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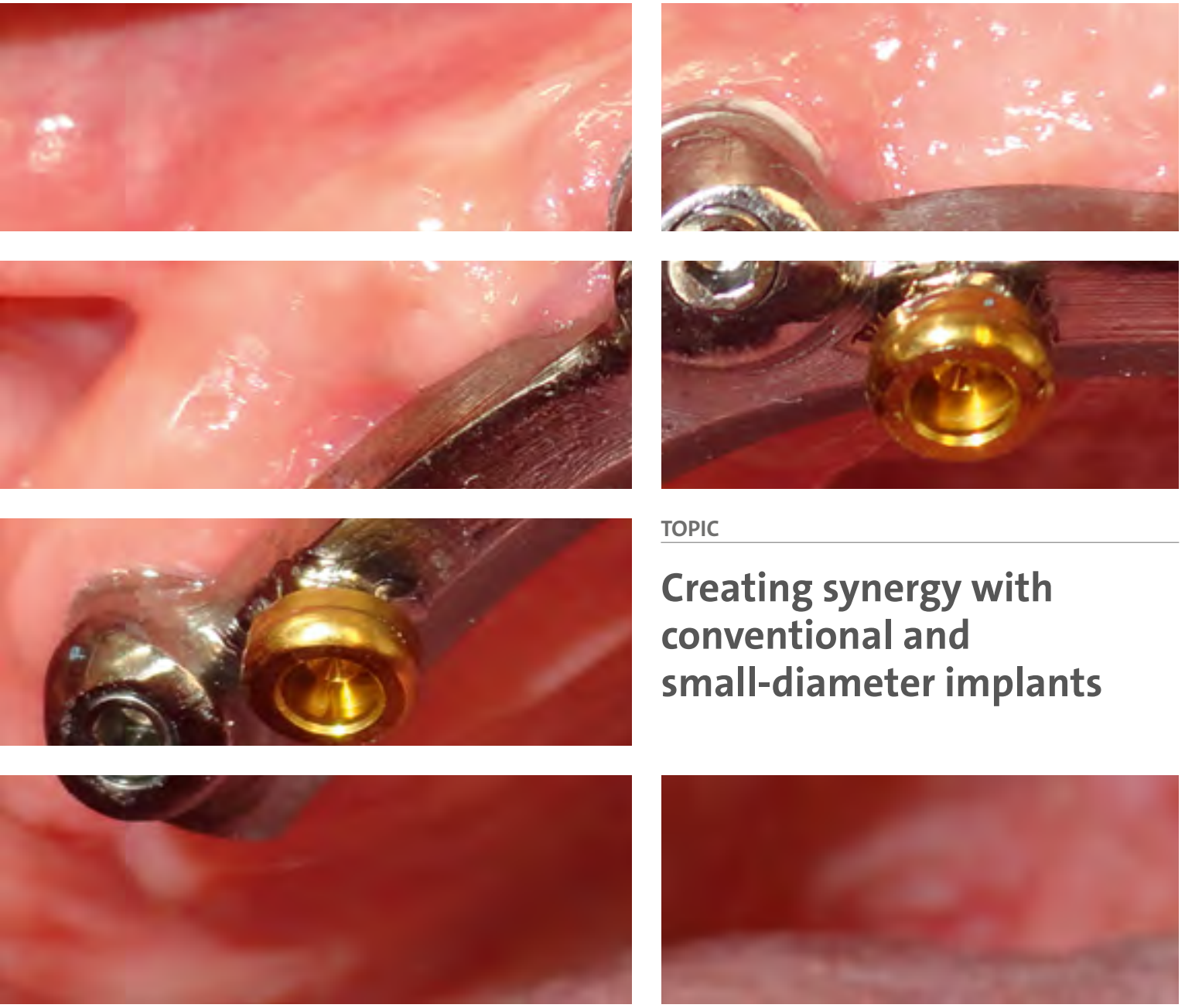
EDI JOURNAL



TOPIC

Creating synergy with conventional and small-diameter implants

BDIZ EDI

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

»EDI News: Brexit and its impact · Coming up: 12th BDIZ EDI Expert Symposium · S3 guideline on peri-implantitis · Implantology in Macedonia **»European Law:** Fixed prices for prescription-only medicinal products? **»Clinical Science:** Mini-implants to restore the function of removable dentures **»Case Studies:** Maximizing aesthetics and function with immediate implant placement · Creating synergy with conventional and small-diameter implants

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Brexit? Count us out!

Demoscopes had foreseen it for a long time: In Great Britain, signs had been pointing to the British exit from the European Union many months before the referendum. Nevertheless, nobody on the Continent believed this might actually happen. Just a few days before the referendum, an online poll carried out by the British daily newspaper "The Independent" amongst more than 250,000 British citizens showed that the Brexit-opponents were slightly ahead. But seriously: Who participates in online polls? Mainly young people who have grown up with and into digital and social media. Besides, there were many non-Brits who took part in the survey. And it turned out that EU citizens voted for Great Britain to remain in the European Union.

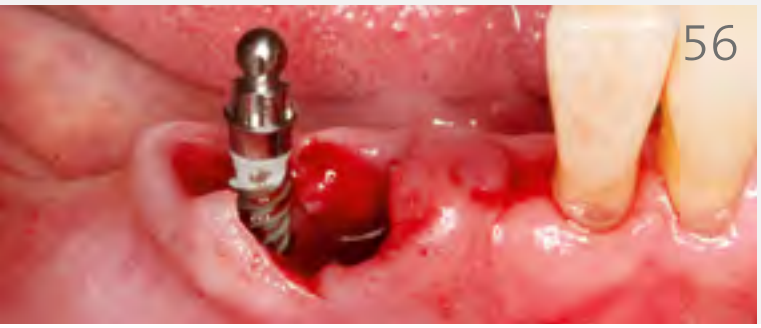
In the end, this online poll had nothing to do with the reality. The British vote against remaining in the EU is a matter of a generational divide. Crucial for the Brexit was the strong participation of older people in the referendum – 83 per cent of the age-group over 65 years casted their vote! And an analysis showed that the voter turnout of young Britons was extremely weak. Which means that the Brexit is also due to the passiveness of the young generation.

Already twelve years ago, the German Association of Dental Implantologists – at that time BDIZ – took the decision to orientate towards Europe, and changed it statutes correspondingly. This required a two-thirds majority of the general assembly. Since that time, EDI – which stands for "European Association of Dental Implantologists" – is part of the name: BDIZ EDI. A farsighted decision in my view, because there are no national borders for dental implantology. With the ADI UK, our associated partner organisation Association of Dental Implantology UK, we have been maintaining friendly relations for many years. The members of ADI read the EDI Journal, Board members meet at least once a year on occasion of the European Committee meeting in Cologne. In 2015, we were the cooperation partner of the ADI UK at their annual congress in Glasgow. Further events are already planned. In 2017, the first meeting of the year will take place at the Expert Symposium in Cologne.

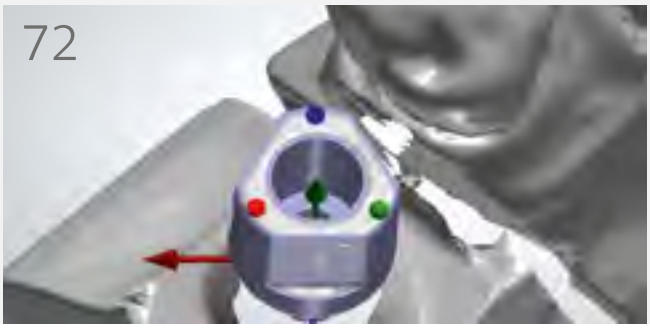
For years, Cologne has been the „meeting point" for all partner associations of the BDIZ EDI. During the sessions of the annual European Committee meeting, we discuss the situation of dentists in the particular countries und decide on common projects. "Small opportunities are often the beginning of great enterprises." This quote from *Demosthenes*' philippic is characterising for the young history of the European symposia of the BDIZ EDI. Small beginnings and opportunities have grown into an approach that allows the cooperation of European dentists to develop beyond country borders, and intensify the professional exchange within Europe. The European Symposium, too, has started small. Meanwhile, we already count ten countries and ten events. This year, we were the cooperation partner of Quintessenza Edizioni in Italy for the first time. In the pipeline for next year: a European Symposium in cooperation with the Croatian Dental Chamber, which is very interested in the European exchange.

I invite you to get to know the European family. Come to Cologne on 26 February 2017 and take part in our next Expert Symposium under the motto "Implant planning then and now – state of the art in digital oral implantology". Exchange your views and expertise with your European colleagues, get to know the open-minded city of Cologne und get inspired by Cologne carnival. I'm looking forward to meeting you!

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



Situation following the extraction of teeth 44 and 43 and immediate placement of a one-piece 12-mm mini implant at site 44.



Use of a Unit abutment: The definitve crown was completely modelled by CAD.

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Partner Organisations 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 organisation 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 organisation 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 organisation 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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Annual General Meeting of BDIZ EDI in Bremen, Germany

BDIZ EDI 2015: fit for future

The Annual General Meeting of BDIZ EDI in Bremen in June 2016 gave the Board its go-ahead for the upcoming projects. The AGM particularly emphasized the programmes of BDIZ EDI to get young professionals interested in the work of the association, and supported the strategy process the Board started in January 2015 to get the association fit for future. The BDIZ EDI consists of 3000 members in Germany and 5500 members in Europe and beyond.

Members of the Board during the Annual General Meeting 2016 of BDIZ EDI.

BDIZ EDI President *Christian Berger* reported on the activities of the BDIZ EDI during the past year. In February 2016, the association had organized the 11th Expert Symposium on short, angulated and diameter-reduced implants in Cologne, with international speakers and participants. For the second time, Board member *Dr Jörg Neugebauer* had taken on the role of Scientific Chair and again, he did a formidable job, both hosting the symposium and presenting the working paper on the European Consensus Conference (EuCC), which traditionally accompanies the Expert Symposium. This year, the EuCC updated the paper of 2011 and added the diameter-reduced implants to the current guideline. The paper will be online by the end of this year. Quintessence of both, EuCC and Symposium: The experts agreed upon the fact that the "shorties" have become established. However, as *Christian Berger* stressed in an interview with the Dental Tribune, Germany: "It certainly requires intensive training to use these types of implants."

Having recently returned from the congress of the associated partner USSI EDI Serbia in Novi Sad and the joint congress of Quintessenza Edizioni, Italy, and BDIZ EDI in Verona, *Berger* again emphasized the important role of BDIZ EDI among the implant societies in Germany and Europe to bring together the pan-European implant and dental world – via joint congresses, via the EDI Journal and via the meeting of the European Committee of BDIZ EDI once a year in Cologne. "Dental clinicians must start to realize that they have to make themselves heard and fight for their interests in the political arenas in Brussels and Strasbourg", he said.

Berger also gave a glimpse of the status of the BDIZ EDI 2015 project inaugurated by the Board in January 2015. It is important, he said, to run the association in a sustainable way, making BDIZ EDI fit for the future and supporting dental clinicians in facing their daily practical challenges. The association is currently right in the middle of that process. The foundations have been laid down, and the

initial findings are now being analysed. The Board has identified multiple possible approaches in terms of orientation. The fact that the association has started early to orient itself towards Europe has proven to be a substantial advantage (see interview with the guide of the process in EDI Journal 2/2016).

For many years, *Professor Joachim Zöller* has served as the Scientific Director of the association. His duties include the search for suitable topics and speakers at the Expert Symposia, the European Consensus Conferences and the annual symposia. *Zöller*, BDIZ EDI Vice President, initiated the Curriculum Implantology and is responsible for its contents. Curriculum 17 ended in early summer; its successor, Curriculum 18, will start in October and is fully booked.

Secretary-General *Dr Detlef Hildebrand* announced additional classes for the iCampus programme and emphasized the BDIZ EDI's commitment to progress within this special programme for young dentists.

The AGM elected a new Treasurer since former treasurer *Dr Heimo Mangelsdorf* had resigned in December 2015. The new one, *Dr Wolfgang Neumann*, was previously member on the Advisory Board. The AGM voted for *Dr Freimut Vizethum* to take the vacant position on the Advisory Board.

New on board: Dr Wolfgang Neumann and Dr Freimut Vizethum.

The next major BDIZ EDI event will be the 20th Annual Symposium, held in Berlin in December. BDIZ EDI is collaborating with two major German associations in the field of oral surgery. The next Expert Symposium will be held on 26 February 2017 in Cologne.

AWU

Portrait of BDIZ EDI's new treasurer

"100 per cent or nothing!"

BDIZ EDI has a new treasurer who took office on 25 June 2016. Dr Wolfgang Neumann from Philippsthal in the state of Hesse has succeeded Dr Heimo Mangelsdorf as "lord over the treasury". A dentist specializing in oral surgery, Neumann is deeply committed to the association – and to everything else he undertakes, whether in his professional or his private life, as he has demonstrated since his early days. For example, the passionate alpine skier would not go down the mountain "just for fun", but went all the way to become a ski instructor – in Tyrol, of all things, a region which is not exactly lacking in proficient skiers. We met Dr Neumann for an interview.

Dr Neumann, how many years have you worked in oral implantology?

I have been active in implantology since establishing my practice in 1991, and I placed my first implants during my specialist training in oral surgery at the University of Heidelberg, back in the 1980s.

How long have you known BDIZ EDI, and what made you decide to get involved in and for the association?

I first learned about BDIZ EDI shortly after opening my practice. Continuing education in Germany at the time was limited to a few speakers, so I attended training courses in Switzerland and the USA. The training courses offered by the local medical societies in Germany mostly rehashed what I already knew. BDIZ EDI has a focus on professional policy and dental billing issues and therefore presented, and continues to present, an interesting alternative.

You have been an active member of the extended board of the association for some years now – and "active" should be taken quite literally! There is no event of BDIZ EDI where you are not involved in the organisation. What is your motivation for this?

Through years of "accompanying" BDIZ EDI at many events, even before my time on the board, I got to know and appreciate the "hard inner core" of BDIZ EDI. Here, you will not find people sporting their little profile neuroses, but dedicated members who wish to take the association forward in many strategy-related and other meetings, where concentrated work is the order of the day. My commitment to the association is the same as my commitment to my practice. 100 per cent or nothing!

You have been the new treasurer of BDIZ EDI since June 2016. Are you in a position to make a statement as to what the association's financial situation looks like?

Yes, I can, because I already prepared for the job by supporting *Professor Zöller*, who took over as treasurer on an interim basis. As presented at the annual meeting, the budget has been successfully stabilized thanks to a strict austerity policy. Despite some not insignificant progress in attracting new members, membership figures are slightly down: After all, there are many members who have been working in the field for almost 30 years now and are beginning to think about retirement. Nevertheless, we were able to accumulate some reserves.

Dr Wolfgang Neumann

1976 – 1977	Army military service (medical branch)
1977 – 1978	Ski instructor at St. Johann (Tyrol, Austria)
1978 – 1983	Dental school, University of Heidelberg
1983 – 1984	Assistant dentist in parents' practice
1984 – 1988	Research assistant and specialist training in oral surgery, Department of Oral and Maxillofacial Surgery, University of Heidelberg
1989 – 1990	Assistant dentist at a private practice in Bruchsal
since 1991	Dentist in private practice

Dr Neumann and his son share the passion for free flying model aircrafts. Here, at the 2016 European Championship in Turda, Romania, as members of the German national team.

Unfortunately, it is a fact that young colleagues often do not initially understand the importance of EDI BDIZ for their practice, because they are not yet familiar with accounting matters. Incidentally, this is also one of the points of our strategic process.

Is the association well-prepared for major projects such as the compendium on the fee schedule for dentists, and possibly a new approach toward a new fee schedule for dentists, or maybe physicians in general?

Since, as already mentioned, we now have some reserves, we are able and well-prepared to initiate projects that will benefit our members – and by extension all dentists in Germany. BDIZ EDI has become a pioneer in many fields of professional policy, not only when it comes to the fee schedule. One major commitment I would like to name is that related to anti-corruption law. I am convinced that BDIZ EDI, with its constant interventions with the German Ministry of Justice and with the alternative bill drafted by our legal adviser, deserves part of the praise for the law having been enacted in an attenuated form. Of course, it is still bad enough for healthcare professionals, including dentists. But we did, for example, manage to get the passage on professional legislation eliminated, which would have caused immense confusion in the various fields of the federal and regional dental associations.

Working for BDIZ EDI – a volunteer commitment – is time-consuming: There is the budget, and there are the professional events. Do you have time left over for other "hobbies"?

Of course my time is limited, but there is always some left for "hobbies", as you call it. One area I have been involved in for many years is the parent-teacher association at my children's school. Here, I support committed teachers in my capacity as parent representative, promoting their efforts to lead our children, who will be our country's future, toward completion of their secondary education.

Skiing is my passion, and I support my son in his hobby of flying model aircrafts. In August, we were members of the German national team in Class F1E at the European Free Flight Championship in Turda, Romania. This has been great fun and has helped us with our teambuilding efforts.

Thank you for your interesting contributions, Dr Neumann.

