth with a colleague since the beginning of 2018. On the other hand, you continue to work at your previous workplace, the Department of Periodontology of Würzburg University Hospital, one to two days a week. What is your focus in each case?

In the practice, the focus is of course on the patient and the best possible treatment. At the university, the focus is now on research and teaching. In addition, I am still active in postgraduate teaching – presenting at congresses and holding workshops. So my time is amply filled with my practice, university work and weekend events. But if you have a passion for a profession, doing all that can be very satisfying.

What are your research interest right now?

My research focuses primarily on my core areas of soft-tissue management, recession coverage, modified materials and xenogeneic matrices. Of course we also take a good look at socket preservation and at improved materials, barrier function and so on.

Do you expect any major innovations in the near future, or are things mostly progressing in small steps?

The steps we see are actually rather small and incremental. I suppose we should occasionally take a step back and admit that some things are less relevant for the patient, even though they are particularly interesting to us as scientists. For example, 0.3 mm more or less papillary height is not a crucial issue for patients. This is why the professional exchange is so important. I think it is a good thing that we have congresses like the Bego Global Symposium, where dental industry representatives talk to scientists and tell them that from their point of view, this or that might be more important. But in my experience, industry and science are increasingly engaged in cooperation, which is of great benefit to everyone involved – especially the patients.

Thank you very much for your time and the interesting interview, Professor Fickl. *IL*

Interview with Dr Minas Leventis, Research Manager at EthOss, Silsden, United Kingdom

“Research is a top priority!”

Minas Leventis, DipDS, MSc, PhD

Minas Leventis, DipDS, MSc, PhD and Visiting Clinical Instructor at the Dental School, University of Athens, Greece, is a highly qualified dental clinician and researcher. In 2017, he joined the clinically-led company EthOss Regeneration Ltd to support the company’s clinical and experimental research programme. EDI Journal talked to Dr Leventis about the latest findings in the field of bone grafting materials.

You are involved in a lot of research surrounding bone grafting materials. What makes the newer synthetic materials so different?

It’s really exciting to see the remarkable progress of modern synthetics during the last 15 years. We can now use common alloplasts like beta tricalcium sulfate and calcium sulfate to develop new bioactive biomaterials that are able to regenerate high quality vital bone predictably and quickly.

In modern implantology, our aim is to restore the form and function of the lost bone, so that we can give back to our patients a healthy bone tissue which can remodel and adapt to the transmitting occlusal forces. The new generations of the alloplastic materials may elicit a controlled action and reaction to the host tissue environment, whilst exhibiting controlled chemical breakdown and resorption with an ultimate replacement by new bone. If bone regeneration is the aim of our treatment, a fully resorbable material should be used so that the newly formed bone will be in all ways identical to the lost host bone. Long-term incorporation of non-resorb-

able graft particles in the augmented bone leads to incomplete regeneration, so in these cases repair or bone augmentation are more appropriate terms.

Can synthetic graft materials be osteoinductive?

It is very important that these new biomaterials are designed to be not only osteoconductive but also osteoinductive, that is to stimulate the differentiation of multipotent cells towards osteoblasts capable of depositing bone matrix, and there are numerous medical research papers showing this [1]. All this medical research can teach us how to engineer functional bone in dentistry and implantology, we can understand the role of periosteum, the importance of angiogenesis and biomechanics, so that we translate this knowledge into clinical applications for the benefit of our patients.

What is the current focus of your research?

In collaboration with many different international universities, we are undertaking animal experimental studies, in vitro studies, and clinical research focused on EthOss and alloplastic bone grafting materials, while in parallel we document numerous clinical cases. Our main objective is to fully analyze how these materials can assist the regeneration of high quality vital bone in different experimental models and clinical scenarios, what are the differences from other bone graft substitutes, to understand the advantages, disadvantages, potentials, benefits, as well as the limitations of its use.

How do you measure success when you look at a graft material?

It depends on the objectives of your research, but when you are looking at a bone regeneration material is it essential to assess histology samples, alongside clinical and radiological data (see below). We have a large library of histological data now, taken from different universities with different stains, and the results are very consistent – EthOss, for example, generates 50 per cent new bone within ten to twelve weeks, and is fully absorbed and replaced by host bone over the coming nine to twelve months. All our findings are published in open-access international journals [2-5], so our research is always going through the peer-reviewing process, being at the same time available to all colleagues. We strongly believe that it is our responsibility and ethical commitment to support the clinicians with all the necessary scientific background, and for this reason research is a big part and top priority of our work at EthOss.

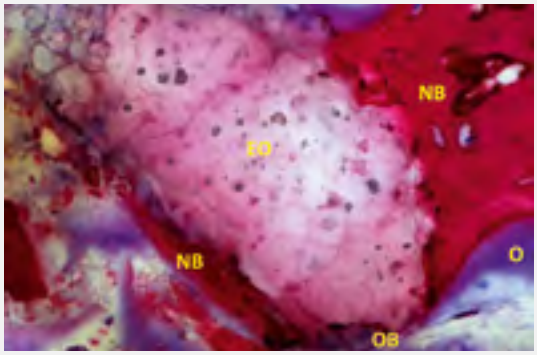
References available at www.teamwork-media.de/literatur

Thank you very much, Dr Leventis, for this interview.

EDI

What histology can tell us

Looking at a bone regeneration material, is it essential to assess histology samples, alongside clinical and radiological data. These samples let us see what is really happening in the graft site, how much new bone there is, how much residual graft material is left, and we can visualize and study the way the biomaterial triggers and supports the new tissue formation.



Histological picture of the integration of an EthOss granule (EO) in newly formed bone trabeculae (NB), after only ten weeks of healing at a post-extraction site grafted with EthOss. EthOss granules with partially disintegrated structure, osteoblasts (OB) forming osteoid (O) and adding new bone in contact to the bioactive graft material. Undecalcified ground sections; azure II/pararosaniline staining, original magnification x400.

Histological picture of a trephine bone biopsy from a different clinical study. More than 50 per cent new bone after grafting. Ten weeks of healing. Van Gieson's staining.

Rabbit calvaria bone defect healing after grafting with EthOss. Eight weeks post-op. Macroscopical observation of the specimen (left), and axial view of the micro-CT (right) in order to analyze the microarchitecture of the newly-formed bone.

Images: Dr MInal Leventis

Interview with Dr Alexander Völcker and Dr Frank Thiel of Dentsply Sirona CAD/CAM

Desire for a safe and fast treatment

During a visit to the Dentsply Sirona Academy in Bensheim, Germany, in April 2018, EDI Journal Project Manager My To discussed the past, present and future of CAD/CAM technology in dentistry and dental technology with two long-standing experts on digital dentistry, Dr Alexander Völcker, Group Vice President CAD/CAM, and Dr Frank Thiel, Vice President, Research & Development at Dentsply Sirona.

Dr Alexander Völcker

Dr Frank Thiel

Photos: Dentsply Sirona

What do you feel are the benefits of CAD/CAM technology today, and where are its limitations?

Völcker: CAD/CAM technology has been firmly established in dentistry and also in dental technology for more than 30 years. Dentsply Sirona has shaped this development by Cerec.

Cerec allows dentists to fabricate restorations chairside. We are always concerned about our patients, most of whom who would prefer to visit the dentist only once to receive treatment in a single visit. One of the great advantages of the Cerec system is that patients can go home without a temporary restoration.

Thiel: You also asked about limitations. Despite all standardization, the expertise and skill of dentists and dental technicians will continue to be as important in the future as it is today. For example, the quality of the preparation is a key success factor when you take an impression, regardless of whether it is a conventional or digital one.

In what direction will the digital transformation of our processes continue? What will future workflows between the dental office and the laboratory look like?