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

Brexit vote and implications of the withdrawal

Impact on dentistry

On 23 June 2016, the United Kingdom voted to leave the European Union. It would be absurd to suggest that it had no influence on Brussels and the remaining member states. However, after the initial fear of losing a long-standing companion, the world moves on, the European Union moves on.

Illustration: www.fotolia.com/lchumpitaz

As things stand at present, nobody knows what shape Brexit will take. Since dentistry of all member states is affected by EU legislation, it might have some influence: on import and export of products from and into the UK, on the collective lobbying by the profession on issues such as amalgam, tooth whitening, medicines and professional training. The question that arises in this context: What will happen to the membership of British dentistry in the Council of European Dentists, the roof organisation representing 27 European dental chambers? No membership, no British influence anymore? The British Dental Association (BDA) announces on their website that they will continue to foster relationships with the European counterparts where mutual benefits are identified.

Mick Armstrong, chair of the British Dental Association, said: "We did not take a position in this referendum. Our prerogative is to ensure that our profession is heard by any governments making decisions that impact on care, wherever they are based ..." It goes without saying that all scenarios are hypothetical. In the British Dental Journal, May 2016, *E. Sinclair* et al. give a brief historical review on the EU and the policies affecting dentistry by presenting two options: a remain scenario and a leave scenario.

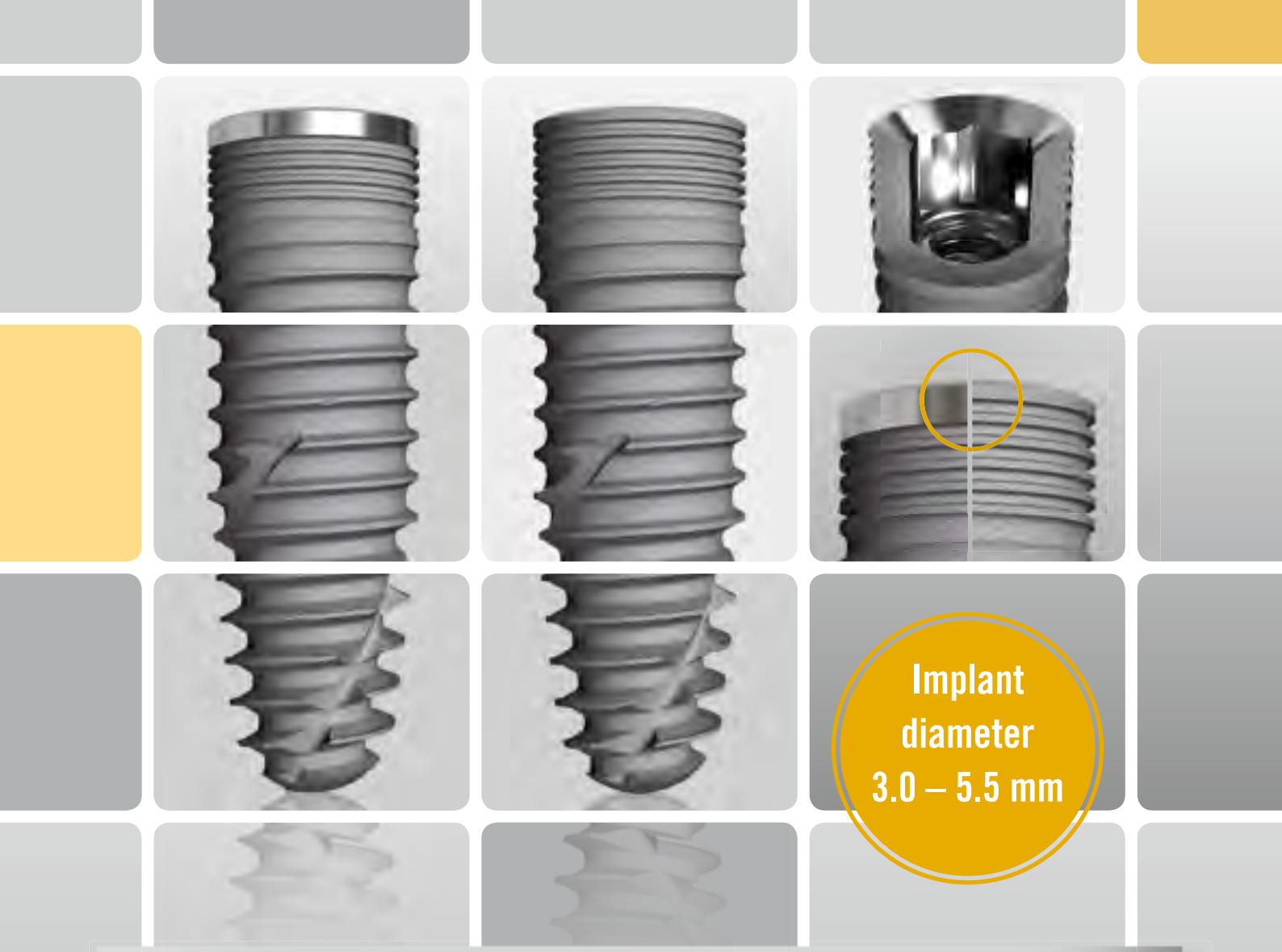
For *Sinclair,* the most interesting aspect of the withdrawal is the future fate of the existing EU directives on mutual recognition of qualifications and freedom of movement. The underlying question revolves around whether they will be scrapped entirely or kept in some limited form. Many more EU dentists come to the UK for work than vice versa. As *Sinclair* pointed out, these numbers have increased markedly since 2004. Undoubtedly, the Brexit will affect the way how dentistry in the United Kingdom will operate in future years. Will there be some form of freedom of movement remaining in a post-Brexit economy?

On the website "The king's fund – ideas that change healthcare", *Helen McKenna* gives five important issues for health and social care after the Brexit vote. One of the issues: Many health and social care professionals currently working in the UK have come from other EU countries. This includes 55,000 of the NHS's 1.3 million workforce and 80,000 of the 1.3 million workers in the adult social care sector (Health and Social Care Information Centre 2015; Skills for Care 2016). According to *McKenna,* it is widely acknowledged that the NHS (British National Health Service) is currently struggling to recruit and retain permanent staff – in 2014, there was a shortfall of 5.9 per cent (equating to around 50,000 full-time equivalents).

There are a lot of open questions and they will be subject to negotiations between the EU and the UK in the following two years. Economists believe that the Brexit will have negative effects on the British Economy which may lead to a reduction of healthcare expenditures. Only a few days ago, the Ministry of Healthcare in London announced a shortage of 1.9 billion Euro in the financial year.

AWU

Sources: British Dental Association; Brexit and dentistry, British Dental Journal 220, 509-512(2016), Sinclair et al.; Five big issues for health and social care after the brexit vote, Helen McKenna, Kingsfund.org.uk; Deutsche Ärzte-Zeitung



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Brexit and the economy

No one here to speak up?

"Brexit, Brexit, Brexit" — that was the media hype before the parliamentary summer recess. Now everyone seems to have fallen silent. Europe remains quiet, the Commission, the Parliament and the Council avoid any statement, and the British government with its new prime minister have essentially established only one thing: Brexit means Brexit. Read this comment assessment by Arno Metzler, solicitor and vice president of Group III of the European Economic and Social Committee (EESC).

Meanwhile, the markets have responded: The British pound has reached a low, the London stock exchange has published estimates of the possible consequences and German companies analyse their horror scenarios.

"We have no experience with this"

So what does Brexit mean for the German economy in general and the liberal professions, especially dentists, and for the future development of Europe?

Arno Metzler

Solicitor Arno Metzler has been managing director of the Association of Consulting Engineers (VBI) in Berlin since 2012. For twenty years previously, he had held the same leading position in the German Association of Liberal Professions (BFB). Since 2002 he has been member of the European Economic and Social Committee (EESC) and is currently vice president of its Group III.

For the time being, everything we can collect in the way of information must remain pure speculation, because no one has had any practical experience with implementing the process "European heartland leaves EU".

In addition, it remains highly unclear what status relative to the EU the UK wants/needs/is allowed to have shortly and what its future will look like. Scotland and perhaps Northern Ireland are candidates for remaining in the EU as autonomous regions, however probable or improbable this scenario might be. There are good reasons to exercise restraint rather than to establish preconditions or prejudice the negotiations. But be that as it may, exploratory talks have at any rate already started behind the scenes in Brussels.

But this much we can already say today: For the liberal professions in Germany, the subject has considerable, albeit varying, relevance. Self-employed business consultants, accountants and technical consultants are more directly affected, owing to the greater interconnectedness of their markets. For law firms of international standing with key staff based in the UK, it will be important in future to draw more strongly on resources from continental Europe. For technical consultants, one issue of great importance will be how the mutual recognition of professional qualifications will develop and how free access to the market will be maintained in all directions.

Possible consequences for "mobile" dentists?

For health professionals, for which the EU can claim less responsibilities, there will be immediate consequences in terms of growth shocks and subsequent fluctuations in the receipts of health insurers. There may also be a direct impact on the recognition of

professional qualifications, with direct consequences for mobility. We should remember that quite a few physicians and dentists have participated in a "service exchange" with the UK on weekends, for a few weeks or even more permanently. These exchanges may now become subject to new and additional requirements.

The pooling of research resources and the technology-driven supplier markets are fields where effects of trade restrictions may make themselves felt in the long term.

Some representatives of the regulated liberal professions hope that a discontinuation of the British vote in favour of economic liberalism might strengthen the built-in pro-regulatory instincts in Brussels. But one should not hope for too much in this respect. Those who most clearly embody the aspirations of the EU administration do not and did not come from the UK, but from Germany. *Honi soit qui mal y pense*.

Staying on top of Brexit developments remains a challenge for all stakeholders in Brussels, not least to make sure that with all the coming shifts in influence and power, the German liberal professions and their rules are, and should remain, a model for success and a stabilizing element of European civil society.

Arno Metzler, solicitor, Berlin

5th USSI EDI International Congress and 7th Congress of Dentists of Vojvodina

Implant dentistry plays a big role in the Balkans

The 5th International USSI EDI Congress and the 7th Congress of Dentists of Vojvodina were held in mid-May in the modern NIS Centre in Novi Sad, Serbia. The joint congress is traditionally held under the patronage of the Province of Vojvodina and – from the first congress on – supported by the European Association of Dental Implantologists (BDIZ EDI). Participants included physicians, dentists, dental assistants and dental technicians.

The core of the 5th USSI EDI congress with more than 700 participants was a very comprehensive scientific with renowned speakers, consisting of workshops and poster presentations. According to the 11th European Consensus Conference under the auspices of BDIZ EDI in Cologne, Germany, in 2016, the topic focused on short, angulated and reduced-diameter implants.

For the fifth time, BDIZ EDI President *Christian Berger* took an active part in the congress, introducing to the audience the new guideline of the European Consensus Conference of BDIZ EDI on short, angulated and reduced-diameter implants. *Berger,* who has been President of the Bavarian Dental Association since 2014, gave strong support in developing the Serbian implant dentistry. He plays an active role in implementing ideas and goals for postgraduate education in the discipline of implant dentistry.

With the implementation of the European Curriculum for Implantology in the field of general dentistry, the USSI EDI announced that it had achieved its most important goal. Of equally great importance to the associated partner of BDIZ EDI is the harmonisation of the legislation pertaining to oral implantology with EU standards. ››

Dedicated participants of the 5th USSI EDI International Congress and 7th Congress of Dentists of Vojvodina (left to right): Dr Dušan Vasiljević, Dr Nina Parabućski, Prim Dr Marinel Subu, Professor Rolf Ewers, Christian Berger, Dr Branislav Čukić, Eckhard Maedel, Dr Zoran Marjanović and Dr Branislav Stefanović.

The first day of the congress was a "Bicon Day", featuring Bicon's first presentation of their system in Serbia by *Dr Vincent J. Morgan* and *Dr Laura Murcko* (Massachusetts, USA). *Dr Morgan* was responsible for developing many of the restorative options of this implant system. The techniques he presented included immediate placement, extra-oral cementation of implant crowns and integrated abutment crowns.

Professor Irina Pohodenko-Chudakova (Belarus) and *Lina Gassner Kanters* (Sweden) gave insightful lectures on preventive care and interdental cleaning of implants.

For the second day of the congress, *Dr Branislav Čukić* (Serbia) had organized two live operations at the nearby Oral B Clinic: the insertion of Bicon implants in the posterior mandible. *Professor Rolf Ewers* (Austria) gave a lecture at the corresponding workshop, assisted by *Eckhard Maedel*.

The so-called EDI Lectures in the main programme included the following presentations: *Christian Berger*, President of BDIZ EDI, reported on the findings of the European Consensus Conference on short, angulated and reduced-diameter implants. *Dr Branislav Kardašević* (Serbia) spoke on the surgical-prosthetic solutions for attrition. USSI EDI President *Dr Dušan Vasiljević* (Germany) discussed special cases in implantology. USSI EDI Vice President *Dr Zoran Marjanović* (Serbia) addressed fast fixed solutions in the atrophic edentulous maxilla. *Professor Irina Phodenko-Chudakova* spoke about the development in handling complications in dental implantology. *Lina Gassner Kanters* introduced TePe products.

The traditional 7th Congress of the Dentists of Vojvodina organized by the Dental Section of the Society of Physicians of Vojvodina and the Serbian Medical Society was held once again under the patronage of the Government of Vojvodina and their Provincial Secretariat for Health Social Policy and Demography. The two-day congress attracted 900 attendees. The gold sponsor of the congress was Bicon Dental Implants with its Bicon implant system, promoted in Serbia for the first time by Unique Dental Company and its director *Miodrag Savić*.

The congress featured 30 speakers from Bosnia, Serbia, Macedonia, Croatia, Russia, Ukraine, Belarus, USA, Sweden, Austria and Germany.

With the 5th USSI EDI International Congress and the 7th Congress of Dentists of Vojvodina, the city of Novi Sad hosted the two largest international events throughout the year – organised by USSI EDI Vice President *Dr Zoran Marjanović*. "I am very proud that our participants leave with a smile on their face because of our eminent programme and the warm hospitality offered to the guests", he said.

Dr Zoran Marjanović, Vice President USSI EDI

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Evidence-based guidance for clinicians

S3 guideline on peri-implantitis

There has not been an S3 guideline – a medical guideline based on the highest quality of evidence – on peri-implantitis to date. But this has changed. A pertinent guideline defining a "treatment corridor" for this affliction is now officially available*. The guideline was developed in accordance with the regulations of the Association of the Scientific Medical Societies in Germany (AWMF) under the auspices of the German Society for Implantology (DGI) and the German Society of Oral and Maxillofacial Surgery (DGZMK) in collaboration with 16 German professional societies and institutions – including BDIZ EDI. It is meant to offer guidance on the clinical efficacy of adjuvant or alternative measures as compared to conventional non-surgical and surgical therapies.

Photo: David Knipping

Professor Frank Schwarz

Photo: Universitätsklinik Düsseldorf, Unternehmenskommunikation

Professor Jürgen Becker

The S3 guideline addresses the treatment of peri-implant infections (peri-implant mucositis and peri-implantitis), in view of a high prevalence of peri-implant mucositis and peri-implantitis and examining the clinical and economic consequences of non-treatment. The guideline intends to assist clinicians in making treatment-related decisions and to update patients on the current state of knowledge regarding the treatment of infections around dental implants.

The responsible authors of the AWMF guidelines are *Professor Frank Schwarz* and *Professor Jürgen Becker* of the Department of Oral Surgery and Central Admittance of the University Hospital Düsseldorf, collaborating with other co-authors and with the methodological support of DGZMK and AWMF.

* Currently only in German language, translation is being prepared.

The guideline is intended for patients with dental implants. The DGI guideline conference began its work in September 2015 and concluded it in May 2016 by issuing the final evidence-based guidance.

According to a DGI press release, the prevalence at patient level of peri-implant mucositis is between 19 and 65 per cent and of peri-implantitis between 1 and 47 per cent, according to literature. The weighted average prevalence is 43 percent for peri-implant mucositis and 22 percent for peri-implantitis. Studies have confirmed the adverse consequences of non-treatment: After an observation period of five years without treatment, a clinically manifest peri-implant mucositis had developed into peri-implantitis in 43.9 per cent of cases. Through regular preventive treatment, however, the incidence in the control group could be reduced to 18 per cent. Experimentally induced peri-implantitis is characterized by spontaneous progression. Left untreated, it will result in loss of the implant.

Already in the planning and treatment phases, it is important to consider and prevent certain risk factors that play a role in the aetiology of peri-implant inflammation. For example, it is crucial to avoid incorrectly positioned implants as well as seating problems and imprecisions of fit of the superstructures, as well as overcontoured restorations.

Early detection and treatment of mucositis

"Early detection and treatment of peri-implant mucositis is an important prophylactic measure to avoid peri-implantitis", as *Schwarz* pointed out. A consistent follow-up of all implants is essential ››

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and must be an integral part of the treatment. However, the authors of all publications consulted in the development of the S3 guideline reported residual bleeding at the three-months to 12-months follow-up. "Complete remission of peri-implant mucositis is therefore not predictably achievable in all patients", said the DGI president. Therefore, regular monitoring should – if possible – be carried out every three months to be able to quickly initiate follow-up treatment.