Völcker: Our drive force is our patients' desire for safe and fast treatment. Currently, processes are increasingly converging to form complete workflows in many areas, which provides value for all involved – even more so in future than today.

Thiel: Those workflows can be very versatile and may also combine digital and analogue methods. The collaboration between dentists and dental technicians is evolving and becoming more flexible. Dentists can produce Cerec restorations directly in the office but they can also send out the scan data to the dental laboratory, upload it to the Sirona Connect portal or use the inLab interface software that may be in use in the in-office lab. But as a dental operator you set your own personal preferences. Even if you want to continue taking conventional impressions you can still benefit from CAD/CAM as used at the dental laboratory.

Do you believe that CAD/CAM will replace all established manual processes in the foreseeable future?

Völcker: I don't think so. Neither for dentists nor for dental technicians. Dentists deal with a broad range of indications – just think of periodontology or endodontics, which require plenty of know-how and manual skill. We concentrate on driving digitalization when and where it makes sense.

Thiel: In the laboratory we see many processes that were largely done manually ten to fifteen years ago, but which are intensively supported by digital processes today. Wherever these result in increased efficiency and accuracy, this development will continue.

Who do you think is or should be responsible for CAD/CAM system administration and maintenance? The dentist or the dental laboratory?

Thiel: On a purely technical level, laboratory, practice and industry will probably work together

in this regard. Theoretically, we could also imagine the existence of a dedicated system administrator for a defined CAD/CAM workflow. However, since there are so many possible CAD/CAM processes, the following development is much more likely: The dentist is responsible for practice networks up to the point where data are transferred to a communication platform such as the Sirona Connect portal. The dental technician takes over as soon as the relevant data have been downloaded and processed.

If I asked you to name the number one innovation dental CAD/CAM technology, what would your reply be?

Thiel: One of the biggest breakthroughs for our company and for dentistry as a whole was the development of the Cerec System in 1986, a system that is based on the research of *Professor Werner Mörmann* and *Dr Marco Brandestini*, both from Zurich, Switzerland. Since that time, Dentsply Sirona has continuously improved the system, and of course we gained a lot of experience that has helped us to overcome initial weaknesses.

One of your company's great strengths is that the components that make up its system are matched. What are the specific advantages for the dental practice?

Völcker: In a cohesive system, where all components match seamlessly, we as the manufacturer take responsibility for ensuring that the workflow is safe and that it is validated. If you as a dentist put together components from different sources, you are the one who is responsible for their interplay. Now we know that dentists are more concerned with their patients, less so with technology or hardware and software. It is therefore important to us to offer dentists a workflow with few or no unpleasant surprises.

Thank you very much for this enlightening interview, Dr Thiel and Dr Völcker. *MT*

100 per cent satisfaction guarantee

Zest Dental Solutions, a leader in full-arch overdenture solutions for edentulous patients since 1977, announced today that it will now offer a 100 per cent satisfaction guarantee to clinicians when they purchase the next generation of Locator, the Locator R-Tx Removable Attachment System.

Locator R-Tx was designed and developed based on 17 years of cumulative clinician and implant manufacturer input on the original Locator Attachment System. Clinicians, and patients alike, embrace the improvements incorporated into the new system including the new abutment surface technology, increased angle correction, industry standard .050"/1.25" hex drive mechanism and convenient all-in-one packaging. In fact, Zest so strongly believes that Locator R-Tx is a better, simpler and stronger system than its predecessor, Legacy Locator, that the company has implemented a 100 per cent satisfaction guarantee to all customers.

"We understand it can be difficult for clinicians to adopt a next generation technology after successfully using a product for many years", stated *Russ Bonafede*, Zest Dental Solutions President. "While Locator R-Tx is the next generation Locator, the restorative technique and the predictability they have come to expect remains the same. Locator R-Tx is another prime overdenture attachment option – the fourth generation for Zest – so we are offering this 100 per cent satisfaction guarantee to demonstrate our confidence in the product."

More information
www.zestdent.com/rtx

Interview with Dr Michael R. Norton, London, UK, President of the Academy of Osseointegration

An objective scale of osseointegration

Michael R. Norton BDS FDS RCS(Ed) is a renowned and highly acknowledged implant surgeon. In 2017, he became the 31st President of the Academy of Osseointegration, the first ever non-American to do so. This achievement places him amongst the most respected names in the world of implant dentistry. Norton is a specialist in oral surgery with a career, reputation and practice dedicated to implant reconstructive dentistry since 1990. EDI Journal Project Manager My To talked to Dr Norton about insertion torque, ISQ and primary stability.

Dr Michael R. Norton

Insertion torque, ISQ, and primary stability are topics subject to discussion. How do you think these issues should be discussed and clarified?

The problem with insertion torque is that it is a static measure that one takes at a given moment in time. It is not something you can measure longitudinally. Whilst an implant might attain high insertion torque, the literature is very clear that this does not guarantee that it will integrate. And there is no way for us to assess whether actually the quality of the integration is such that the secondary stability ends up higher than the primary stability. The big advantage of resonance frequency and the ISQ value is that we can take a series of longitudinal measurements so that we can chart the course and the quality of integration over time. Indeed what I've seen from my own research in particular is that very often implants with really quite low insertion torque can still attain a very high axial stiffness.

I think there is a debate to be held about what constitutes primary stability. Is it rotation? Or axial stiffness? Clearly in my mind, not rotation but axial stiffness is the vector of force that I am concerned with when it comes to functional loading. So it seems to me that we should be measuring primary stability and secondary stability by means of axial stiffness. That's what the ISQ value does for us.

You are using Osstell to measure the ISQ value. What is, in your opinion, the main benefit of this device?

Osstell has been a huge bonus to my practice. Prior to the application of resonance frequency, it was always subjective guesswork as to the state of the implant. Often an implant would appear to be integrated and yet one would find that some weeks or months later, that interface broke down. Osstell allows me to have an objective scale of integration. I use this routinely on all implants that I place. We assess the initial primary stability and then we re-assess three months later, prior to loading.

What trends are you seeing in the industry? How do you think implant technique will develop?

If you ask people about implant dentistry, they'll tell you it's developing at a huge pace and that every year, there is something new. From my perspective, the idea of screwing in a piece of titanium into bone is no different today to what it was when I started nearly 30 years ago. Of course, the technology has been tweaked: The implants and the surface technology, for example, have evolved over time to give us higher interfacial shear strength, more robust components, less fractures and a higher percentage of implants that osseointegrate rather than fail. The predictability and the quality have definitely improved over 30 years, but as to the concept of osseointegration and implant-retained teeth, things have not changed so much. What has changed a lot is our techniques: We're trying to keep things simple, reduce trauma, reduce treatment times – and this is all to the benefit of the patient.

Where I do see a continued trend is in the field of regenerative materials for bone grafting, soft tissue grafting and the reconstruction of defects prior to implant placement. I see a big emerging market here, especially with laser printing and CAD/CAM technology, and I think that will spill over eventually into the implants themselves. That for sure is a future technology. There is plenty of room for advance and I'm convinced the profession and certainly the industry will continue to drive it forward.

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

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Interview with Udo Wolter, Head of Sales, Medentika

A fortunate team

Straumann and Medentika have a very successful partnership going. Straumann has supported Medentika's international expansion through its Instradent platform, while Medentika has made a significant contribution to Straumann's strategic goals of providing comprehensive solutions to dental laboratories. EDI Journal Project Manager My To spoke with Udo Wolter, Medentika's Head of Sales, about some details of the cooperation.

Udo Wolter, Head of Sales Medentika, and EDI Journal Project Manager My To at the Straumann headquarters in Basel, Switzerland.

Straumann's taking a stake in Medentika in 2016 was intended to build a platform for brands in the value segment. Is this goal being achieved?