Key diagnostic parameter

The key parameter for the clinical diagnosis of peri-implant infections is bleeding on probing (BOP), which may be accompanied by putrid exudations, especially in advanced peri-implantitis lesions. The marginal bone loss will usually also result in greater peri-implant probing depths. "Pocket formation is a reliable diagnostic criterion for peri-implantitis", said *Schwarz*. Radiologically detectable bone loss is what distinguishes peri-implantitis from mucositis.

Before treatment is initiated, however, systemic and local risk factors should always be identified first, along with other factors such as an incorrect fit and/or lack of precision of the abutment and superstructures, overcontoured restorations or incorrectly positioned implants.

1. Recommendations for the non-surgical treatment of peri-implant mucositis

- In peri-implant mucositis, regular professional, mechanical plaque removal is indicated.
- Optimized oral hygiene at home can have a positive influence on treatment success.
- Alternative or adjuvant measures will not significantly improve the clinical effectiveness of non-surgical treatment of peri-implant mucositis, compared to a manual debridement.

2. Recommendations for the non-surgical treatment of peri-implantitis

- Alternative or adjuvant measures to manual debridement should be used for the non-surgical treatment of peri-implantitis. Clinical evidence is available for alternative monotherapy by Er:YAG laser and glycine-based air polishing, as well as for adjuvant controlled-release local antibiotics (single-dose administration of doxycycline), chlorhexidine chips and antimicrobial photodynamic therapy.
- The prospects of treatment success and a stable clinical result after more than six months, however, should be regarded as unfavourable, particularly in the presence of initial deep pockets of more than 7 mm in depth.
- If the treatment goal cannot be achieved by non-surgical means, surgical treatment especially of advanced lesions should be initiated as early as possible.

3. Recommendations for the surgical treatment of peri-implantitis

- No guidance can as yet be derived from the literature as to which surgical protocol should be preferred.
- In a surgical treatment, the granulation tissue must first be completely removed.
- Decontamination of exposed implant surfaces is important. At the present time, no statement can be made as to whether any specific cleaning method is superior to others. However, mechanical procedures (to reduce the biofilm) and chemical procedures (to reduce and inactivate the biofilm) are frequently combined.
- At this stage, it is not possible to assess the potential additional benefit of peri- or post-operative antibiotics. A supportive one-shot administration can take place in connection with a surgical treatment of peri-implantitis.
- After decontamination, augmentation procedures can lead to a radiologically demonstrable fill-in of intraosseous defects or parts thereof.
- All surgical therapies generally carry a high risk for the post-operative emergence of mucosal recession.
- To stabilize the peri-implant mucosa, soft-tissue augmentation may be considered.
- An explantation should be performed in cases of implant mobility, unrecoverable technical complications, complex implant designs (such as hollow cylinders), resistance to therapy or a spread of the infection to adjacent anatomical structures.

The text of the S3 guideline "Peri-implant infection around dental implants, treatment" as per May 2016 is available (in German) on the AWMF website at www.awmf.org/leitlinien/detail/ll/083-023.html.

AWU, DGI press release, guideline report

Definition of "guideline"

Guidelines issued by scientific medical societies are systematically developed supportive documents for physicians/dentists with the aim of guiding treatment decisions in specific situations. They are based on current scientific knowledge and best practice and ensure greater safety in medicine and dentistry, but they are also designed with economic aspects in mind. The guidelines are not legally binding on physicians/dentists, therefore neither creating liability nor absolving from liability.

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BDIZ EDI takes a stand

Flossing is still important

It is the wallflower among the tools that we use daily to keep our teeth clean and healthy. We are talking about dental floss. The Dietary Guidelines for Americans – a health recommendation from the United States – has now brought flossing into the spotlight but also cast doubts on it. Is it still necessary for oral hygiene?

Perhaps the whole debate is mostly due to the silly season that every year brings to life issues such as the Loch Ness monster. The benefits of flossing are not proven, as the Associated Press news agency reported in early August. While everyone recommends the daily use of dental floss to prevent gingivitis and cavities, actual evidence of any benefits has been thin on the ground.

Position statement of BDIZ EDI

In response to the ongoing public debate, BDIZ EDI has felt it should state its position. Although the scientific evidence for the benefits of flossing is scant, it is common practice in Europe to clean teeth and interdental spaces with a toothbrush and dental floss and/or interdental brushes. Thoroughly cleaning dental implants is even more important. While there is a natural protective barrier between natural teeth and the gums, the transition zone from implants to gums is more permeable to pathogens, increasing the risk of bacterial penetration that could cause inflammation in the vicinity of the implant.

Dental plaque is home to numerous bacteria. As long as the plaque deposits are removed at regular intervals before they cause damage to the teeth or gums, the biological balance in the oral cavity will be maintained. But as soon as the plaque bacteria multiply, there will be an increasing risk of tooth decay and periodontal disease. Severe inflammatory conditions such as periodontitis (inflammation of the gums around a tooth) or mucositis, or even peri-implantitis (inflammation of the gums around an implant), pose a significant risk for bone loss and may cause the loss of the tooth or implant. For this reason, intensive cleaning of the teeth and restorations is important, not least for people with single-tooth implants or implant-supported restorations. Neither manual nor electric toothbrushes are ››

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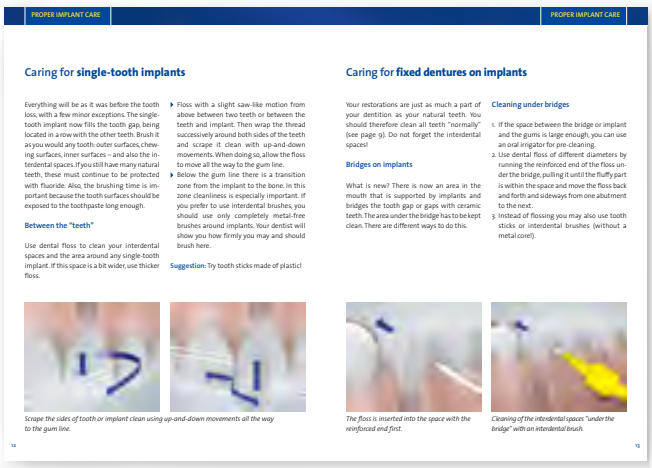
sufficient to that end. Hygienic aids such as dental floss (there are special types of dental floss for implants), interdental brushes (non-metallic) and possibly wooden toothpicks should be part of any oral hygiene. Oral irrigators (water jets) alone are not capable of thoroughly cleaning the interdental spaces.

Dentists will offer advice on how to properly clean teeth and implants. Instructions for the proper maintenance of dental implants can also be found on the BDIZ EDI website at www.bdizedi.org > English > Patients > Why is oral hygiene important? Moreover, the BDIZ EDI publishes a booklet that is perfect for patient information. It is also available in English under the title of "Long-lasting implants for long-lasting beauty". The A5-sized guide can be ordered from the office of BDIZ EDI (office-bonn@bdizedi.org).

AWU



Sample pages of the booklet on the proper maintenance of implants, published by BDIZ EDI. Dentists can order it from the BDIZ EDI office for distribution to their patients.

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BDIZ EDI will be cooperation partner at the 33rd Annual Meeting of the BDO

Concentrated CPD in Berlin

In 2016, BDIZ EDI will cooperate with the Professional Association of German Oral Surgeons (BDO) on the occasion of its own 20th Annual Symposium. The 33rd Annual Meeting of the BDO will take place at the Adlon Kempinski in Berlin on 9 and 10 December 2016. While Friday is earmarked for legal aspects, the scientific programme will begin on Saturday.

The Berlin meeting will offer high-quality continuing professional development (CPD) and training embedded in a slate of scientific presentations.

"Operative dentistry and oral and maxillofacial surgery: networked implantology" is the motto of the two-day event. Core topics will include medico-legal aspects, systemic diseases, implant materials, immunological responses to titanium implants, peri-implant inflammation and treatment strategies, as well as the decision between surgical tooth preservation and implants.

"As in previous years, well-known speakers have been enlisted who have prepared presentations on scientifically based insights of practical relevance. The heterogeneity of clinical strategies must be aligned with the patient's expectations and the treatment provider's individual skills, and once all factors have been duly considered, they must result in a professionally sound treatment concept. The presentations at this symposium will highlight in which clinical situations multiple case-related therapeutic options are available and in which cases practices based on scientific evidence must be strictly and consistently adhered to", as congress president *Professor Jochen Jackowski* writes in the congress flyer in which the BDO announces this year's Annual Meeting.

The symposium will be held in German. For more information, programme and registration, please visit www.bdizedi.org. Members of BDIZ EDI are eligible for a special discount.

AWU

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12th BDIZ EDI Expert Symposium is coming up in February

Implant planning then and now

For the 12th time now, BDIZ EDI invites participants to attend its Expert Symposium in Cologne. The symposium's motto "Implant planning then and now: state of the art in digital oral implantology" covers both surgical and prosthetic aspects. If you are interested, make a note of the date: 26 February 2017 – once again in Cologne, at the Dorint Hotel on Heumarkt. The one-day continuing professional development (CPD) event traditionally takes place on Carnival Sunday.

Topics will include: digital diagnosis and patient information; implementation of diagnoses using 3D surgical guides; chairside use of CAD/CAM technology; complex CAD/CAM restorations.

The day before, the European Consensus Conference (EuCC) under the auspices of the BDIZ EDI will review and substantially update the 2009 Guidelines and of course add the prosthetic aspects. What has changed since then? What challenges do the new technologies – particularly in the realm of CAD/CAM – present to treatment providers?

In 2009, the EuCC consensus paper (Guideline) focused on 3D imaging. "Three-dimensional imaging offers benefits when it comes to the placement of implants relative to the patient's anatomy and relative to other implants" was the indication of CBCT for the postoperative evaluation of implants, as defined by the guidelines at the time. But the six-year-old consensus paper also pointed out limitations, namely that three-dimensional imaging is less suitable for evaluating the implant healing process because a large percentage of the x-ray radiation is absorbed by titanium or ceramic implants, giving rise to imaging artifacts. Three-dimensional imaging, on the other hand, is essential for an exclusion diagnosis of nerve lesions. It may also be required for an exclusion diagnosis of trauma to other important anatomic structures.

A well-established and renowned event: attendees at BDIZ EDI's 11th Expert Symposium 2016.

As to possible other indications for three-dimensional X-ray diagnostics, the participants of the earlier European Consensus Conference had agreed on the following points: dentoalveolar pathology; odontogenic tumors; bone pathology and structural bone anomalies; maxillary sinus diseases; sialoliths; temporomandibular joint disorders; dental and maxillofacial trauma; and diagnosis and surgical treatment planning in complex malformations.

Thanks to modern CAD/CAM-based production technologies, the implantological and prosthetic workflow involving dentist, dental technician and patient can now be optimized while achieving a high level of precision.

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Save the date

12th BDIZ EDI Expert Symposium
Cologne, Sunday, 26 February 2017

Topic: Implant planning then and now: state of the art in digital oral implantology

More information about the programme will soon be available on the BDIZ EDI website: www.bdizedi.org > English.

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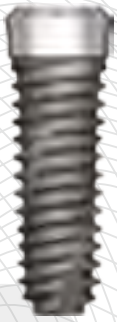

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Coming up soon: 37th International Dental Show 2017

Periodontology takes the centre stage

Genetic and microbiological diagnostics for risk assessment, surgical and non-surgical methods, regenerative treatment – these are the main themes of IDS 2017. Save the date: 21 to 25 March 2017 in Cologne, Germany.

There are three reasons why periodontology will continue to gain significance in the future: Teeth can remain preserved up to an increasingly older age, whereby they then frequently require periodontal treatment. If an implant is inserted after the tooth has been extracted, at least a professional peri-implantitis prophylaxis is needed, which follows similar protocols as the periodontal prophylaxis. Finally, one should take into consideration the fact that the course of periodontal diseases is influenced to a considerable extent by genetics; even in the case of conscientious domestic oral hygiene, support from the dental team may thus be essential. All of this speaks in favour of regularly informing oneself extensively about the current state of technology in the field of periodontology – ideally at the International Dental Show (IDS), which will take place from 21 to 25 March 2017 in Cologne.

Interesting innovations with direct benefit for the planning and execution of a periodontal therapy pertain to a host of different research areas, in which the dental industry is engaged. Diagnostic methods, instruments for the non-surgical therapy and for surgery, chemical and mechanical aids for prophylaxis or biological growth factors for the regeneration of tissue as well as laser applications – innovations for use in the practice are available in all areas of periodontology.

Diagnosis

A patient's individual risk of contracting a periodontal disease and the speed at which it progresses can

Photo: KoelnMesse

BDIZ EDI again tracks down what is missing from the practice of oral implantology in terms of postgraduate continuing education and European networking among dentists. Meet the activists behind the scenes – at the stand of BDIZ EDI at the IDS 2017 in Cologne: Hall 11.2, Stand O 59.

be assessed more and more accurately today using different methods. The genetic predisposition is a starting point. Here, polymorphisms evidently play a significant role in the genes of the interleukin 1 gene family (IL-1). Molecular genetic tests enable the dentist to assess the genetically-based predisposition to inflammation and to take further risk factors into consideration (i.e. smoking) in order to determine the overall risk for the individual patient.

Beyond this, molecular biological analysis kits allow a more accurate assessment of an existing inflammatory process. Hereby the composition of the subgingival flora as well as the concentration and type of marker germs is examined. The results provide valuable hints for the choice of appropriate dental measures and particularly answer the question as to whether scaling or root planing suffices as a means of professional prophylaxis or whether the use of antibiotic adjuvants is necessary. Depending on the severity of the disease and the prognosis, soft tissue surgery may also be necessary.

Periodontal therapy

A wide range of offers for the professional prophylaxis and therapy of periodontal diseases will be on display for examination and (quite literally) tangible understanding: Instruments for the classic probing, for the hand curettage, as well as sonic or ultrasonic, air polishing devices and air scalers. Furthermore, lasers are also gaining significance for example due to the expansion of the spectrum around blue light (445 nanometres). A main application concerns the reduction of germs in periodontal treatments; the possibility of a low-pain, tissue-conserving procedure that involves little blood loss could prove to be the main advantage in this context.

If the aspired maximum pocket depth (as a rule 6 millimetres) cannot be maintained long-term, surgery may help – the trend moving towards minimally invasive methods today. Supporting this trend, the IDS will present, among other things, laser applications for cutting or removing oral soft tissue, state-of-the-art micro-surgical sewing materials and effective visual aids (i.e. magnifying glasses and operation microscopes).

But a regenerative therapy can even reproduce lost periodontal structures. At the IDS, the visitor will be able to gain an overview of enamel matrix proteins (EMPs), absorbable membranes and bone replacement material. The possible "reward" of using these materials is a reduction of the probing depths and a clinical attachment gain.

The IDS takes place in Cologne, Germany, every two years and is organised by the GFDI (Gesellschaft zur Förderung der Dental-Industrie mbH), the commercial enterprise of the Association of German Dental Manufacturers (VDDI). The fair is staged by Koelnmesse GmbH, Cologne.

Source: KoelnMesse

More information

www.ids-cologne.de

The QR code will lead you directly to the English version of the IDS website.

The complete implant workflow

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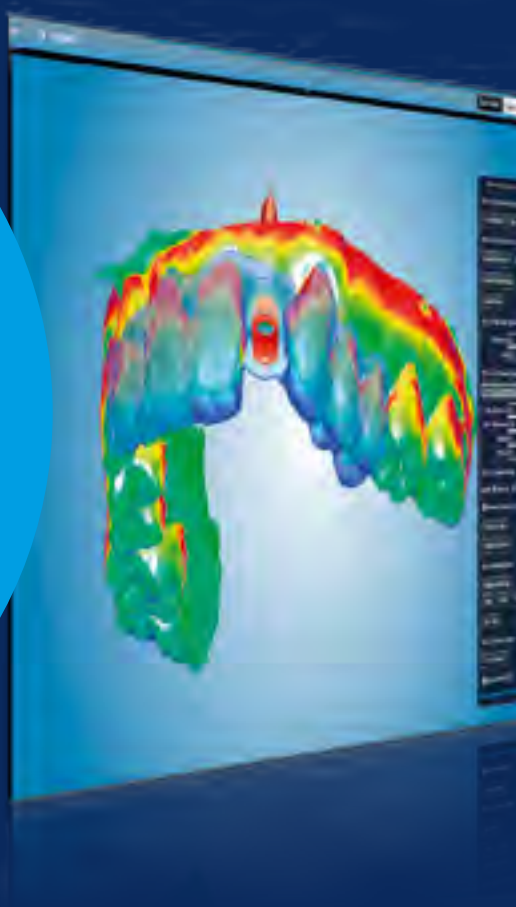

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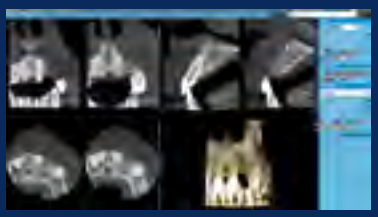

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3

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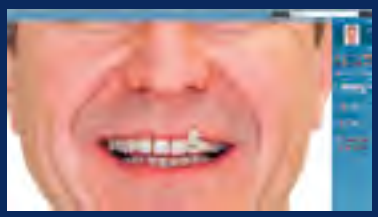

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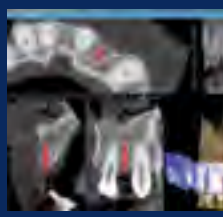
Implant planning



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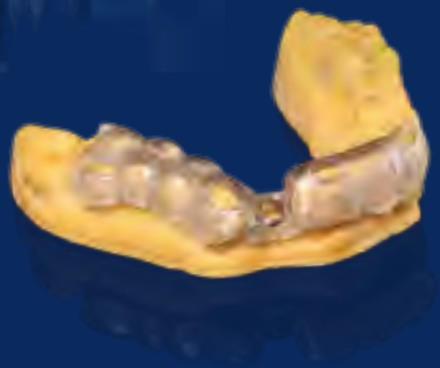

5

Implant guide design

6

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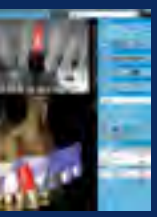

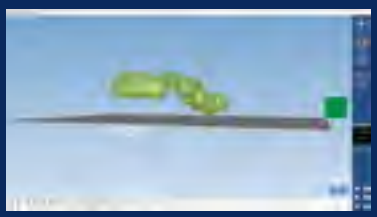

PLANMECA

45 Celebration

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25th Annual Congress of the EAO in Paris, France

“Paris is always a good idea”

The European Association for Osseointegration (EAO) and the French Society of Periodontology and Oral Implantology (SFPIO) are delighted to announce the details of the EAO’s 25th Annual Scientific Congress, held in Paris from 29 September to 1 October 2016.

The scientific committee and the EAO board have prepared an exciting programme focusing on many aspects of treatment planning and decision-making. As well as featuring world-renowned speakers, the congress will include numerous interactive elements involving the audience. The EAO Annual Congress provides a unique opportunity for researchers and clinicians to present their scientific studies, both as posters and during the oral presentation sessions.

The initiators are also very pleased and honoured to welcome Japan as a guest country during the congress. Although the EAO was originally created as a forum for European professionals, the proportion of members coming from non-European countries has greatly increased over the past few years. A great number of members now come from Asia, the Middle East, Eastern Europe as well as South and Central America. As a mark of recognition and appreciation, the association has decided to honour one of these countries during its annual congress. The exchange of knowledge and search for innovation is a true part of its mission to bridge the gap between science and clinical practice. This year, the Board of Directors has chosen to welcome Japan as a guest country during the annual congress. With the highest number of members in Asia and a very active dental community, Japan appeared the natural choice for a guest country on this occasion.

The challenging congress programme is organised in four different sections. The plenary sessions in the “Arena” will include a series of interactive debates addressing key topics in implantology. During the “Sessions”, the audience will hear presentations exploring topics in implantology. The “Oral Communication” section will feature exciting new research findings as presenters compete for prizes. Attendees of the “Industry Symposia” will learn more about key subjects in these industry sponsored symposia featuring research and innovation.

The “Hands-on Sessions” promote new techniques and offer high-level practical training under the guidance of renowned experts. These courses are organised by industry partners.

As a tribute to the future, this year’s EAO Congress will also hold ready a novelty designed expressly to the younger generation: One of the new sessions in the “Oral Communication” section will be an “hour-glass contest” – an opportunity to present new research which could change the world in the field of implant dentistry. It will present speakers whose one-minute video abstracts have been selected by the EAO’s Junior Committee during the submission process. The session will feature seven “out of the box and original” presentations of seven minutes each. At the end of the session, the audience and the Junior Committee will vote for the best presentation.

The congress will take place in the heart of Paris near the Champs Elysées, enabling the visitors and their family and friends to enjoy many of the city’s attractions during their visit. “Paris is always a good idea”, as *Audrey Hepburn* expressed.

Dr David Nisand, Chairman of the Scientific Committee: “The EAO Congress represents to me the scientific event of the year in the field of implant dentistry and osseointegration.”

Dr Franck Renouard, Co-Chairman of the Scientific Committee: “The EAO Congress is possibly the best congress in the world.”

More information
www.eao-congress.com

28th National and 21th International Congress of the SEI

Continuing education and knowledge sharing

In the course of more than 50 years, the Spanish Association of Oral Implantology SEI (Sociedad Española de Implantes) has developed into a meeting place and a discussion forum for a professional world that nowadays assumes oral implantology as a daily reality in the perception of its patients. This mindset is the fundament on which the SEI will hold its 28th National and 21th International Congress in Madrid on 21 and 22 October 2016.

For the members of the SEI, the general programme of the congress will not only represent a unique opportunity to receive an update of the various multidisciplinary aspects by nationally and internationally renowned specialists; they will also be able to assist and engage in vivid discussions on all current topics that oral implantology offers today.

For younger dentists pursuing postgraduate studies, the congress represents a scientific event which provides the chance to acquire state of the art implantological knowledge and to present the most important lines of research of Spanish dental universities.

The 28th National and 21th International Congress of the SEI will be accompanied by a dental exposition showcasing the latest innovations and products in the field of oral implantology. Many national and international companies will offer an attractive panorama to all guests who will get to know all facets of up-to-date oral implantology technology. The great support of the industry is one of the important aspects that helps to make the congress a fruitful and profitable event.

Besides the exciting programme, the venue itself is a guarantor of success for the 28th National and 21th International Congress of the SEI: Madrid, the Spanish capital, radiates an unforgettable atmosphere of amity, hospitality and vitality. The SEI is looking forward to welcoming a large number of national and international guests and offering a perfect framework for a promising and successful event. ■

More information and registration
www.sociedadsei.com/congresomadrid2016

View over Madrid, the appealing and vibrant capital of Spain.

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Full-text version of EDI Journal available online

Facts, facts, facts

Did you know? Six weeks after the print publication date, each issue of the EDI Journal is made available on the internet, where everyone can read and download it as a PDF document. This means that, albeit with some delay, even non-members – in particular all dentists, but also physicians and members of professional associations and professional societies – can benefit from the Journal's compact and well-written reports on topics of European relevance.

Important for the healing professions

Under the heading of "News", EDI Journal puts hot topics in focus: decisions by the European Court of Justice (ECJ) that are relevant for physicians and dentists; new EU directives, such as the Medical Device Directive or the Professional Qualifications Directive; and much more. Here, the emphasis is not on the presentation of isolated facts. Rather, editors and authors seek the views of stakeholders and professionals, conduct interviews with experts and provide comparative reports on relevant subjects.

The focus is on the presentation of complex issues in a compact yet graphic and illuminating way. Some recent examples: the EU's internal-market strategy and its impact on the health sector; new guidelines in dentistry; resolutions and statements by European umbrella organizations such as the Council of European Dentists (CED), which represents 27 European dental associations in Brussels. EDI Journal also takes a look at the situation of dentists in private practice in Europe, who are struggling with similar problems across countries, such as training deficiencies.

In terms of continuing professional development, the publication offers interesting implantological case reports, as well as reports on the state of the art in bone (substitute) material, implant design, the use of 3D technology in dentistry and studies initiated by the Quality and Registration (Q&R) Committee of BDIZ EDI, for example on surface contamination of sterile-wrapped implants.

Curious? Then follow BDIZ EDI on Facebook (www.facebook.com/bdizediorg) and you will immediately know when a new issue comes online. You can as well take a look directly on our website: www.bdizedi.org > English > News > EDI Journal.

AWU

More facts

Of course, it's even easier to simply become a BDIZ EDI member. In this way, EDI Journal will be sent to your home, practice or office automatically. In addition, members also receive all relevant BDIZ EDI publications free of charge and get discounts at conferences and training events of the Association. Read more at www.bdizedi.org > English > BDIZ EDI > Member benefits.

Online knowledge store: current and previous issues of the EDI Journal on BDIZ EDI's website.

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To bring this common theme of inspiration and confidence to you, the World Summit Tour will visit Tokyo, San Diego, Nice, and Shanghai. Each destination offers a journey of innovation and discovery led by a scientific committee and renowned international and regional speakers. Personalize your experience to best fit your interests and needs by combining general sessions, hands-on workshops, and your choice of various parallel sessions.
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Dentsply Sirona Implants

Interview with Dr Fisnik Kasapi, President of the Albanian Implantology Association of Macedonia

Dental implantology in Macedonia

The Republic of Macedonia is a landlocked country bordered by Kosovo, Serbia, Bulgaria, Greece and Albania. Its capital is Skopje, a city of more than 800,000 inhabitants. Since 2005, Macedonia has also been a candidate country for the European Union. In an interview with Dr Fisnik Kasapi, President of the Albanian Implantology Association of Macedonia and member of the European Committee of BDIZ EDI, we learn why the situation of dental clinicians is rather difficult in Macedonia.

How interested in dental implants are patients in Macedonia?

Our patients from Macedonia – including those who are originally from Macedonia, the number of emigrants has been large and is still growing – and also many patients in other countries of the region are very much interested in dental implants. This interest has been increasing steadily, especially over the last few years.

I mentioned the emigrants because not every citizen of Macedonia can afford the "luxury" of dental implants on the income they dispose of. As we speak, there is no financial support offered for dental implant treatment either by statutory health insurance or by private health insurance.

Are patients well informed about innovative techniques and treatment options?

Most patients are very well informed, and when they decide to come to a dental clinic for an implantological procedure, they already know what dental implants are, how and why they are useful and what type of interventions are required – thanks to the internet of course, but also thanks to other information sources such as print media and TV. There are many dental clinics that promote oral implantology as a branch of dentistry, so the chances for getting reasonable information about dental implants are fairly good.

On the other hand, the number of patients who are not well informed about dental implants is ››

Dr Fisnik Kasapi

	Born in Skopje
1996	Completion of the dental school at the University of St. Cyril and Methodius, Skopje
1997	Member of the Albanian Dental Association in Macedonia
1998	Private dental clinic for general dentistry, oral surgery and oral implantology
2001–2004	Specialist training at the Clinic for Oral Surgery, Skopje
2004	Member of the Albanian Association of Oral and Maxillofacial Surgeons
2010	Board Member of the Macedonian Association of Oral Surgeons
2013	President of the Albanian Implantology Association of Macedonia and member of the executive board of the Dental Association of Macedonia
2013	Chairman of the organising committee for the Third Pan-Albanian Congress, Skopje
2014	Visiting guest member of the European Committee of BDIZ EDI
2016	President of the organising committee for the First Congress of Oral Surgery and Implantology in Macedonia

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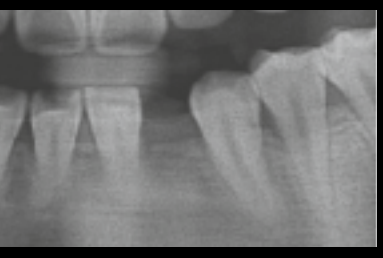

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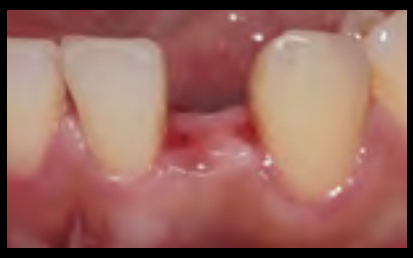
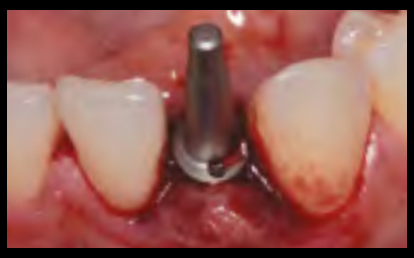
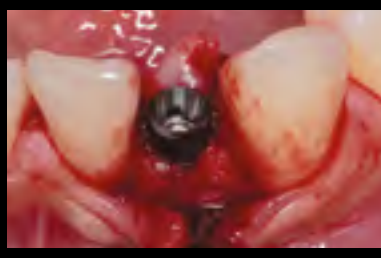




Implant guide



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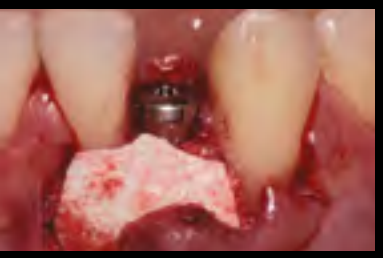

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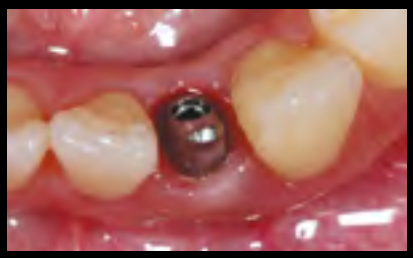

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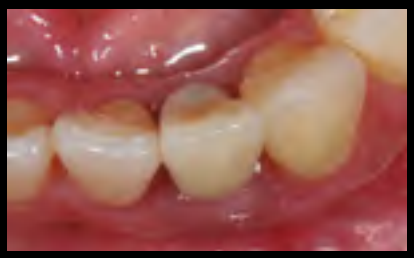

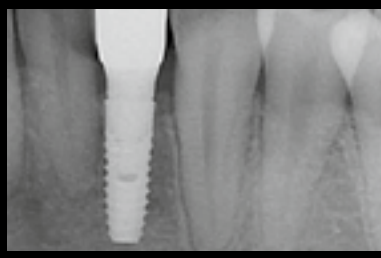

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not all that small. But if we look back five or ten years, we find that chances of getting to know anything about dental implants were limited. Today, this situation is completely different.

How interested in dental implants are dentists in your country?

If patient interest is increasing – and it is – the number of interested dentists will quite naturally rise, too. The law of supply and demand governs the field of dentistry just like any other market.

That's why the overall situation is favourable, but there are considerable risks incurred by dentists who want to follow the trend without having adequate education and preparation. After all, we are talking about a branch of dentistry that is not that simple to practice.

At this point, oral implantology is not an official specialty in our country, which is a problem, but in the greater region and beyond you can obtain and complete adequate training that gives you the basic knowledge needed for implantology.

How do dentists view dental implantology – as a welcome challenge or as undesirable?

Dentists definitely understand dental implantology as a professional challenge, also with regard to the material aspect, but of course it will not displace prosthodontics. I cannot say that there are any colleagues who consider dental implantology to be undesirable and therefore do not practice it. I don't believe that there are any dentists who, even if they have not had any implantological training during their university studies, are not well informed and educated as to the benefits, including financial ones, that implants offer, not only to patients but to implantologists as well.

The reason why I mentioned prosthodontics is that in our country, prostheses are still the primary solution for the patients and my colleague dentists, but after all implantology is slowly positioning itself in the same line, hand in hand with other branches of dentistry.

What type of education or postgraduate training does a dentist (or physician) need in your country to be able to work in dental implantology?

In our country, as in many other Balkan countries and, I would like to add, in some countries of the EU, there is still no regulation or rule saying that you can or cannot work with dental implants. If you ask me what I think of this, I can show you my draft statutes for the foundation of the Albanian Implantology Association of Macedonia, which lists who can be a member:

A member of AIAM can be:

- A specialist in oral and maxillofacial surgery who has completed implantological training and works with dental implants.
- A general dentist or specialist of whichever branch within dentistry who has completed implantological training and works with dental implants.

These membership rules will be in effect until the establishment of training standards for dental implantology will be consistent with European standards for implantology.

What is the total number of dentists in your region and in total in Macedonia?

I cannot give you the number of dentists in the region, because I do not have the exact information. But as for the number of dentists in Macedonia, I do have a pretty reliable number, and that is around 3,600, based on information obtained from the Macedonian Dental Association where every graduated dentist and every dentist who has a diploma from another country validated is listed. The number of dentists relative to a population of around two million is in fact quite high, and statistics show that a large number of dentists is out of work and that many others have emigrated to the west, but we do not expect this number to decrease, because the state policy for admitting students of dentistry, especially to state universities, does not change. There have been efforts and initiatives on the part of the dental association and the dental societies to reduce the number of new students, but unfortunately with no success so far.

What percentage of them do you estimate to be active in implantology?

As I mentioned before, the number of dentists is increasing, but I do not have an specific percentage. But taking into consideration that we have around 200 specialist oral surgeons and around 30 maxillofacial surgeons, still not every one of them works in implantology. On the other hand, there are also general dentists and non-implantological specialists who work in implantology, so the overall percentage might be ten per cent.

Is being an active dental implantologist an attractive proposition in your country? If so, why?

I can definitely say that it is attractive, very much so actually, because in most cases we are talking about private clinics where implantology extends the range of services. After all, they offer something not everyone can offer; profits grow and new clinics are founded, which ensures the educational and ››

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Dr. Fisnik Kasapi (left) presents the compliments of the Macedonian dentists to BDIZ EDI President Christian Berger.

scientific advancement of employers, which in turn benefits the "dental culture" and our country in general.

Are there any specific regulations for dentists offering implantological treatment in their practice?

As I said beforehand, unfortunately there are still no regulations in our country on who can or cannot practice implantology.

Who pays for the implantological treatment, and how?