In 2015, Straumann acquired Neodent, one of the world's largest implant manufacturers. Today, Neodent is one of the market leaders in the non-premium implant segment. Medentika specializes in prosthetically compatible prefabricated and custom-made implant components. Then at the beginning of 2017, Straumann acquired a majority stake in Medentika. This means that the goal of becoming a leading global supplier in the non-premium implant prosthetics segment has now been achieved.

"Despite Straumann's majority stake, Medentika's management retains the decision-making authority for itself." Does this statement still apply today?

As per the end of March 2018, Instradent Deutschland GmbH was merged with Straumann GmbH. The familiar Medentika team, the office staff in Hügelsheim and the field service will continue to provide customers with advice and assistance. As a member of the Straumann GmbH management, I will continue to lead the Medentika team and will be responsible for the Medentika business unit in Germany. So despite Straumann's stake, the management of Medentika will still call the shots.

How do Straumann and Medentika benefit from each other?

Straumann benefits from the strong growth potential in the non-premium implant segment – in particular from double-digit growth in the area of prosthetically compatible restorative components. Medentika gives Straumann access to the implant prosthodontics market for all common implant systems. Medentika in turn benefits from Straumann's years of expertise in research and development, training and education. In addition, the extensive Straumann sales organization will support Medentika's market penetration.

What is Medentika's current focus when it comes to expanding its product range?

As per May 2018, the C series was expanded by adding healing abutments, impression posts and standard abutments. The second half of 2018 will see the market launch of the angled Novaloc abutments for the Procone and Camlog implants, the titanium bases for angled screw channels and the one-piece Minicone implants for hybrid restorations. We will also expand our prosthetics range for the digital workflow and develop new series of prosthetic components for implant systems from Asian manufacturers. The market launch of the Quattrocone and Procone implant systems also highlights our growth strategy in the field of oral implantology.

As already mentioned, Medentika specifically represents the value segment. What does offering a favorable price for implant prosthetics mean in terms of quality and safety?

We tolerate no compromise in this respect and provide dental technicians, dentists and patients with an attractive system of precision implants and long-lasting abutments, compatible with the products of all popular manufacturers. You can rely on this precision, which is backed up by our responsible approach and our many years of experience. We offer a lifetime guarantee on the quality and durability of the abutments and we also guarantee the third-party implant. In our brochure entitled "Medentika on Original", we mercilessly reveal all design and manufacturing features. You will find the brochure on our website, in the download area.

Thank you for the interesting interview, Mr Wolter.

MT

Interview with Dr Rubén Davó, Alicante, Spain

"A step forward for the zygomatic approach"

Dr Rubén Davó is a trailblazer in the field of zygomatic implant treatment. Here, he talks about the evolution of this approach, its advantages and his experiences with the new NobelZygoma implant. For Dr Davó, routine patient care encompasses dentofacial deformities, guided surgery, and the rehabilitation of patients with atrophied bones and quality-of-life issues. He is a member of the faculty at the Barcelona University Hospital, lectures worldwide, and provides international educational courses and programmes.

Dr Davó, you have been involved with zygomatic implant surgery from the very beginning. How did this approach first develop?

I started implementing a zygomatic approach back in 1999, working together with *Professors Brånemark* and *Chantal Malevez*. At that time, we didn't have a predictable solution for the severely atrophic maxilla, and we were confident zygomatic implants could be the answer. The results we saw were outstanding from the start.

Five years later I began combining zygomatic implant placement with immediate function. This was actually the focus of my PhD dissertation. A couple of years later, we started with the quad zygoma concept using four zygomatic implants, this time utilizing immediate function from the beginning.

What are the main patient benefits associated with zygomatic implant treatment?

For the patient, the benefits are enormous. The zygomatic approach, which rarely includes grafting, can reduce treatment times and costs, which in turn can increase treatment acceptance. Before the treatment, these patients are orally handicapped, which can lead to a lot of psychological, social and functional problems. In my experience, after the treatment, quality of life can return to normal. It's remarkable.

Nobel Biocare is building on 25 years of success in zygomatic implants. What have your experiences been with the new NobelZygoma implants?

I have already performed many cases with the NobelZygoma implant and completed them with a high success rate. It offers more opportunities to adapt the position of the zygomatic implant to the different anatomies we see in our daily practice. With the surface of the implant, I now have threads just where I need them. I have been finding that it is beneficial to have parts of the implant surface that are unthreaded, and that you have a little more stability with the new tapered apex.

In a study, my team and I followed 13 patients who were each treated using NobelZygoma implants. Some patients required just one zygomatic implant, others up to four. In total, we assessed the clinical outcome of 33 NobelZygoma implants and the patients were followed for at least six months. During this observation period, we saw a 100 per cent success rate, with no implants failing and all provisional prostheses remaining stable. Overall, I think the new NobelZygoma implants are a real step forward for the zygomatic approach.

For a clinician who is looking to begin with zygomatic implant placement, what is the best way to start?

It is very important to attend specialized courses, and Nobel Biocare offers many of them. Attending a good course is essential, even for very experienced maxillofacial surgeons. There are many very important details to consider in order to ensure a successful outcome. If you respect the protocol, adhere to it strictly and use high-quality implants like Nobel Zygoma, you will be on course for delivering a successful treatment.

Thank you very much for this interesting interview, Dr Davó.

The interview was conducted by Michael Stuart.

Dr Rubén Davó

Save the date

National Osteology Symposia in Italy and France

The National Osteology Symposia are staged worldwide in various countries. With an attractive mix of scientific presentations and practical workshops, the National Osteology Symposia offer an excellent platform for high-level training and education of dentists. After the very successful European symposia in Frankfurt (Germany), London (United Kingdom) and Zurich (Switzerland), the coming events in Turin (Italy) and Paris (France) will round out the attractive programme of the 2018 event year in Europe.

National Osteology Symposium Turin

Topic: Long term success – tools and strategies in regenerative therapy

Date: 27 to 29 September 2018
Venue: Centro Congressi Lingotti, Turin, Italy
Scientific chairmen: Mario Roccuzzo, Italy, Mariano Sanz, Spain, Istvan Urban, Hungary

Programme:
- Three workshops
- Presentation of clinical cases
- Osteology Young Speakers Award 2018
- Ten scientific sessions and presentations

More information and registration:
www.osteology-torino.org

This QR code leads you directly to the complete symposium programme:

National Osteology Symposium Paris

Topic: From biology to aesthetics

Date: 18 to 20 October 2018
Venue: Cité Internationale Universitaire de Paris (CIUP)
Scientific chairmen: Franck Renouard, Paris, Philippe Russe, Reims

Programme:
- Seven workshops
- Clinical Sinus Forum
- Six scientific sessions and presentations
- Industry exhibition

More information and registration:
www.osteology-paris.org

This QR code leads you directly to the complete symposium programme:

The Osteology Foundation cordially invites all interested dental practitioners to attend its National Symposia in Turin and Paris.

BTI Biotechnology Institute, Vitoria-Gasteiz, Spain

A high commitment to excellence

Training is one of BTI's basic pillars. Therefore, it dedicates a great deal of its resources to a wide range of courses and workshops that include ongoing training programmes, and monographic and general clinical courses. Main venue for the courses is the BTI Postgraduate and Training Centre in Vitoria-Gasteiz, Spain.

BTI training is aimed at all professionals who are looking to update and exchange knowledge, not only through conferences and theory, but also through interaction with other professionals. Backed by more than 28 years of experience teaching courses, BTI was a pioneering organization in creating a postgraduate course in odontology. Today, their classrooms see about one thousand surgeons, dentists and doctors from different fields of medicine from all over the world per year. The teaching staff consists of a multidisciplinary team comprising more than 70 professionals, both from Spain and other countries, with extensive clinical and teaching experience. Thus, through theoretical and practical courses, live surgery, and more, students are updated on trends, new techniques and products that increase predictability in clinical practice.