In our country, patients invariably pay for their implantological treatment themselves. There is still no support from the state or from private health insurers, even though there are rumours that some insurance companies plan to widen their coverage of dental health services. But we have to be patient. I would also add that this does not apply to our patients from outside the country, since they are covered by foreign health insurers.

What are the problems implantologists are facing in your country?

The biggest problem is unfair and disloyal competition within the country. Again, the absence of rules on who can or cannot practice implantology wreaks considerable damage.

Another problem is the absence of certain implant systems that are not approved in our country. This, I believe, is related to the social, political and economic crisis in Macedonia, where registering a product or a medical/dental device is not cheap.

However, in general, my colleagues who work with implantology are satisfied with their job.

How do you believe dental implantology in your country will develop – as the ideal solution in prosthodontics or as one concept of many?

I believe that implantology in my country has seen some definite growth. It certainly is an ideal solution within prosthodontics. The whole idea of replacing a missing tooth with dental implants and not with bridges is well on its way, and fortunately this trend is slowly reaching our country, too.

Please name three topics you would like BDIZ EDI to assign priority to.

The first topic that I would like to see prioritized is the regulatory harmonization on a European level (including Macedonia, which aspires to be a member of the EU) regarding the practice of dental implantology. Secondly, priority should be given to the comparison of standard implants made of titanium vs zirconia. Finally, we should look at the impact of growth factors and stem cells on the integration and service life of dental implants.

What are your wishes for dental implantologists in your country?

My wishes for my colleague implantologists, and the citizens of my country in general, are these: to increase the standards and heighten health awareness of patients. Treatment success and implant survival should match the European and world average, which can be achieved if we continue to follow the train of progress in dental implantology. Which requires an educational effort.

What would be the significance and the objective of an international professional journal in the field of dental implantology?

I am certain that every professional journal, especially an international one, can play an important role in advancing whichever specialty we are talking about, in this case implantology.

If all of us stay within our comfort zone, if we do not share our achievements and do not follow each other's results, including our failures, I doubt that we will move forward. This is why I believe that these journals are a chance not just for us but also for coming generations to keep up with what is happening in the world of implantology.

On which topics would you appreciate a panel discussion or international symposium?

Having been interested in and working with growth factors and stem cells these past few years, I would definitely enjoy if many experts in this field could gather and carefully study the relationship between their work and dental implantology. In the near future, many of us will see good and highly motivating results.

Thank you for this interview, Dr Kasapi. ■

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EU presidency

Slovakia takes over

On 1 July 2016, Slovakia assumed the presidency of the Council of the European Union. Strengthening of the single market is the Slovaks' top priority. In health policy, the focus will be on access to medical drugs and the treatment of chronic diseases. One item on the agenda is raising awareness for Alzheimer's disease, for example at a conference in Bratislava in late November. Other priorities include migration and neighbourhood policy, supporting the perspective of rapid EU accession for the Western Balkans countries of Serbia and Montenegro.

Source: European Council

Photo: CSU

Christian Schmidt

Billboard advertising for cigarettes

Still legal in Germany

Until recently, billboard advertising for cigarettes was permitted in Bulgaria. But that is now a thing of the past – adverts for tobacco products are now completely banned in that country, leaving Germany as the last country in Europe where this form of tobacco advertising is still permissible. The tobacco industry certainly makes use of this possibility, not least in central locations in major German cities – in particular market leader Philip Morris with their "You decide" campaign. And that despite the fact that a legal ban on tobacco advertising was supposed to be implemented long ago. The issue has been under discussion for several years, and a decision to outlaw this advertising modality was reached by the German government last spring. "But there have been delays – with the possibe result that cigarette advertising will continue to be permitted in Germany for years to come", reported the German daily newspaper *Die Welt*. Passing a pertinent bill requires up to three readings in the German national parliament (Bundestag) and participation of the Bundesrat (where the German federal states are represented). "We have no information regarding the legislative schedule going forward", said the Minister of Food, Agriculture and Consumer Protection, *Christian Schmidt*, in an interview with *Die Welt*, although, given that his ministry was the one that prepared the draft in the first place, *Schmidt* should be in the know regarding the planning process. Many forms of tobacco advertising, in fact, are still allowed in Germany at this point: The tobacco industry may advertise publicly on posters, billboards and at points of sale. After 6 pm, cigarette advertising is allowed in cinemas. To approach potential customers directly at events as part of a promotion drive is also permitted.

Source: Die Welt, Germany

EU Medical Device Regulation

Grounds for controversy

The revision of the EU Medical Devices Regulation is nearing completion, but much about it is still controversial. Manufacturers warn of potential dramatic consequences. In an effort to make high-risk products safer, the requirements for physical medical devices are being increased. According to the German Association of Pharmaceutical Manufacturers (Bundesverband der Arzneimittel-Hersteller, BAH), the existence of an entire industry is threatened. In late May, following tough negotiations, the the European Commission, the European Parliament and the Council of Ministers had agreed on a compromise for better regulation of medical devices and in-vitro diagnostics (IVD). Higher risk classes are expected to apply to nearly all material medical devices from the year 2020 onward.

Material medical devices are similar in external appearance to medical drugs, but unlike these, their mechanism of action is not pharmacological, metabolic or immunological, but physical or physicochemical, marking a transition zone between physics and chemistry. Examples include products such as cranberry capsules, healing earth or sea water nasal sprays. The German Medical Technology Association (Bundesverband für Medizintechnologie, BVMed) has a different take on the new regulation, ››

Photo: www.fotolia.com/jpgon

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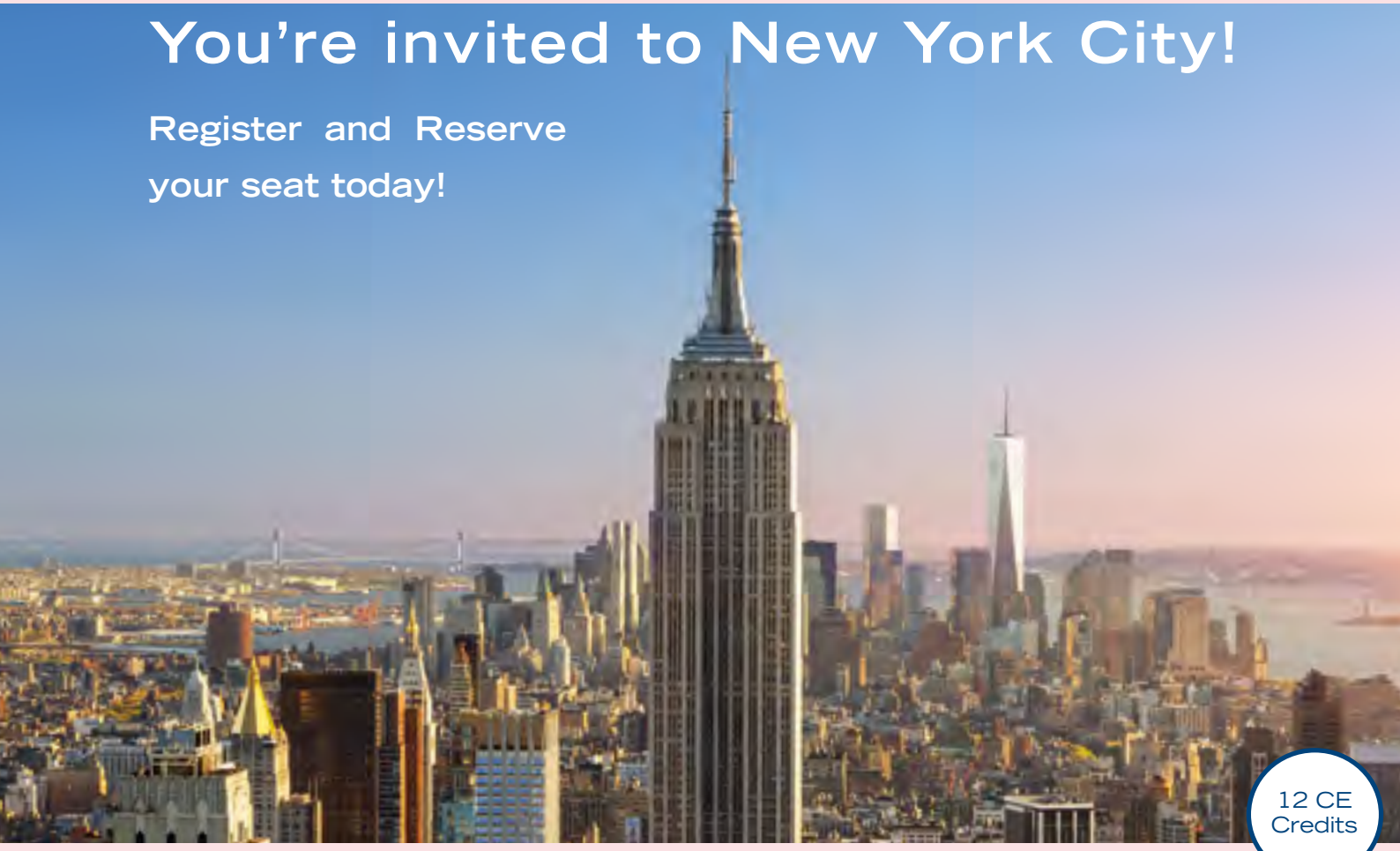

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Europe Ticker +++

which stipulates, among other things, the introduction of a mandatory implant passport, a "responsible person" based on the German model of medical device safety officers, as well as unannounced audits (UAAs). The harmonisation of national market surveillance in the EU member states is also based on how market surveillance is coordinated in Germany, says BVMed. Additional aspects include an obligation to carry liability insurance or to set aside adequate reserves to cover potential claims, as well as more restrictive rules to help protect patient data.

The EU Medical Device Regulation also provides for more stringent clinical evaluations. Market transparency is to be enhanced by means of a Europe-wide database called Eudamed. In addition, the system of unique product numbers (UDI or Unique Device Identification) will be made obligatory. BVMed has voiced criticism of the new scrutiny process for certain higher-class medical devices, which is an additional testing step that goes beyond the conformity assessment by notified bodies. Unlike what was initially planned by the European Parliament, these procedures will now be more focused, but the introduction of med-tech innovations will lead to further delays by duplicate testing regimes without increasing patient safety.

Source: Various media

Photo: European Union, 2016
Georges Boulougouris

Dimitris Avramopoulos

European drug monitoring centre

98 new substances in Europe

According to the Swiss news platform *20 Minuten*, more and more new drugs are popping up in Europe. The European drug market "remains resilient", said the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) in its annual report for 2016, published in Lisbon. Given the observed increase in drug use overall, especially among younger people, the increase in the number of new synthetic drugs is worrying. In 2015, 98 new psychoactive substances (NPS) in drugs were detected for the first time, according to the report, just three fewer than during the record year of 2014 and bringing the number of new substances to more than 560 since the EU Early Warning System was created in 1997. Of these, 380 were detected in the last five years alone.

Most NPS are used in synthetic forms of cannabis, cocaine or purely synthetic drugs or amphetamines. The impact of the NPS on the health often remains unknown. In addition, a comeback of ecstasy, the classic party drug, has been observed, although its share of the entire market for illegal drugs in the EU is only three per cent. Cannabis still takes the largest share of Europe's drug market, according to the report, accounting for 38 per cent of the total by retail value. "Overall, this latest analysis shows that the drug policy agenda in Europe needs to include a more extensive and complex catalogue of political issues than in the past", the EMCDDA concluded. "The drug problem in Europe is growing", said *Dimitris Avramopoulos*, EU Commissioner for Home Affairs, as he commented on the findings of the drug report. *Avramopoulos* called on EU member states and other countries and on internet providers and civil society at large to join forces in addressing the growing drug problem.

Sources: 20 Minuten, Switzerland; EMCDDA

Informal meeting

Debate on the political and practical implications of "Brexit"

On 16 September, the heads of state or government of the 27 member states have met in Bratislava. Purpose was to continue a political reflection to give an impulse to further reforms and to the development of the EU with 27 member states. President *Tusk* intended to consult all EU leaders ahead of the Bratislava meeting with a view to discussing both its handling and substance. These included a working dinner with German Chancellor *Angela Merkel* in August as well as meetings with French President *François Hollande*, Luxembourg Prime Minister *Xavier Bettel*, Irish Prime Minister *Enda Kenny*, UK Prime Minister *Theresa May*, Latvian Prime Minister *Māris Kučinskis*, Lithuanian President *Dalia Grybauskaitė*, Estonian Prime Minister *Taavi Rõivas*, Swedish Prime Minister *Stefan Löfven*, Maltese Prime Minister *Joseph Muscat* and Spanish Prime Minister *Mariano Rajoy*.

Source: European Council

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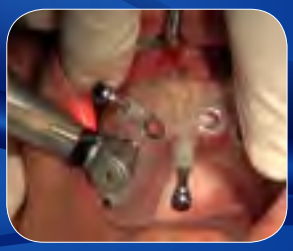


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Is a system of fixed prices for prescription-only medicinal products compatible with European law?

Protection of health and life vs. free movement of goods

The European Court of Justice (ECJ) in Luxembourg is called on to decide on the issue of compatibility with EU law of the German system of fixed prices for prescription-only medicines (Case C-148/15). The opinions of the Advocate-General were presented on 2 June 2016, with a conclusive ruling by the ECJ expected shortly.

The request for a preliminary ECJ ruling was submitted by the Higher Regional Court Düsseldorf (OLG Düsseldorf) and refers to a cooperation between the German Parkinson Association (DPV) and the Dutch online pharmacy DocMorris that had resulted in a legal dispute with the Centre for Protection against Unfair Competition (ZBW). The OLG Düsseldorf had requested the ruling after the Düsseldorf Regional Court (LG Düsseldorf) had initially decided based on the German legal situation and rejected submission to the ECJ (LG Düsseldorf, judgement of 26 June 2013 – 12 O 411/09).

The request for a preliminary ruling made by the OLG Düsseldorf specifically refers to the question whether the system of fixed prices for prescription-only medicinal products imposed by national law is in conflict with the free movement of goods as laid down in Articles 34 ff of the Treaty on the Functioning of the European Union (TFEU), which is one of the fundamental freedoms defined by that treaty. It prohibits quantitative restrictions on imports or exports, and all measures having an equivalent effect. But under certain conditions, even in the presence of an infringement on the free movement of goods, such an infringement can be justified, especially if an exception under Article 36 TFEU exists. Under that provision, restrictions of the free movement of goods may be justified if they serve interests protected by Article 36 TFEU, such as public morality, public policy or public security or the protection of health and life of humans, animals and plants and if the restriction additionally satisfies the requirement of proportionality.

In this respect, the request by the OLG Düsseldorf also aimed at deciding the question whether, if a nationally legislated system of fixed prices for prescription-only medicinal products is in violation of the free movement of goods, it can still be justified under Article 36 TFEU on grounds of the protection of health and life of humans.

Underlying facts

The DPV is a self-help organisation whose objective is to improve the lives of patients with Parkinson's disease and those of their families. With a letter promoting a cooperative venture between DPV and the Dutch mail-order pharmacy DocMorris, DPV informed its members of a bonus system under which various bonuses would be provided to members of DPV when purchasing from DocMorris certain prescription-only medicinal products for Parkinson's disease available only through pharmacies.

The ZBW considers the promotion unfair as it runs contrary to the establishment of a uniform retail price to be observed by pharmacies, as required by legislation. The ZBW therefore sued for injunction. The LG Düsseldorf upheld the ZBW's claim and prohibited the DPV, operating in a competitive market, from recommending the said bonus system. The court held that by sending the contested letter, the DPV had infringed Paragraph 78 of the Medicinal Products Act (AMG) and Paragraphs 1 and 3 of the Pharmaceutical Price Ordinance Regulation (AMPreisV). It held that the letter constituted unfair commercial conduct on the part of the DPV because the bonus system promoted was prohibited under competition rules.

The DPV lodged an appeal against the judgment of the LG Düsseldorf. By order of 24 March 2015, the OLG Düsseldorf referred the question to the ECJ for a preliminary ruling whether the system of fixed prices for prescription-only medicinal products is compatible with Articles 34 ff TFEU and hence with the provisions on the free movement of goods.