Every year, the BTI training centre strives to improve the training they offer, not only by introducing the latest technology to bring clinical practice closer to the students, but also by renewing the subjects of the various courses and including monographic conferences on other disciplines related to the profession. Along these lines, an agreement was signed between the Eduardo Anitua Foundation and the University of the Basque Country UPV/EHU in October 2017, by which the research centre belonging to the Foundation became a university institute under the name of University Institute for Regenerative Medicine and Oral Implantology – UIRMI.

Biological approach

Since the beginning, BTI has been a company devoted to intensive research in different areas, such as oral implantology and regenerative medicine, with a translational vision, which has given new meaning to the concept of R & D +i. Research, development and innovation are carried out at BTI with a biological approach, which allows them to provide new tailored therapeutic solutions while at the same time developing new basic biological tools associated with the surgical processes and adapted to different medical fields.

One of the aspects that really sets this training centre apart is that the results obtained thanks to the efforts and resources invested in the area of R & D +i enable them to provide training based on this biological approach. This is why the range of courses on the application of Endoret (PRGF) in various fields of medicine within the training offered by BTI has increased.

Philosophy and facilities

BTI has a single philosophy: to provide biologically guided, less invasive and more predictable therapeutic solutions, not only in the short term, but rather, and perhaps most importantly, in the medium to long term. The training is primarily given in the BTI Postgraduate and Training Centre, which has the most advanced medical and audiovisual technology, reason why it is a European leader in this area. Its technical characteristics allow ongoing and immediate collaboration with the main universities worldwide, as well as with the centres that BTI has in Mexico, USA, Canada, France, Italy, Germany, United Kingdom and Portugal.

More information

bti-biotechnologyinstitute.com/training/courses/

Director Dr Eduardo Anitua with participants during a clinical course.

The BTI Postgraduate and Training Centre in Vitoria-Gasteiz.

W&H wins National Innovation Award

A leap forward in the technology of dental treatment

Dental turbines are among the dentist's most important instruments. But the noise of them alone is enough to fill many patients with anxiety when they visit the dental practice. W&H has managed to find a solution to this problem: the Primea Advanced Air Turbine. This innovation not only has a high economic potential, it also impressed the expert jury awarding the Austrian State Prize for Innovation. W&H received the award from the hands of Dr Margarete Schramböck of the Federal Ministry for Digital and Economic Affairs on 22 March 2018 in the Austrian capital of Vienna.

Photo: © BM f. Digitalisierung u. Wirtschaftsstandort/APAfotoservice/Hörmandinger

W&H came in first of the six successful finalists. From left: Dr Margarete Schramböck, Federal Minister for Digital and Economic Affairs; Peter Malata, W&H President; Dr Wilhelm Brugger, W&H Research and Development Management Team; Michael Rothenwänder, W&H Research and Development; Johann Eibl, W&H Vice President Product Innovation; and Thomas Irran, W&H Research and Development.

Every year, the most innovative companies in Austria compete for the State Prize of innovation, presented by the Federal Ministry for Digital and Economic Affairs and organised by Austria Wirtschaftsservice GmbH (aws). The aim is to acknowledge excellent innovation among Austrian companies and to highlight their individual economic, general economic and social policy aspirations in public. This year, six finalists out of 438 submissions reached the last round. W&H, the Austrian family company and dental manufacturer, was one of them.

"W&H has developed an adjustable pneumatic drive system, which opens up the possibility for revolutionized dental treatment. A lot of technical heart, brain power, funding and time have been invested in this product, alongside a sensational team, and the new system has been successfully patented. As a result, we believe that this will be something big – a product 'Made in Austria', which we will hear a great deal about", summarized panel judge and spokesperson *Dr Martha Mühlberger*, Vice Rector of Montanuniversität Leoben.

The W&H innovation – Primea Advanced Air

The new dental turbine generation offers a whole range of improved features: consistent rotation speeds, a peak performance increased by approximately 50 per cent, shadow-free illumination of the treatment site and less noise – thus benefitting both patient and dentist.

While in the past, rotation speed and power of the turbines could not be set, the dentist can now adjust the new Primea Advanced Air Turbine to every individual treatment. The rotation speed of the bur can be set precisely and, due to an electronic regulation, remains constant even when the contact pressure is increased during the treatment. An improved top performance shortens treatment times, and sensitive fine preparations can be carried out largely without thermal damage or soft tissue injuries. Lower levels of noise during operation thanks to a decrease in idle speed significantly improve the patient experience. The ring-shaped LED lights in the small instrument head give dentists the benefit of 100 per cent shadow-free illumination at the treatment site.

"We are really pleased with the State Prize for Innovation and the associated recognition of what we have developed. With this innovation, we reached a milestone that opens up an entirely new dimension of minimally invasive, precise and atraumatic dental treatment", said *Peter Malata*, W&H President, at the award ceremony, and he added, "The award is for all the company's employees. This innovation was a joint effort – from the initial idea to its implementation and the finished product, plus so much more. Teamwork is firmly anchored at the core of W&H – a quality which makes me really proud."

More information
www.wh.com

Dental patient communication tools

How digital dentistry can help

Treatment planning software can help dental professionals improve many aspects of dental implant treatment. In particular, it can significantly enhance communication between the clinician and patient [1].

Dental implants can improve oral function and appearance, which can positively impact a person's overall daily functioning and well-being. However – although reported survival rates of dental implants are generally high – complications may occur and it is important that patients understand the risks involved. In a recent paper, researchers found that patients may have unrealistically high expectations of dental implant treatment. The results highlight the importance of patient-centered communication in dentistry and the need to inform individuals of the possible risks involved [2]. This should not minimize the patient's role in maintaining oral hygiene; they need to understand and accept their responsibility for following recommended aftercare guidelines.

Visual aids

People learn and absorb information through different methods. Visual aids can arouse interest and make the subject matter more tangible [3]. This makes them ideal to help explain a treatment procedure and to walk a patient through the process step by step. According to *Dr Werner Zechner*, Austria, "a picture really is worth a thousand words." Furthermore, the use of visual communication tools has been proven to result in significantly higher patient satisfaction [1,4] as professionals are able to demonstrate details of proposed treatment plans and show patients possible end results.

Dr Scott MacLean, Canada, agrees: "We sometimes focus too much on the details of the procedure itself, which might scare the patient and make him or her apprehensive about treatment. Visual stimulation is an extremely powerful tool and helps the patient get more involved in the treatment."

Treatment planning software

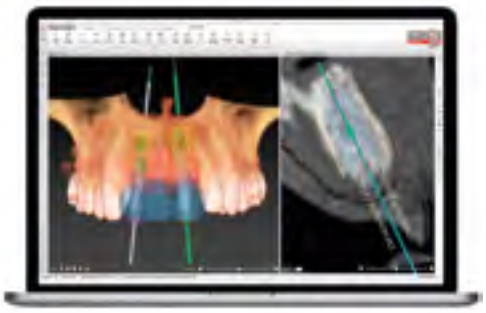
Treatment planning software can be extremely helpful when introducing patients to the dental implant procedure. Clinicians have time to explain the treatment plan and visually demonstrate to patients the need for any additional procedures, such as a bone grafting or soft tissue augmentation. It is also possible to discuss success rates, potential complications and treatment alternatives, walking patients through the entire clinical sequence step by step.

Added benefit – team communication

Implant success and survival relies on accurate preoperative surgical and prosthetic planning involving all members of the team, both in the practice and the lab. All members of the dental team benefit from the accurate communication of case and patient details – the surgeon needs the data for effective surgical planning; the restorative dentist requires the same information in order to plan the most appropriate restoration; and close collaboration with the dental technician will help ensure the design and production of precise-fitting, natural-looking prostheses. Utilizing solutions such as the NobelClinician treatment planning software ensures that information is easily accessible to all relevant team members.

Effective communication within the entire treatment team is essential. Both patients and staff need to have a clear understanding of the proposed treatment, and visualization tools can help to achieve this. From patient diagnostics to treatment planning and surgery, this can positively impact all aspects of implant treatment to enhance the patient experience. ■

References available at
www.teamwork-media.de/literatur

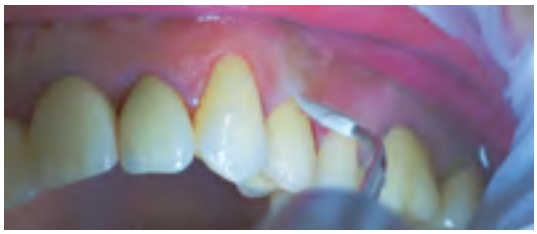


More information
www.nobelbiocare.com

#NIWOP

Some things do belong together: Just as Yin needs Yang, implantology needs periodontology. At EuroPerio9, W&H presented “No Implantology without Periodontology” – NIWOP for short –, a systematic and evidence-based workflow for a sound and healthy tissue situation around the implant.

Millions of people around the world are affected by periodontitis. This chronic disease significantly increases the incidence of biological complications in implant placement with a risk of implant loss [1]. Peri-implantitis and its preliminary stage mucositis also occur in a substantial proportion of patients [2]. The cause is frequently found in the pathologically altered biofilm (dysbiosis) with its specific microflora [3,4]. Untreated periodontitis patients therefore have an increased risk of peri-implant inflammation through to implant loss [5]. However, even patients who were treated initially and are not included in a recall programme exhibit an increased risk [6]. Where necessary, periodontological pre-treatment and appropriate follow-up care (supportive periodontal therapy, follow-up care in recall) is important for these patients in order to create the optimum conditions for successful implantation and retention of the implant.



Not only does W&H provide all the products necessary for treatment, but with NIWOP it also supplies a holistic workflow which enables the best possible treatment of patients. Pre-treatment, implantation, follow-up care – the evidence-based, systematic NIWOP workflow and the associated W&H products such as Implantmed, Piezomed, Tigon or the extensive range of tips, help to achieve lasting success of the implant. Presentations and the experience of key opinion leaders, like the lecture of *Dr Karl-Ludwig Ackermann* at the EuroPerio9, round off the NIWOP package.

References available at www.teamwork-media.de/literatur

Geistlich Webinar World Tour 2018

All good things come in threes: After the success in 2016 and 2017, Geistlich Biomaterials, Switzerland, will once more offer a series of webinars in 2018, presented by experts from around the world.

The two past editions of the Geistlich Webinar World Tour revealed to be very successful: An average registration number of 500 to 1,000 people per webinar, well-received Q & A sessions, and highly requested on-demand webinars with more than 22,000 views on YouTube show that the Webinar World Tour obviously hits a nerve.

In 2018, Geistlich offers a new series of webinars and has compiled six free and interactive virtual seminars covering techniques that help clinicians to further improve their clinical outcomes. These in-depth online lectures treat a broad range of topics, from new therapeutic solutions to tricks and tips, clinical decision-making strategies, as well as do’s and don’ts. All webinars are hosted by internationally renowned specialists – in English, in various time zones, and with interactive Q & A sessions. In the first six months, participants already learned about soft-tissue regeneration using new options to connective tissue grafts and three-dimensional printed solutions for major bone augmentation with *Dr Marcus Beschnidt* and

Dr Helmut Hildebrandt from Germany. A comprehensive Asian overview about management of extraction sockets from *Dr Alvin Yeo* from Singapore completed the first round of webinars.

But more is still to come. The speakers and topics for the upcoming six months are: *Dr Tara Aghaloo,* USA: "Peri-implantitis – Key factors for treatment success"; *Dr Mauricio Araujo*, Brazil: "Do's and don'ts in extraction sockets management"; and *Professor Matteo Chiapasco* and *Dr Paolo Casentini*, Italy: "Clinical indications and guidelines for soft-tissue augmentation at implant sites". ■

More information and registration
www.geistlich-pharma.com/en/about-us/courses-and-congresses/webinar-world-tour/

To the rescue!

Zest Dental Solutions, a leader in reliable, innovative restorative solutions for the treatment of edentulous patients, announces an expanded indication for its novel Locator F-Tx Fixed Attachment System: immediate rescue of a fixed-hybrid prosthesis after an implant failure.

Fixed-hybrid implant failures happen, and when clinicians face this challenge, it often leads to a prosthesis emergency. Replacing the prosthesis was the only option available as it was virtually impossible for the existing prosthesis to seat passively in the altered position of the screw-retained components at the replacement implant site – until now.

Zest Dental Solutions recently introduced the Locator F-Tx Fixed Attachment System, significantly changing the way clinicians think about fixed full-arch restorations by not requiring screws or cement to affix the prosthesis. The unique design of the Locator F-Tx System also allows it to rescue a fixed-hybrid prosthesis when an implant fails. The Locator F-Tx Fixed Attachment System includes a novel "snap-in" attachment that is picked up chairside, ensuring a passive fit, while working in harmony with existing screw-retained abutments, saving both clinicians and patients substantial time, money and frustration.

"Locator F-Tx represents another paradigm shift from Zest that allows clinicians to provide innovative treatment solutions to their edentulous patients", said *Steve Schiess*, Zest Dental Solutions President and CEO. "Now clinicians can not only offer a fixed full-arch restoration without using screws or cement to affix the prosthesis, they can also use the same technology to save a patients prosthesis when a fixed-hybrid emergency occurs." ■

More information
www.zestdent.com

The Nordic Institute of Dental Education in Helsinki, Finland

Great experiences far beyond learning

Professor Irena Sailer and MDT Vincent Fehmer from the University of Geneva, Switzerland, are no strangers to Finland. As lecturers for the Nordic Institute of Dental Education, they have been to the country several times in recent years and helped dental professionals from numerous countries expand their expertise in digital dentistry – a rewarding experience for course participants and the lecturers themselves.

The Nordic Institute of Dental Education (NIDE) is a Planmeca subsidiary specializing in high-quality continuing education. It organizes CE courses in Finland for dental professionals from around the world. NIDE has built a network of experienced, innovative, and inspiring lecturers to guide its courses covering 3D imaging, CAD/CAM dentistry, aesthetic dentistry, and more.

Professor Irena Sailer and *MDT Vincent Fehmer* are lecturers for NIDE's Aesthetic Dentistry course in Helsinki, Finland. The next course will take place in September and both are already looking forward to it. "The course will help participants to understand the intricacies of chairside dentistry – how to successfully integrate digital workflows and how to utilize modern diagnostic tools to visualize treatment goals", *Sailer* states.

From planning and preparations to correct bonding, participants will also learn how to do minimally invasive dentistry and how to create defect-oriented adhesive restorations. "Understanding the indications for monolithic reconstructions is important, as they represent the keystone to a successfully integrated digital workflow", *Fehmer* illuminates.

Course participants follow as MDT Vincent Fehmer teaches the latest skills in the field.

Professor Irena Sailer showing the intricacies of aesthetic dentistry.

A great platform for learning

Sailer and *Fehmer* reside in Switzerland where they work for the University of Geneva's Clinic of Dental Medicine. *Sailer* is also the Head of the university's Division of Fixed Prosthodontics and Biomaterials, while *Fehmer* runs his own private dental lab in Lausanne.

In their work, both have been able to closely follow how digitalization has changed the daily lives of dental professionals. They have seen a significant shift in the field of aesthetic dentistry, as digital technology has opened up new avenues to improve treatments.