Current legal framework in Germany

According to section 78 subs. 2 AMG, "a uniform pharmacy retail price shall be guaranteed for medicinal products that may not be sold other than through pharmacies." The pertinent details are regulated by the AMPreisV. Section 2 AMPreisV sets price margins for prescription-only medicines for wholesale trade when selling to pharmacies, while Section 3 AMPreisV mandates pharmacies' price margins for resale. Moreover, the AMG makes clear that the pharmaceutical entrepreneurs shall guarantee a uniform sales price for all medicinal products for which the AMPreisV sets mandatory prices and price margins. ››

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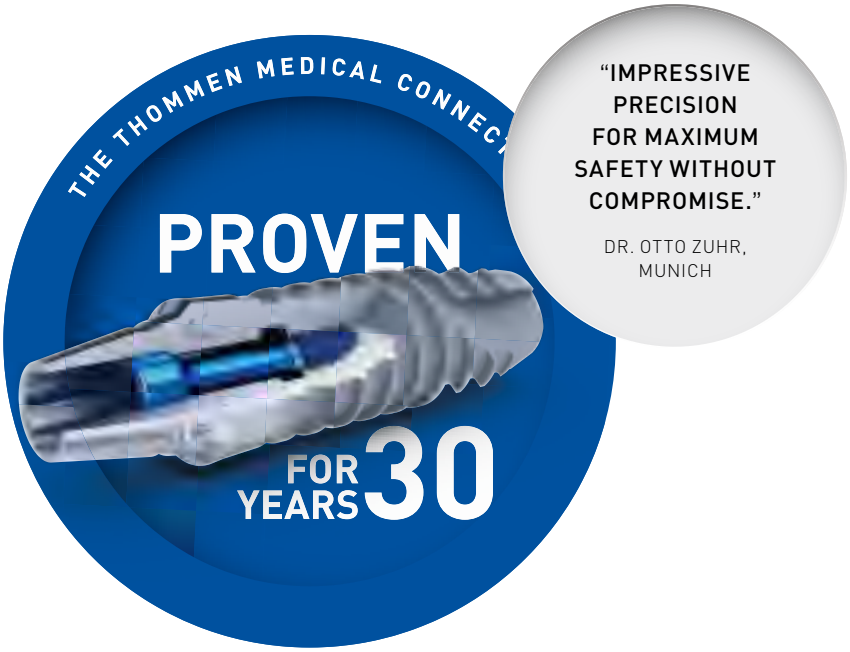

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It further states that the provisions of the AMG also apply to medicinal products shipped by a pharmacy to consumers. With these provisions, the legislators wants to guarantee a nationwide and uniform supply with medicinal products, deemed to be in the public interest. The rules apply to both pharmacies established inside and outside Germany.

In addition, section 7 subs. 1 no. 2 of the Pharmaceutical Advertising Act (HWG) bans discounts on remedies. The purpose of this regulation is to prevent that consumers, in deciding whether and what medicine to take, are unduly influenced by promises of free perks or by advertising.

The Advocate-General's assessment

In his final "Opinion" of 2 February 2016 – which is similar to a legal opinion about the facts at issue and which in effect constitutes a recommendation to the ECJ on how to decide the question on hand – Advocate-General *Maciej Szpunar* concluded that the rules on fixed prices for prescription-only medicinal products constitute "measures having an equivalent effect" that are "more than capable of hindering trade". He considered this to be in violation of Article 34 TFEU and, hence, of the free movement of goods. *Szpunar* stated that by depriving an economic operator of the possibility of undercutting a certain price, the operator is deprived of a factor allowing him to be competitive. The incriminating rules that indirectly discriminated against non-German pharmacies, he said, constituted a "barrier to trade". The fixed-price system imposed a greater burden on foreign pharmacies because they "can offset the disadvantage of being able to obtain access to the German market only via mail order only by means of the advantage of being permitted to sell their products in accordance with the pricing rules of the member state of their establishment". In contrast, for German pharmacies, mail order was simply an additional distribution channel. An internet pharmacy located outside Germany that intends to market its products in Germany therefore "sees its access to the German market impeded if it cannot compete on price." As the DPV, the Dutch government and the Commission, in *Szpunar*'s view correctly, point out, pharmacies not located in Germany have only one means to gain access to the German market, namely via the internet. The main reason for this is the German third-party ownership ban (Fremdbesitzverbot), which rules that the right to own and operate a pharmacy is restricted to pharmacists.

When examining the issue of potential discrimination, it is not internet pharmacies that should be compared but pharmacies in general, as German and non-German pharmacies rely on the internet to varying degrees. A pharmacy already present in Germany will typically resort to the internet to a limited extent, whereas for a pharmacy based outside Germany, delivery by mail is "the only channel of distribution".

Nor can the contested German rules be justified, in the opinion of the Advocate-General, by Article 36 TFEU. Based on the preliminary ruling of the OLG Düsseldorf, the "protection of health and life of humans" had to be examined as a potential justification. But the German legal provisions, said the Advocate-General, were not suitable for attaining the objective of public health; they were unnecessary and, hence, disproportional.

The German Joint Chamber of the Superior Courts (GmS-OGB), by contrast, had judged the system of fixed prices to be justified, as no alternative system other than the fixed-price system was, in the interest of a reliable and high-quality supply of medicinal products to the population, equally capable of counteracting the risk of cut-throat price competition between pharmacies, of ensuring a consistent supply of prescription-only medicinal products to the entire population and of reducing the risk of misuse or overuse of medicinal products (decision of the GmS-OGB dated 22 August 2012, GmS-OGB 1/10, Rz. 50). The Advocate-General countered that the number of pharmacies did not automatically imply that there was a consistent and comprehensive coverage across the German territory. He held that especially more remote areas would be better served by allowing internet pharmacies to compete. The price of a medicinal product had no effect on the quantity of prescription-only medicinal products that are supplied to a patient. There was no necessity for such regulations as "there are measures that are conceivable and that could be taken instead of a system of fixed prices", for example the introduction of a system as previously considered by the German government system that provided for maximum prices.

Advocate-General *Szpunar* concluded that Articles 34 and 36 TFEU precluded a system of fixed prices, laid down by national law, applicable to prescription-only medicinal products such as the one contained in section 78 AMG in connection with the AMPreisV. He proposed that the ECJ answer the questions referred by the OLG Düsseldorf in this sense.

Outlook

The ECJ judges not infrequently follow the Advocate-General's opinions. Whether this will also be the case here remains to be seen. The present case marks the third time that the Court has been called upon to assess the compatibility of a German measure with the Treaty provisions on free movement in the context of the attempt of the Dutch pharmacy DocMorris to obtain access to the German market. The first two cases had raised the question whether restrictions on the delivery of medicinal products by non-German pharmacies and banning non-pharmacists from owning and operating pharmacies in Germany were compatible with EU law. In both cases, the ECJ had upheld the German provisions and denied the argument of a breach of the fundamental freedoms or, respectively, considered it justified. ■

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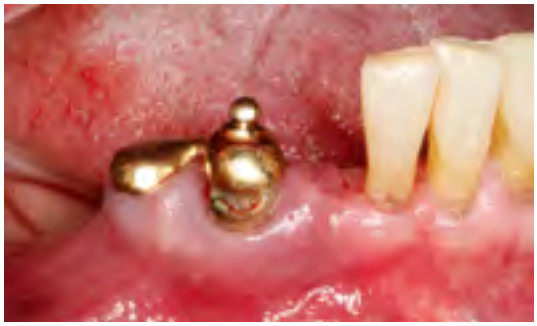
Mini-implants to restore the function of removable dentures

DR JÖRG NEUGEBAUER[1,2], DR FRANK KISTLER[1], STEFAN ADLER[1], DR STEFFEN KISTLER[1],
[1]LANDSBERG AM LECH AND [2]KÖLN, GERMANY

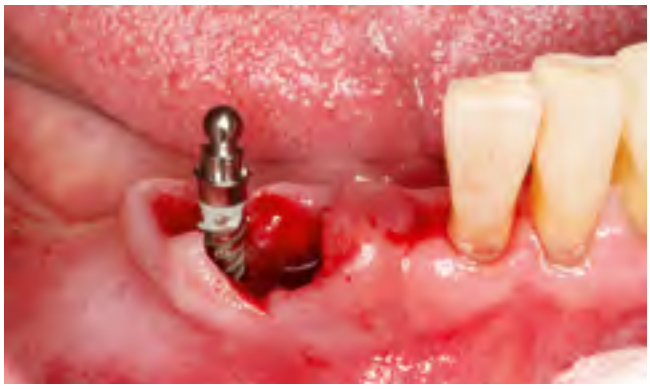
When caring for elderly patients, some of whom may have been wearing removable dentures for decades, the loss of one or more abutment teeth may represent a therapeutic challenge when it comes to restoring the function of the prosthesis for improved patient comfort. To achieve a maximum of functional improvement with the smallest therapeutic effort, the practitioner and the patient have to join forces to make some potentially difficult decisions [10]. Where telescoping retention elements are present, dentures can often be easily expanded, depending on the original design. Especially older patients often accept the gradual reduction in the retention of their dentures that accompanies the successive loss of additional teeth. However, once the available abutment teeth are completely lost, acceptance of the now necessary complete removable denture is generally low. This lack of acceptance is often reinforced by the patient's social environment, as the loss of function is associated with significant problems with eating, communication and social interaction [10].

Patients may have become accustomed over time to the relative ease with which their denture could be expanded each time an additional tooth was lost. That is why it is frequently difficult for them to accept that their entire denture may need to be replaced. This may be partially linked to reduced financial resources at an advanced age or fear of the surgical intervention that might be required (Figs. 1a to g). The successive loss of abutment teeth over many years also causes problems for the practitioner, since a denture now supported by soft tissue will have caused fairly advanced atrophy of the alveolar ridge [7]. The only place where the alveolar ridge may still be relatively well preserved may be the areas around non-salvageable teeth. However, these are also predilection areas for chronic periodontitis, which in connection with hopeless attempts to preserve an abutment tooth or an implant affected by peri-implantitis can result in extended bone defects (Figs. 2a to c).

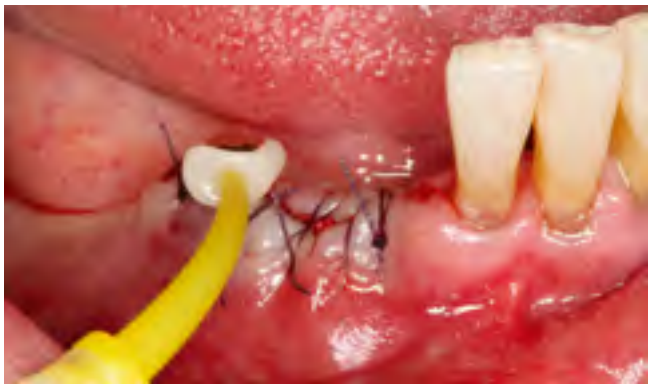
1a I Radiological baseline situation for a 78-year-old female patient. The endodontically treated teeth 44 and 43 were not salvageable.



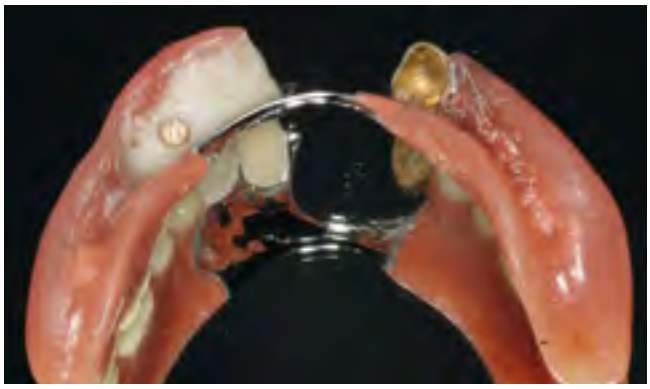
1b I Clinical situation following the loss of tooth 42. Splinted root caps at the non-salvageable teeth 44 and 43 (with ball attachment in the latter case).



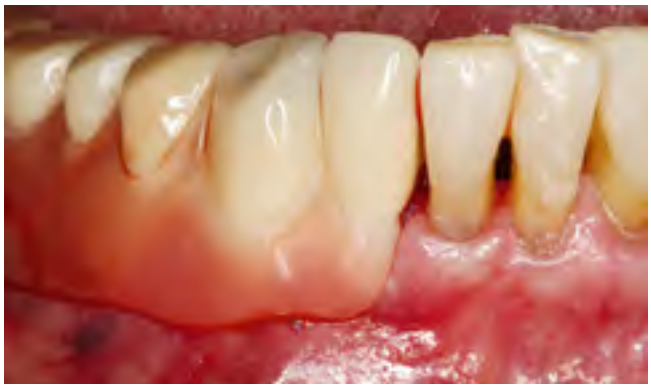
1c I Situation following the extraction of teeth 44 and 43 and immediate placement of a one-piece 12-mm mini-implant (mini'SKY; bredent medical) at site 44.



1d I Application of the resin (Qu-resin; bredent medical) for intraoral and tension-free fixation of the titanium matrix (which forms part of the ball attachment) within the existing denture.

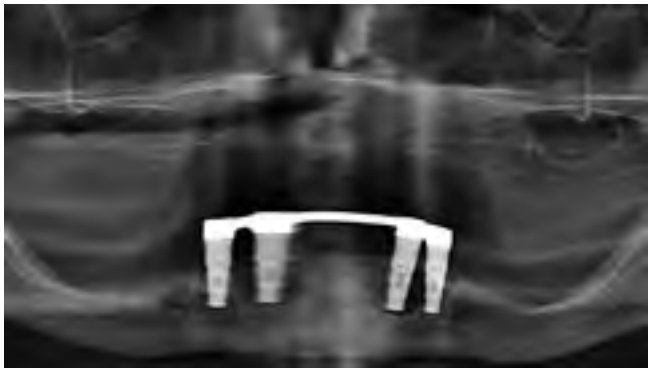


1e I Re-worked prosthesis with polymerized titanium matrix.

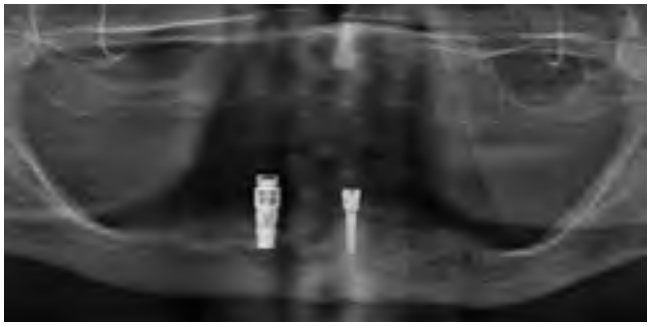


1f I Inserted denture. It is stabilized by the newly inserted mini-implant 44 and pre-existing telescope crown 33.

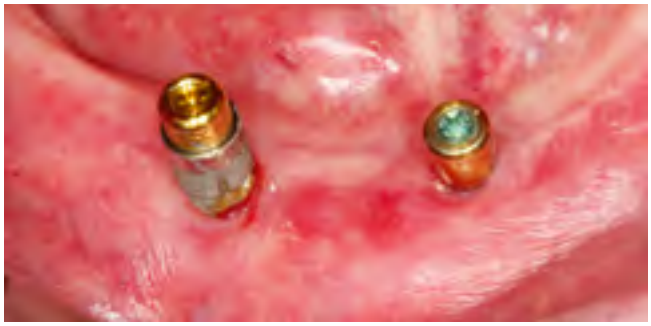
1g I Postoperative control radiograph.



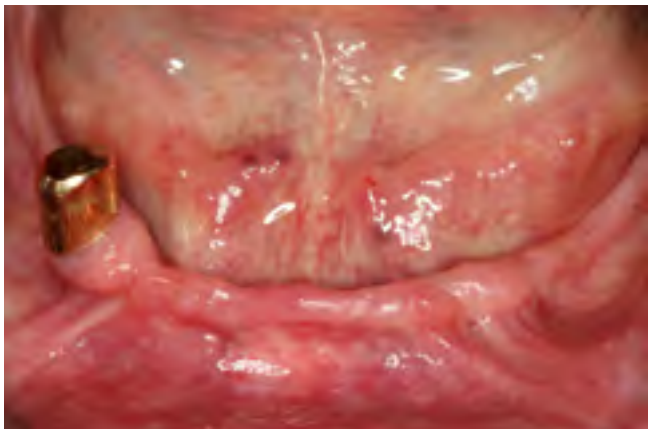
2a I Severe osteolysis at three of four implants after 21 years in function in a 93-year-old patient.



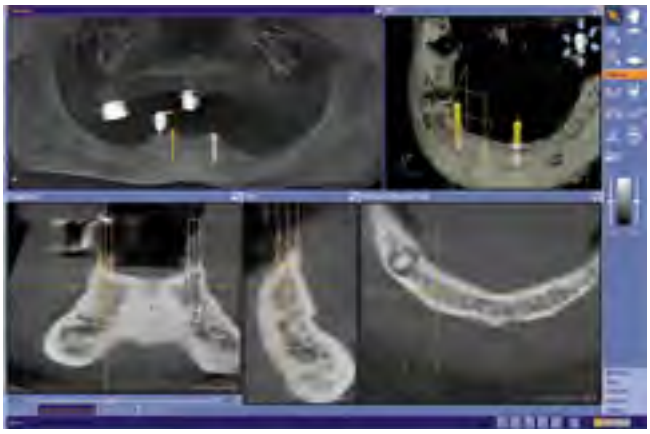
2b I Checking the explantation defects and the reduced-diameter implant nine months after explantation of three non-salvageable implants.