"Digital technology has enabled us to use new materials, such as reinforced glass ceramics. They can be manufactured to be very thin and in a highly efficient way. Also, new multicolour blanks allow the application of monolithic reconstructions even in the aesthetically relevant anterior area", *Sailer* recounts.

Digitalization comes with the rightful promise of great gains, but proper education always makes it much easier to get the most out of innovative digital dental equipment. As technology develops, continuing education plays a major role in conveying the latest knowledge and skills to users.

The Nordic Institute of Dental Education set out to meet the growing needs in the field a few years back and has already solidified its place in the CE world. To date, NIDE has hosted dental professionals from over 40 countries at its courses. All NIDE's courses are evidence-based and rely on scientific information. They are accredited by the University of Turku and recognized by the American Dental Association's ADA CERP programme.

"You feel like you are part of a family! Lecturing for NIDE is always a great experience – one that goes far beyond dental education", *Fehmer* concludes.

More information and registration
www.nordicdented.com

Get it!

EDI Journal is the first and only European professional journal of its kind, written for all clinicians with distinct interest in dental implantology. This publication aims at uniting European dentistry in a common effort, to establish appropriate standards and to help open up new markets.

The specific dental section of this periodical offers a wealth of original work, case reports, scientific research and other articles presented by authors from countries all over Europe, all helping to make this top-quality platform a truly international voice in the dental profession. Product innovations are covered in depth.

And for the first time ever, dental implantologists are offered exhaustive information on important ancillary themes such as European standards, quality guidelines, legal issues, questions of remuneration and professional specialization.

Information on upcoming events of importance to dental implantology and on training, continued education and professional growth opportunities are also regular features of ***EDI Journal***.

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Anthogyr Angulated Access solutions

A solution with even more advantages

Anthogyr offers Angulated Access solutions on its customized Simeda and Connect+ prostheses. The solution associated with the new inLink connection system provides the dental practitioner with even more advantages.

Thanks to its expertise in mastering the materials and CAD/CAM processes, Anthogyr's machining centre now offers the Angulated Access solution on customized screw-retained prostheses, guaranteeing the realization of the model and/or its manufacturing.

The Angulated Access contributes to the aesthetics of restorations thanks to staggered channels on the palatine or the lingual side. From a functional perspective, they can be placed outside the fragile areas of the prosthesis, for example the occlusal sides or the open edges. This involves less maintenance and helps free precious time for the practitioner.

The Angulated Access is available for Simeda prostheses on Anthogyr implants with Multi-Unit Axiom abutments and on inLink connections, the exclusive connection at the heart of the Axiom Multi Level solution. It is also offered for the Connect+ prostheses, the new Anthogyr Multi-Platforms Solutions (M.P.S.) brand. Those Angulated Access share an angulation from 0 to 25°, can be applied to all prosthesis channels and work with the same prosthetic ball wrench. For Multi-Unit, the solution is supplied with a dedicated screw gripper. For the inLink connection, the locks are already integrated in the prosthesis by the prosthetist.

Above: Angulated Access with inLink connection.
Left: Angulated Access with Multi-Unit abutments.

Even more possibilities with the Angulated Access and the inLink connection

The Angulated Access associated with inLink offers even more possibilities. The practitioner has total freedom of angulation, from 0 to 25°, which means that the connection can be oriented to 1, 7 or 22°. inLink allows the implant axis to be adjusted on Axiom BL (bone level) implants without the use of an intermediate angulated abutment or on Axiom TL (tissue level) implants directly in the implant.

The absence of a screw passage in the channel enables a reduction of the space taken by the channels inside the prosthesis, with an emergence diameter reduced to only 2.0 mm. Hence, this solution can be applied on a wide scale: notably teeth of low height in the back and thin teeth in the front.

A further advantage of the inLink connection is that the Angulated Access is available in the materials of the customized Simeda prostheses: titanium or cobalt-chromium and three zirconia, including the Multi-layer Sina ML. ■

More information
www.anthogyr.com

Thommen Medical abutments for digital prosthetics

State-of-the-art digital prosthetics

Thommen Medical, the Swiss designer and manufacturer of dental implant systems, now also offers its proven VarioTemp, VarioFlex and VarioUnite abutments for digital prosthetics.

The design of the new abutments allows for flexibility in creating CAD/CAM and conventional restorations. The abutment height is modifiable and is suitable for most single tooth and multi-unit bridge restorations. VarioTemp, VarioFlex and VarioUnite abutments are compatible with screw or cement retained restorations. The VarioUnite abutments only for screw-retained single crowns (upper lateral incisors, lower anterior teeth without the canine teeth).

CAD/CAM suitable abutments can be modified for the clinical situation and the material-specific requirements. The new CAD library delivers the ability to choose the ideal cylinder height from a single abutment. The VarioTemp, VarioFlex and VarioUnite abutments have been specially developed for restorations with plastic, pressed ceramic, metal and zirconium oxide (the VarioUnite abutment only for bonding metal or CAD/CAM fabricated zirconia restorations). They offer the best possible support for long or high superstructures as well as deeply placed implants.

The new CAD libraries are available now and can be downloaded from www.thommenmedical.com. Detailed information can be found in the corresponding “Instructions for use”.

Daniel Pally, dental technician and co-owner of Pally & Sasaki Dental Design AG in Zollikon, Switzerland, is excited about these new possibilities: “I have created many restorations using VarioFlex to date to the satisfaction of both dentists and patients alike. I have already installed the CAD library and I will be able to work even more efficiently from now on.”

More information
www.thommenmedical.com

Nobel Biocare NobelPearl

Product
Two-piece ceramic implant system

Indication
Oral implantology

Distribution
Nobel Biocare Services AG
P.O. Box
8058 Zürich-Flughafen
Switzerland
www.nobelbiocare.com

Nobel Biocare has harnessed the evolution of ceramic implants with the new NobelPearl implant system, unveiled at EuroPerio9. A growing trend in the dental implant market is the patient preference for metal-free solutions; an alternative that brings the look and feel of natural teeth. The new alternative of NobelPearl has been developed to meet this demand.

NobelPearl is a viable alternative to titanium, being a 100 per cent metal-free, two-piece ceramic implant solution with a cement-free internal connection. It has been designed to support a natural soft-tissue appearance, and its white zirconia material is especially beneficial in patients with a thin mucosal biotype. Microcirculatory dynamics in peri-implant mucosa around zirconia have also been shown to be comparable to those around natural teeth.

Designed for a strong ceramic-to-ceramic connection, the metal-free screw withstands tensile forces, while the ceramic absorbs compressive forces. The thread design and tapered implant shape, combined with the tapered drill protocol, have been engineered to achieve high primary stability, and the hydrophilic sand-blasted and acid-etched Zerafil surface, combined with a partially machined collar, is proven to osseointegrate.

NobelPearl is a new treatment option that follows well-established workflows for two-piece implants and will be integrated into Nobel Biocare's digital workflow, all designed to be an easy-to-adopt new solution.

Anthogyr Sina ML

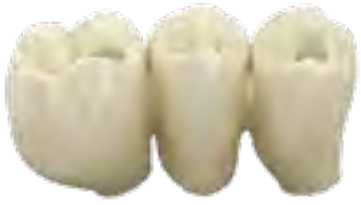
Product
Sina ML zirconia

Indication
CAD/CAM material for customized prostheses

Distribution
Anthogyr SAS
2237, avenue André Lasquin
74700 Sallanches
France
www.anthogyr.com

Anthogyr is adding a new ceramic to its line of CAD/CAM customized prostheses. Highly durable (> 1150 MPa), Sina ML requires no ceramisation and reduces the risk of chipping. This multi-layer zirconia combines strength, beauty, and biocompatibility for single and multiple implant- and tooth-supported prosthetic restorations. With this new Sina ML available in seven shades, Anthogyr rounds out the line of zirconia in its catalogue, which includes Sina Z (opaque) and Sina T (translucent), each available in 16 shades.