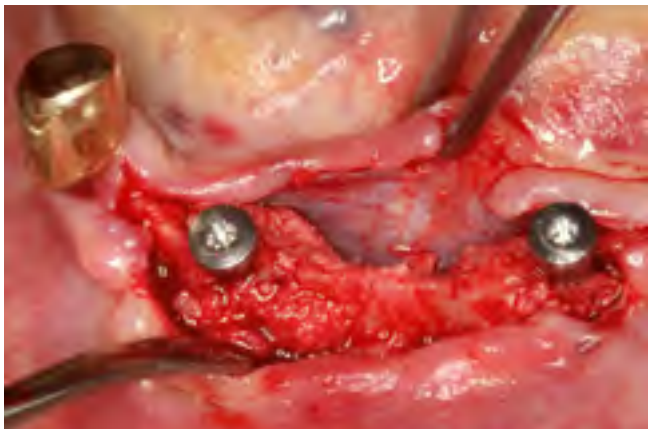
2c I The implants with Locator attachments nine months after modifying the existing dentures.



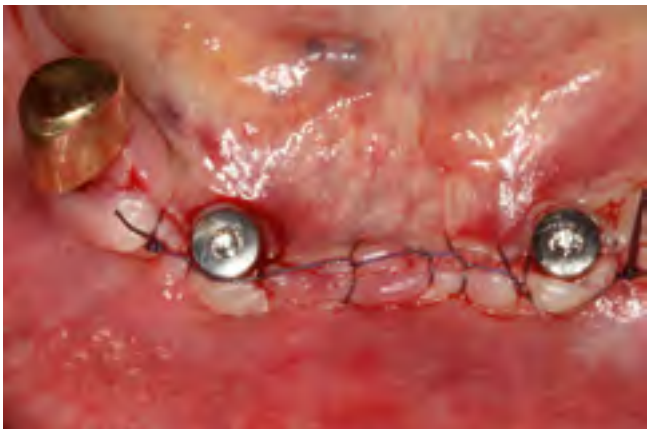
3a I Atrophic ridge with precarious tooth 45 in an 82-year-old patient.



3b I CBCT for implant planning in the anterior mandible. The CBCT also helps evaluate whether flap elevation will be necessary as part of the implantological procedure.



3c I Inserting two two-part mini-implants (mini²SKY; bredent medical) after reducing the more pointed aspect of the atrophic alveolar ridge.



3d I Tight wound closure with a continuous suture after low-invasive flap reflection.

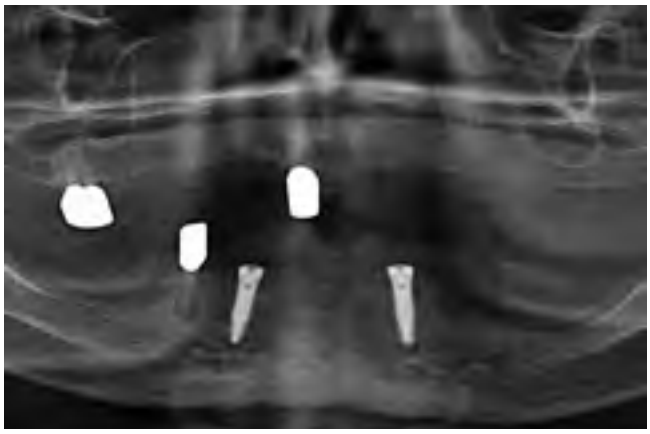
Medical risk factors

Elderly patients often lack sufficient bone support for implant-supported dentures; in addition, the systemic multimorbidity that is often present in this age cohort must be taken into account [5], primarily due to metabolic diseases such as diabetes, hypercholesterolemia or osteoporosis. In addition, an increasing number of patients will be on immunosuppression therapy because of a rheumatoid disorder. This can lead to impaired wound healing and a lack of implant osseointegration.

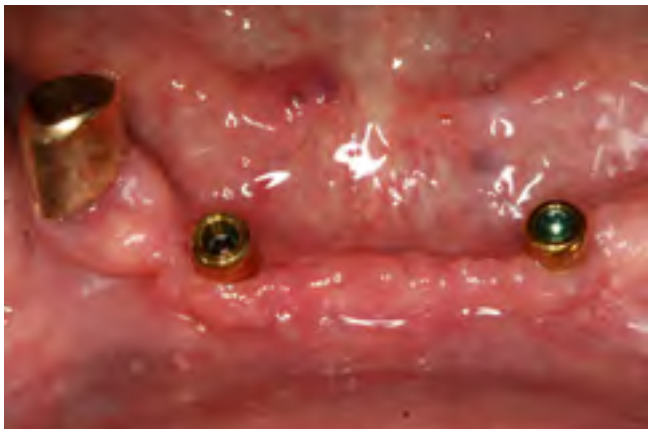
Furthermore, the medical history of patients with cardiovascular disease needs to be extra carefully surveyed. The complex medication regime of these patients almost completely compensates for their disease – subjectively. The stress inherent in any dental treatment, even if minimally invasive, may lead to rapid and serious exacerbation of the underlying disease and result in life-threatening conditions.

In assessing the postoperative risk, a possible anticoagulant therapy must also be considered because it restricts the surgical options. Given the elective indication of implant surgery, modifying vital anticoagulant therapy – such as after a stent or bypass operation – will have to be weighed very carefully. In particular, double or even triple medication as part of an anticoagulation regime may sometimes go unrecognized, as it is combined with acetylsalicylic acid, and the dentist does not suspect that another drug is being taken. Extensive surgical measures such as bone augmentation are therefore contraindicated in these patients.

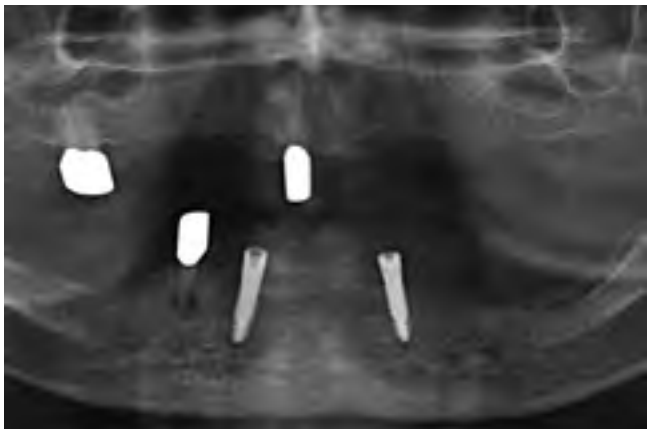
If implant therapy is planned, the scope of the surgery should be as narrow as possible and include only strictly necessary measures. In addition, only slight mobilization of a mucoperiosteal flap should be performed to ensure that postoperative stress and the risk of bleeding are minimized (Figs. 3a to j). The use of three-dimensional radio diagnostics can eliminate the need for extensive surgery, especially in combination with reduced-diameter or ultra-short implants [13].



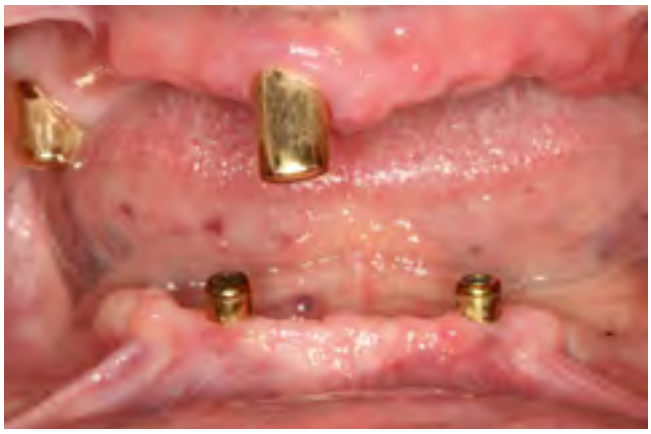
3e I Postoperative panoramic radiograph to control the implant positions.



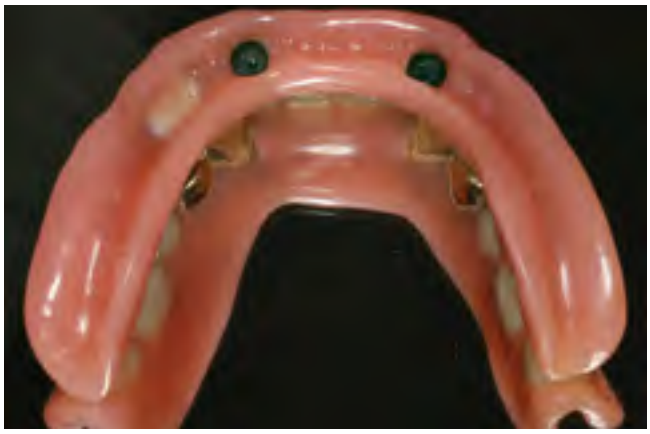
3f I Situation after insertion of the Locator elements, each held in place by a retaining screw.



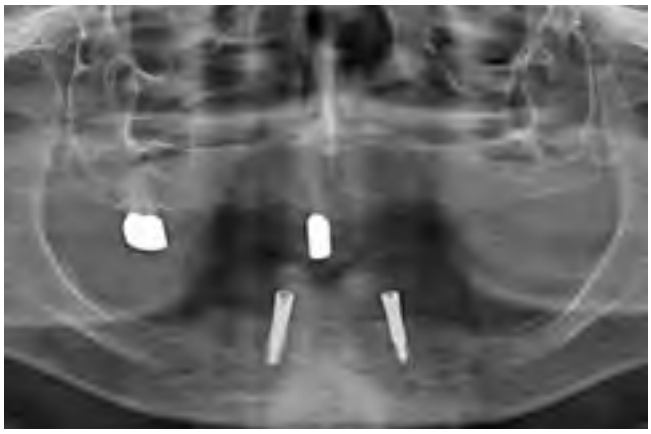
3g I Bone-level check at the outset of definitive prosthetic loading, before the extraction of tooth 45.



3h I Situation 20 months after implant insertion and extraction of tooth 45.



3i I Modified prosthesis with retentive components incorporated in the cast-metal denture framework.



3j I Radiographic control 20 months after implant placement. The bone level is stable.

Laboratory aspects

When restoring the function of removable dentures, existing partial dentures with a cast metal framework generally offer little space for the insertion of retentive components. Here, the usually delicate abutments for reduced-diameter implants offer a clear advantage, as they can generally be incorporated into an existing denture without any major problems. This makes it possible to prepare

an existing denture for continued use following implant surgery and inclusion of an additional retention element; it also increases treatment acceptance in that the patient does not have to get used to a new denture. Nevertheless, the patient should be advised that the fabrication of a new denture may still become necessary. For example, if the history of the dental prosthesis is not known, damage may occur to insufficiently stable frameworks during an extension or revision that makes any further use of the prosthesis impossible.

Especially if the extraction of a tooth was delayed, the patient's denture may long have been supported by mobile and unstable elements. This means that after restoring function by an implant, a previously collapsed bite is no longer accepted, and problems in masticatory function may ensue. If adaptation of the existing denture was the only option recommended in the treatment plan, this may become an issue: The patient will expect the adapted denture (even in the presence of clear signs of wear) to be fully functional – even though a replacement of the denture teeth is in fact also required.

When extending or remaking a denture – especially one with a minimal number of implant-supported retention elements – the patient should be informed that the retentive function cannot be ensured to the same extent as with a greater number of abutments. The problem that arises is that a purely tooth-supported denture – unlike a combined tissue/implant-supported denture – does not exhibit micromovements. The patient must understand that the expected functional improvements made possible by implants will be dependent on their number [8]. This should be clarified with the patient in advance, and possibly also with his or her family or caregivers.

Minimally invasive treatment in elderly patients is characterized not only by a reduced surgical effort but also by fewer treatment sessions. In particular very old patients require assistance by a friend or relative when visiting the dentist; given general demographic developments, these, too, will often have reached retirement age, and their mobility may be limited. Therefore, the denture should be modified in as few treatment steps as possible, which requires the support and cooperation of the dental technician. Especially in the case of tissue-supported near-complete or partial dentures, additional retentive elements are best incorporated directly at chairside, since the individual resilience of the mucosa can be best taken into account in this way [3]. By direct intervention of a dental technician in the dental practice, this can be implemented easily and without short-term appointments.

Impact on oral health

Various studies have shown high success rates for mini-implants. Given the limited life expectancy of the patients, these may well improve their quality of life [2,9,11]. Since dentures on mini-implants require only a few retentive elements, extensive bone augmentation with its associated surgical risks will be unnecessary [6]. In addition to direct subjective improvements in terms of eating and speaking, studies have shown that increased activity of the masticatory muscles may improve the cerebral blood flow, which may slow the cognitive decline [4,12].

Ensuring proper oral hygiene is often a challenge in the elderly. Their reduced manual dexterity, cerebral degeneration, reduced visual acuity or motor impairment due to rheumatoid diseases may make it difficult for them to clean complex superstructures such as bar-retained bridges – not to mention fixed superstructures. Low retention elements placed on the mucosal level are beneficial for these patients, since they can be cleaned with little effort. This may reduce the risk of peri-implantitis, preventing inflammatory foci from forming in the oral cavity, which could adversely affect the patient's general health [1].

Conclusion

The application of reduced-diameter or short implants allows an existing removable denture to be easily extended and significantly improved functionally without subjecting patients to extensive surgical or prosthetic treatment procedures. The stabilisation of the removable restoration and the elimination of bacterial foci not only promotes oral health but can also have a positive impact on the prognosis of chronic diseases.

The list of references can be found on www.teamwork-media.de/literatur.

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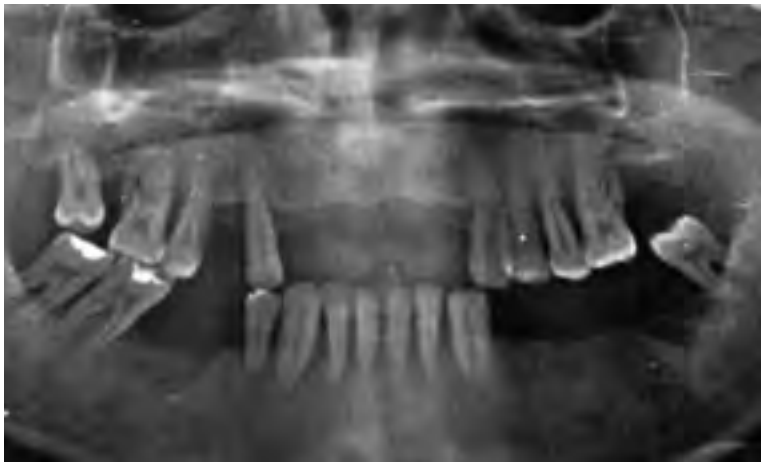
Planning for success with maxillary and mandibular overdentures

Creating synergy with conventional and small-diameter implants

BRIAN J. JACKSON, DDS, UTICA, NY, USA

The demand for implant-supported dentures is projected to increase in coming years, and it is important for clinicians to be aware of the variety of options for patients. In many cases, a patient's bone quality, quantity, and biomechanics, as well as financial means, may call for a blended approach that utilizes conventional-diameter implants (CDIs) and small-diameter implants (SDIs) or mini dental implants (MDIs). When the proper attention is paid to site preservation and careful implant placement, clinicians can achieve both functional and aesthetic success for patients.

Oral reconstruction supported by osseointegrated endosseous implants has improved the quality of life for thousands of patients. The demand for implant therapy in the maxillary and mandibular arch is projected to increase as the number of edentulous or partially edentulous patients rises in the future [1]. Research has demonstrated long-term success of an implant-retained overdenture prosthesis within the range of 85 to 99 per cent, depending on the specific arch involved [2]. Predictable outcomes have been demonstrated when bone quality, quantity, and biomechanics have served as the foundation of treatment planning [3,4].



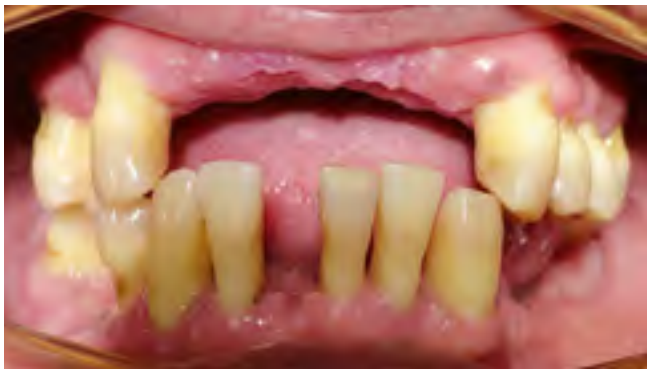
1 I Panoramic radiograph demonstrated severe bone loss.

Frequently, clinicians must develop treatment plans for teeth with a poor prognosis, and extraction with site preservation through socket grafting has become a routine procedure [5]. Site preservation allows for the development of adequate bone, enabling conventional implant placement while establishing bone density for initial fixation for SDIs [6].