For tooth-supported unit restorations, Anthogyr is introducing Vita Suprinity PC glass ceramic for its aesthetic qualities. Vita Enamic hybrid ceramic in the multiColor version has been selected for its simple finishing process and ability to absorb masticatory forces.



In addition, angulated access is available on Simeda customized prostheses with an integrated inLink connection in three different materials. They are also now available for Simeda prostheses on Multi-Unit abutments for Axiom BL and for Connect+ prostheses with Nobel Biocare Multi-Unit abutments:

- Medical grade V titanium
- Cobalt chromium
- Zirconia: Sina Z, Sina T, and Sina ML

mectron Perio anatomic inserts

Mectron has recently launched three new ultrasound inserts specially designed to perform gentle and safe periodontal debridement. The inserts guarantee maximum efficacy without risk of injury to the soft tissues and the periodontal ligament. The inserts' shape facilitates an optimal access to the areas difficult to reach and characterized by deep periodontal pockets (furcations, root surfaces, concavities). The preserved tissues support a new attachment formation. The cavitation effect allows mechanical biofilm disruption, bacteria dispersion and periodontal pockets detoxification, thanks to the oxygen delivery.

The inserts in detail:
P15: Universal curette for supra and subgingival treatment. Recommended for the debridement of deep periodontal pockets. Easy access to canine and anterior teeth. Replaces manual curettes no. 1–2, 3–4, 5–6, 7-8.
P16R – P16L: Right (P16R) and left (P16L) angled periodontal curettes for subgingival concrements and biofilm removal from furcations and deep pockets. Recommended for supra and subgingival interproximal spaces and for an efficient root planing on molars and premolars. Replace manual curettes no. 11–12, 13–14, 15–16, 17–18.

Product
Ultrasound inserts

Indication
Periodontal debridement

Distribution
mectron S.P.A.
Via Loreto, 15/A
16042 Carasco (GE)
Italy
www.mectron.com

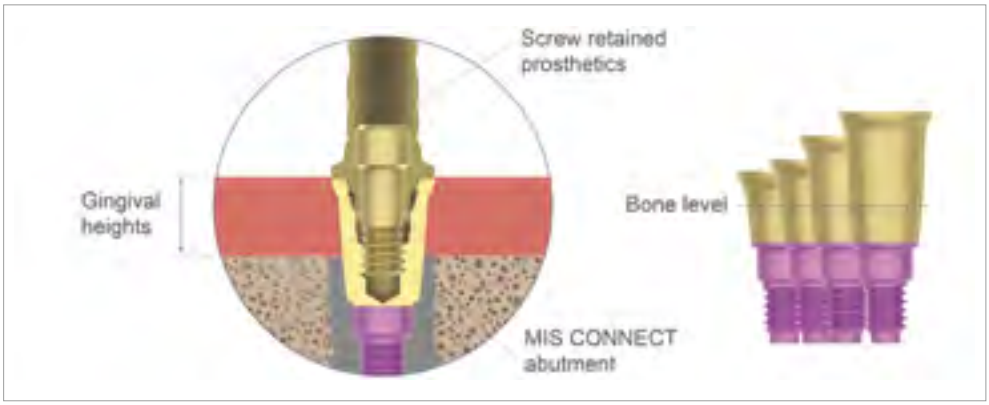
MIS Implants Connect abutment system

In February at the 4th Global Conference in the Bahamas, MIS announced the new Connect system, to be released in the coming months. The Connect features an intra-gingival, narrow and modular abutment and is designed with a low profile, providing a tissue-level solution for various gingival heights. Because of its versatility, the Connect may be used in multiple or single unit restorations, for both digital and traditional procedures. It may also be used for provisional or final prosthetic restorations. It is easy to use and offers a convenient handling. The Connect is supplied sterile including the tools necessary for a simple procedure. It allows for a broader range of screw-retained prosthetics in the aesthetic zone and may be used in one- or two-stage procedures. The new systems supports long-term biological stability by increasing the distance from the bone. Additionally, in CAD/CAM restoration planning, the abutment may be scanned and is incorporated into a partial or fully digitally guided procedure.

Product
Stay-in abutment system

Indication
Implant-supported prosthetic restorations

Distribution
MIS Germany
Simeonscarré 2
32423 Minden
Germany
www.mis-implants.com



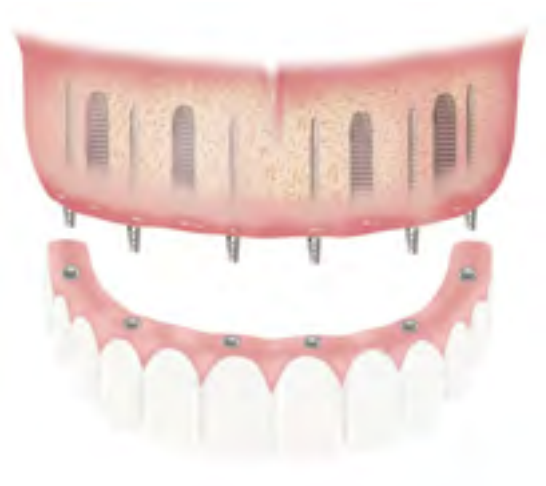
Bego Implant Systems Semados PI

Product
Bego Semados
Provisional Implant

Indication
Temporary restorations

Distribution
Bego Implant Systems
GmbH & Co. KG
Wilhelm-Herbst-Straße 1
28359 Bremen
Germany
www.bego.com

The Bego Semados Provisional Implant (PI) was designed for a number of different possible applications, from interim restorations after a single drill hole is prepared, to stabilizing bridges or dentures during the healing phase of the definitive implants, to relieving loads on augmented areas. Templates for guided surgery in the jaw can also be fixed using the PI. The conical prosthetic interface enables a provisional restoration (cemented or removable) to be fixed using multifunction caps which are polymerized either in the laboratory or chairside into an existing or a newly fabricated prosthesis. A bendable zone below the prosthetic interface allows the necessary bending after insertion to align the interface. The common path of insertion that is achieved means that the temporary restoration can be fitted free of tension.



The Bego Semados PI is self-tapping with an untreated surface and is manufactured from grade 5 titanium.

Thommen Individualized abutments

Product
Milling abutments

Indication
CAD/CAM prosthetics

Distribution
Thommen Medical AG
Neckarsulmstrasse 28
2540 Grenchen
Switzerland
www.thommenmedical.com

With the new milling abutments for CAD/CAM type II, Thommen Medical has been able to boost the production capacity of its existing machine park and thus its in-house added value. This creates new opportunities for more entrepreneurial potential both for dental technicians and for dental laboratories. The milled abutments for CAD/CAM type II are available immediately in platforms 3.5 to 6.0 mm.

The milled abutments for CAD/CAM type II are used with the PreFace Abutment Holders to produce individualized titanium abutments. The milled abutments for cone and telescope construction and parallelized abutments for cemented bridge constructions can also be used. The new milled abutments are now available as a set that includes the abutment screw. The CAD libraries are available at the Thommen Medical website. Detailed information on the new milled abutments for CAD/CAM type II can be found in the relevant “Instructions for use”.

The milling abutments for CAD/CAM type II are machined in the original Medentika PreFace Abutment Holder in a suitable milling system. PreFace Abutment Holders can be ordered directly from the milling machine manufacturer. You can also obtain information on the use of the Medentika PreFace Abutment Holder from your milling machine manufacturer.

MEMBERSHIP REGISTRATION FORM

I hereby apply for a membership in the BDIZ EDI
(European Association of Dental Implantologists)

Name: .....

First Name: .....

Country: .....

Zip code / City: .....

Street: .....

Phone: .....

Fax: .....

E-Mail: ..... @ .....

Homepage: .....

Date of Birth: .....

Practicing implantology since: .....

Member of other Societies:

☐ ICOI ☐ BDO ☐ DGI ☐ DGZI ☐ DGMKG ☐ EAO

Continuing education Courses: .....

.....

Fellowship status / diplomate status in implantology

☐ Yes ☐ No ☐ Organization .....

Entry in BDIZ EDI Directory: ☐ Yes ☐ No
(For information on BDIZ EDI Directory of Implant Dentists see overleaf)

The annual membership fee for:

FULL MEMBERSHIP

☐	Full member - clinical	345,00	Euro
☐	Assistant dentist / young professional (up to 5 years after graduation)	172,50	Euro
☐	Second membership / family member	172,50	Euro

EXTRAORDINARY MEMBERSHIP

☐	Co-operative Member (Professionals without practice and dental technicians)	165,00	Euro
☐	Students	non-contributory	
☐	Supporting Membership (Companies etc.)	530,00	Euro

Payment
Membership cannot be confirmed until payment is processed. Method of payment is by bank transfer. Please use the following banking account.

Commerzbank Bonn

Account Number:	310 144 100
Bank Code:	380 400 07
IBAN:	DE96 3804 0007 0310 1441 00
BIC:	COBADEFFXXX

Membership cards will be sent upon receipt of the annual subscription fee.

City / Date : .....

Seal / Signature: .....

Please return the completed registration form to:

European Association of Dental Implantologists e. V.
Mühlenstr. 18 • D-51143 Köln
Fon: + 49 (0) 2203-8009-339
Fax: + 49 (0) 2203-9168-822
E-Mail: office@bdizedi.org
Homepage: www.bdizedi.org

Calendar of Events

	Event	Location	Date	Details/Registration
7/2018	**ITI Education Week London**	London United Kingdom	9 – 13 July 2018	International Team for Implantology www.iti.org/EW2018London
9/2018	**FDI Annual World Dental Congress**	Buenos Aires Argentina	5 – 8 September 2018	FDI World Dental Federation www.worlddentalcongress.org
	27th Central European Dental Exhibition	Poznan Poland	20 – 22 September 2018	Exactus www.exactus.pl
10/2018	**ITI Congress Greece & Cyprus**	Athens Greece	5 – 6 October 2018	International Team for Implantology www.iti.org/congressgreece-cyprus/
	EAO Annual Scientific Congress	Vienna Austria	11 – 13 October 2018	EAO European Association for Osseointegration www.eao.org/eao-congress
11/2018 12/2018	**Swedental 2018**	Stockholm Sweden	14 – 16 November 2018	Stockholmsmässan www.swedental.org
	ADF French Dental Association Annual Meeting	Paris France	27 November – 1 December 2018	Association Dentaire Française www.adf.asso.fr
2/2019	**23rd UAE International Dental Conference & Arab Dental Exhibition**	Dubai VAE	5 – 7 February 2019	Index Conferences& Exhibitions www.aeedc.com
3/2019	**14th BDIZ EDI Expert Symposium**	Cologne Germany	3 March 2019	BDIZ EDI www.bdizedi.org
	38th International Dental Show	Cologne Germany	12 – 16 March 2019	Koelnmesse GmbH www.ids-cologne.de
4/2019	**International Osteology Symposium**	Barcelona Spain	25 – 27 April 2019	Osteology Foundation www.osteology.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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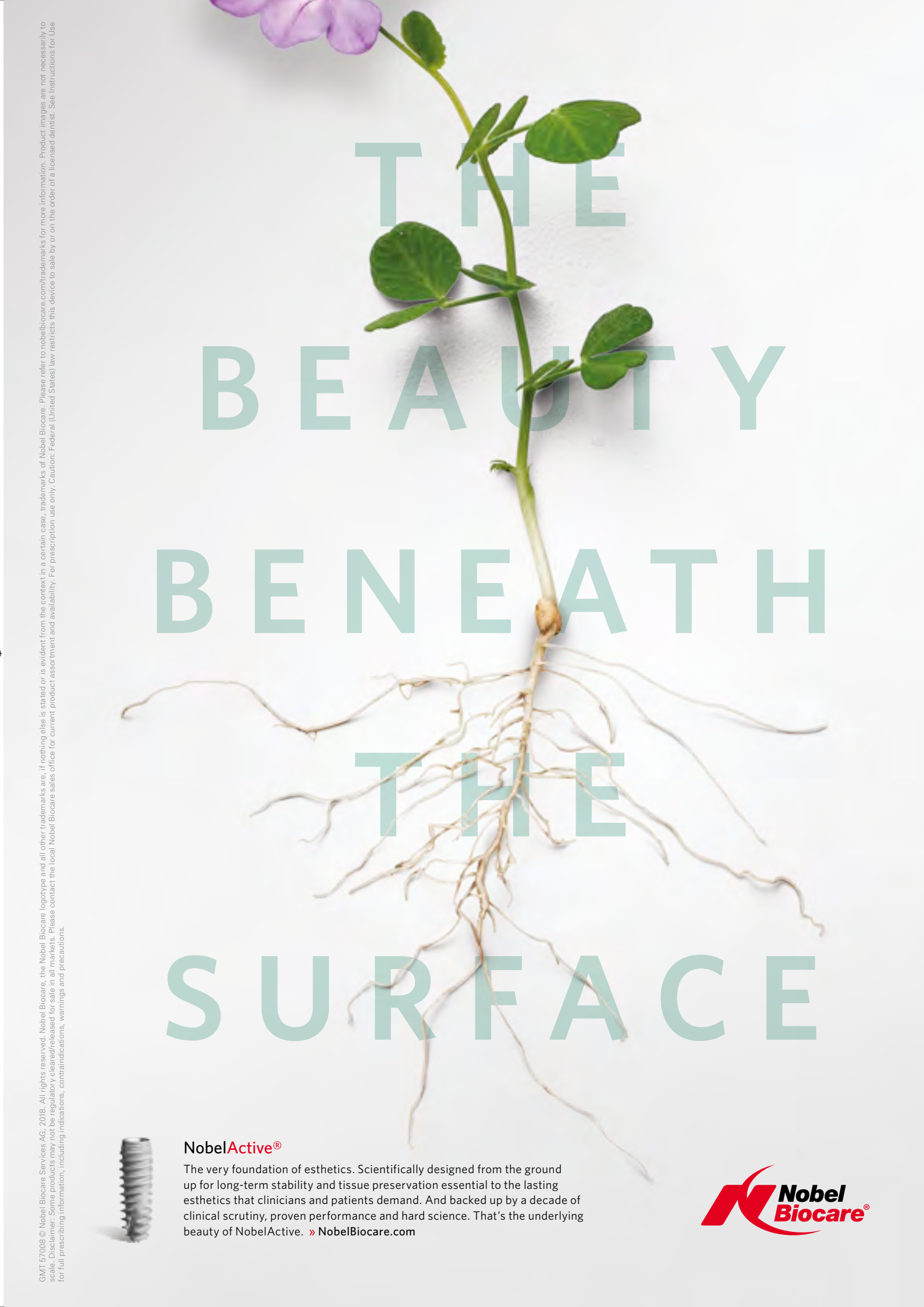

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1 Valentini P et al., Int J Periodontics Restorative Dent. 1997 Jun;17(3):232-41 (clinical study).
2 Valentini P et al., Int J Periodontics Restorative Dent 2000; 20(3): 245-53 (clinical study).
3 Traini T et al., J Periodontol 2007; 78(5): 955-61 (clinical study).