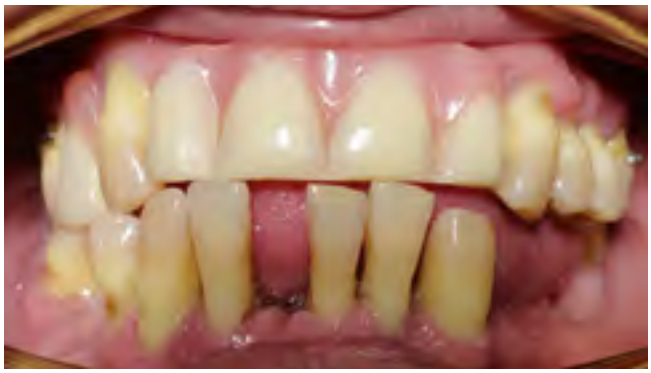
CDIs are considered when adequate bone and significant occlusal loads exist or bone-grafting procedures demonstrate a favorable long-term prognosis. However, SDIs are an alternative modality when patients present with diminished bone quality, quantity, and reduced biomechanical loads [7]. Utilizing a variety of implant designs and diameters based on the patient's existing anatomy, medical conditions and monetary constraints can provide a multitude of treatment options. In this case presentation, a thought-provoking treatment plan focusing on bone quality, quantity, age, and biomechanical loads served as the primary considerations in resolving the patient's chief complaint.

Case presentation

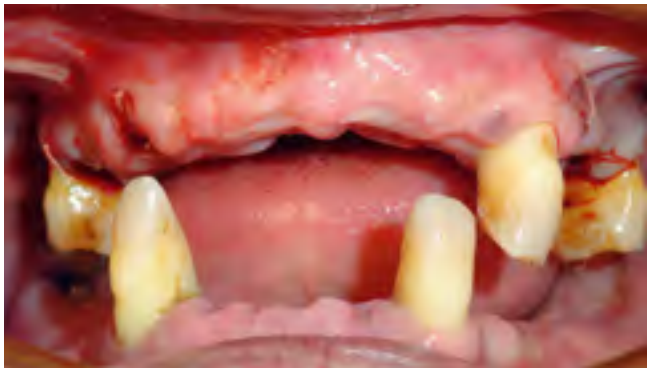
A 41-year-old man presented to the office stating that he did not want to wear partials anymore because they were not comfortable. The patient's medical history exhibited no significant findings except that he smoked one pack of cigarettes per day. A radiographic survey demonstrated severe



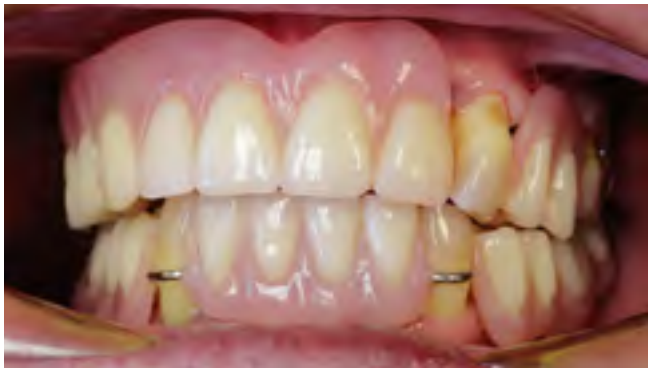
2 I The patient had 16 teeth remaining between the two arches.



3 I The patient's existing maxillary partial denture.



4 I Frontal view following extractions and grafting.



5 I Maxillary and mandibular removable partial dentures were placed.

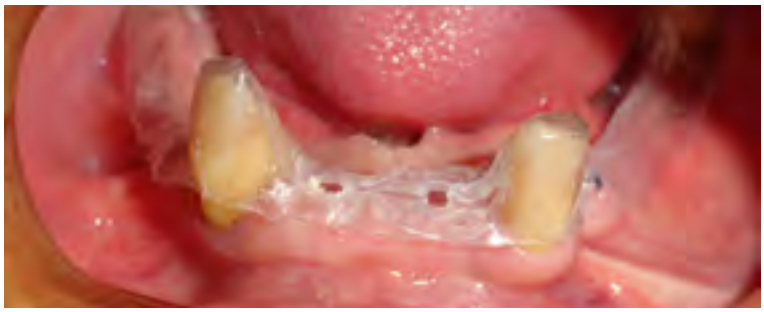
horizontal bone loss associated with his maxillary and mandibular teeth (Fig. 1). A diagnosis of severe periodontitis was established. The intraoral dental examination revealed a total of 16 remaining teeth in the maxillary and mandibular arches (Fig. 2). Class II and III periodontal mobility was exhibited by nine teeth. The patient was wearing a maxillary transitional removable partial denture (Fig. 3).

At consultation, various treatment plans were presented, including saving specific teeth or full-mouth extraction. In addition, the treatment plans included CDIs and SDIs to enhance support, stability, and retention in prosthetic reconstruction. The agreed-upon treatment plan was maxillary and mandibular overdentures. A screw-retained superstructure supported by four CDIs would retain the maxillary overdenture. The mandibular overdenture prosthesis would be retained by four SDIs. The treatment would be performed in a staged approach with extraction and grafting followed by implant placement. Consent, time frame for treatment completion, and provisionalization were reviewed.

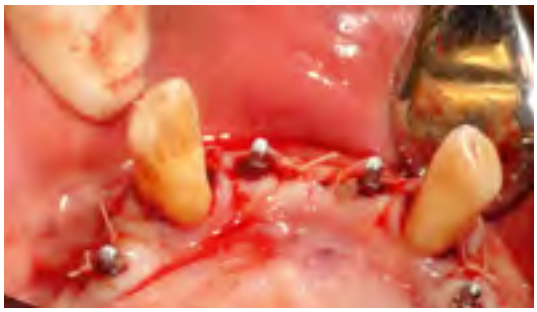
The pre-implant surgical stage consisted of extraction with site preservation. The mandible was anesthetized and teeth 23, 25, 26, 28, and 30 were removed. The sockets were debrided with a double-ended curette and grafted with a mineralized irradiated cancellous allograft (Puros, Zimmer Dental) and contained with a d-polytetrafluoroethylene (Cytoplast, Osteogenics Biomedical) barrier. The extractions of the maxillary arch consisted of teeth 1, 4, 6, 12, and 13, and the procedure and grafting materials employed in the maxilla mimicked the mandibular arch (Fig. 4). Maxillary and mandibular removable partial dentures (RPDs) were placed, occlusion adjusted, and polished (Fig. 5).

Surgical stage

The maxillary implant surgical procedure was initiated three months after the extractions and socket grafting. The patient was prepped, draped, and asked to rinse with a 0.12% chlorhexidine mouth rinse for 30 seconds. The blood separation process to develop platelet-rich plasma was initiated. The patient was anesthetized, and a midcrestal incision with a 15c blade was made and a full mucoperiosteal flap reflected with a periosteal elevator. A surgical guide was placed and four osteotomy "dimples" were made with a surgical long shank no. 4 round bur. The implant surgical protocol drill sequence was 1.3, 2.0, 2.5, and 3.1 mm to a depth of 12 mm for the future 3.8-mm diameter implants. The 4.8-mm diameter implant required two



6 I The surgical template in place.

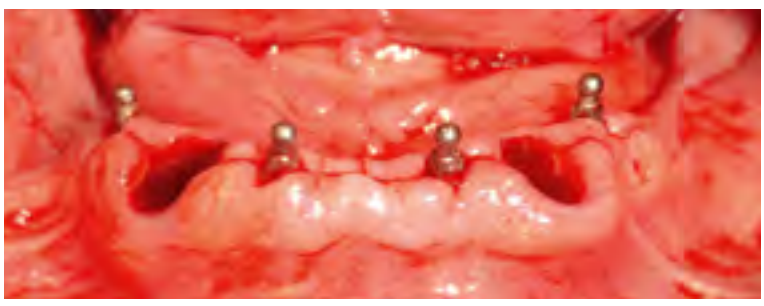


7 I The mini dental implants in their final position.

additional drills, 3.8 and 4.1 mm, to complete the osteotomy. Three 3.8-mm x 12-mm RBC Tapered Laser-Lok (BioHorizons) implants were placed at the crest using a fixture mount and a 2.5-mm hex driver. The cover screw was secured to the fixture via a 1.25-mm hex tool. The mucoperiosteal flap was closed using 4.0 vicryl sutures in a horizontal mattress manner.

The mandibular implant surgery was initiated three months after the maxillary implants were placed. The preparation and anesthesia of the patient were similar to the maxillary implant surgery. A full mucoperiosteal flap was established with a 15c blade penetrating midcrestally and reflected with a periosteal elevator. A surgical template was placed to aid in the mesial-distal location of the future implant sites (Fig. 6). The partial osteotomies were prepared with a 1.1-mm drill to a depth of 6 mm. The four 2-mm x 13-mm o-ball collared MDIs (MDI Mini Dental Implants, 3M Oral Care) were auto-advanced with a finger driver, thumb wrench, and ratchet to final position (Fig. 7). The transitional RPD was relieved where the transgingival aspect of the o-ball was located and the occlusion was adjusted.

Second stage surgery for the maxillary arch consisted of the exposure of the conventional implants and extraction of all remaining teeth. This procedure was initiated six months post implant placement. Three 3.8-mm x 5-mm and one 4.8-mm x 5-mm titanium healing collars were placed during the surgical uncovering procedure. In addition, teeth 3, 11, 14, 19, 22, 27, and 30 were extracted (Fig. 8). The transitional RPDs were modified to incorporate additional prosthetic teeth and relined with a soft temporary material. The soft tissues healed for six weeks prior to prosthetic reconstruction.

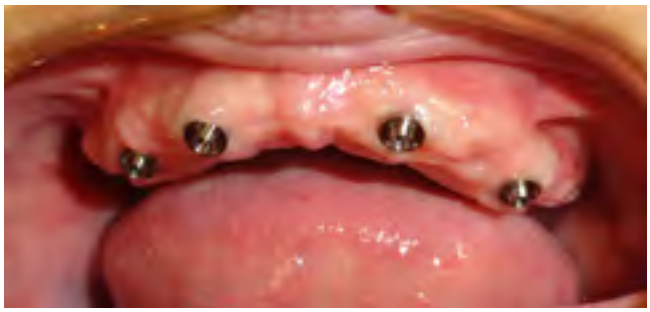


8 I Additional extractions were performed six months after implant placement.

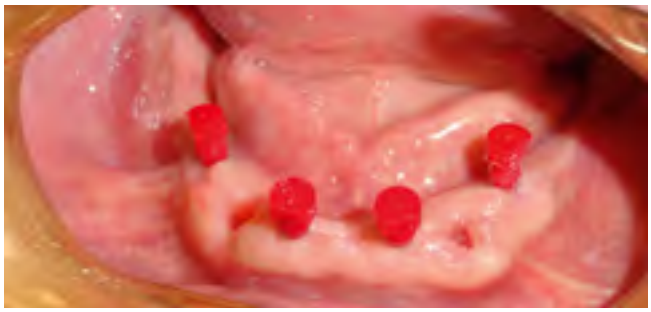
Prosthetic reconstruction

The prosthetic reconstruction stage was unique to the specific type of implant design utilized in the treatment plan. The primary objective of the impression stage was to capture the position and angulation of the implants. The maxillary arch employed an open-tray impression technique to capture an abutment level impression (Imprint 3 VPS Impression Material, 3M Oral Care) (Fig. 9). The mandibular MDIs were impressed after placing "red" transfers onto the o-ball aspect of the implant (Fig. 10). A polyvinylsiloxane impression material (Imprint 3) was utilized within a border molded custom tray for both arches.

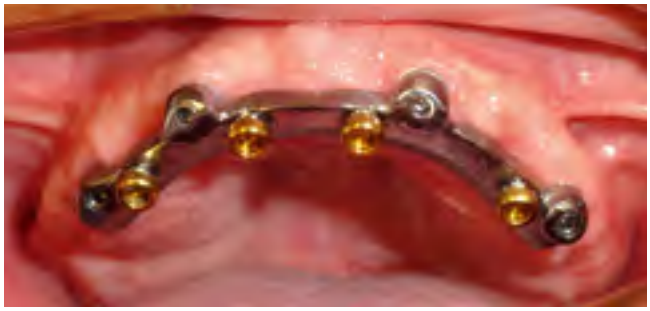
The intraoral impressions were sent to a commercial laboratory where a final working model was established. The maxillary superstructure with locator attachments was designed and manufactured with CAD/CAM technology (Fig. 11). The mandibular unibase with o-ring housings was made using standard dental laboratory procedures (Fig. 12). The passivity of the maxillary superstructure was confirmed intraorally using the Sheffield test and a panoramic radiograph. A maxillary/mandibular relationship utilizing baseplates and wax rims, as well as a mold and shade, were taken (Fig. 13). A try-in of the final prosthesis was used to confirm vertical dimension of occlusion, phonetics, aesthetics, and patient acceptance. The final superstructure was fixated to the implants with retaining screws, torqued to 30 Ncm and locator inserts placed with a cumulative retention value of 7.5 lbs (2 pink and 1 blue). The final maxillary and mandibular overdentures were placed one week thereafter (Figs. 14 and 15).



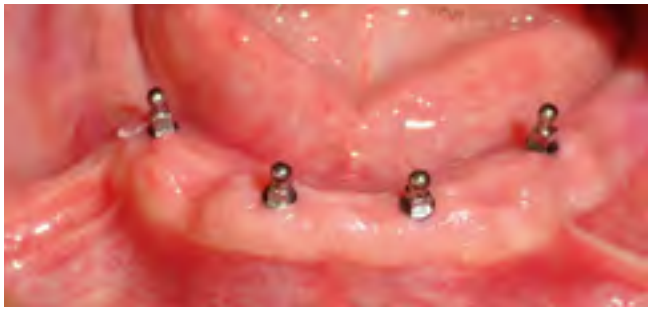
9 I The maxillary arch prior to impression taking.



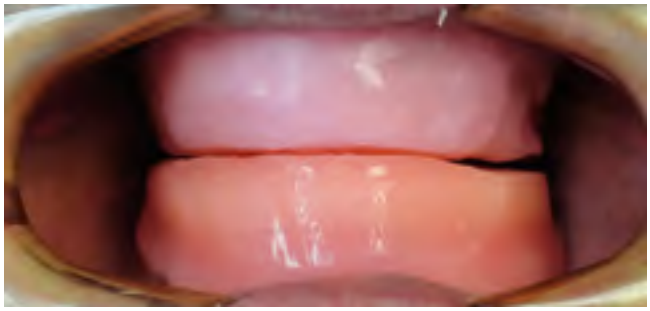
10 I Red transfers were placed onto the o-ball aspect of the mini dental implants before impressions were made.



11 I The completed maxillary superstructure with locator attachments.

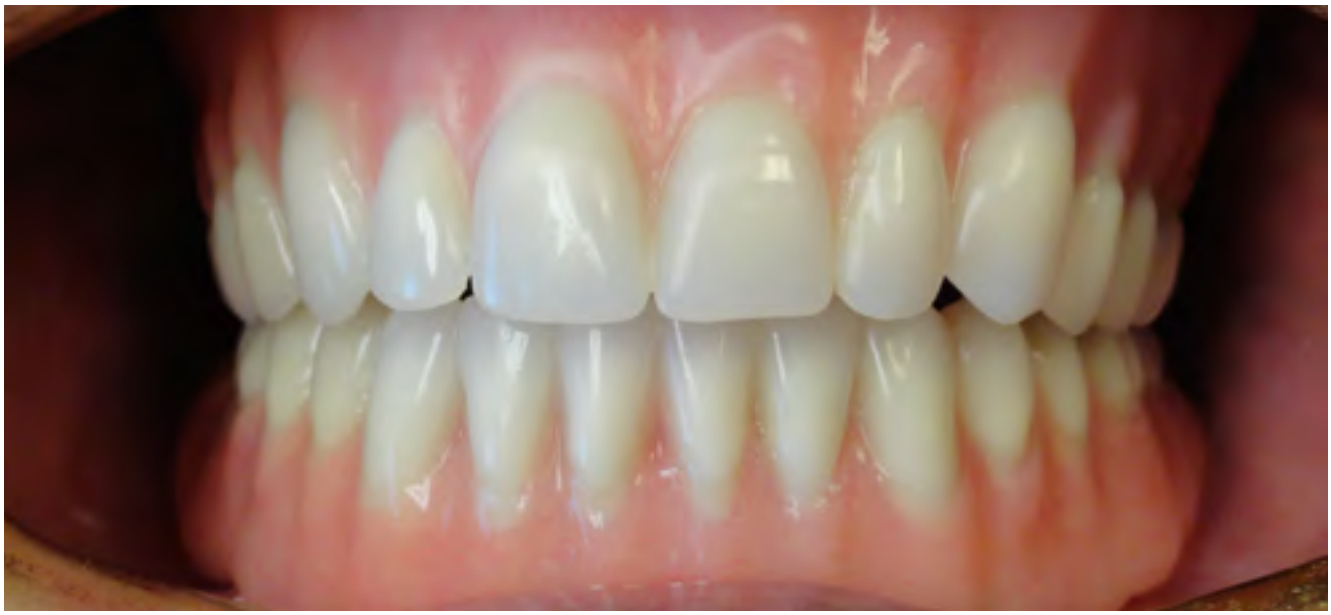


12 I A mandibular unibase was made with o-ring housings to snap over the small-diameter implants.



13 I A maxillary/mandibular relationship was taken utilizing baseplates and wax rims.

14 I X-ray showing final position of implants.



15 I The final prosthesis.

Discussion

Creating synergy with CDIs and SDIs can provide a multitude of treatment alternatives for oral rehabilitation. The size of the implants used depends on various factors of the quality and quantity of bone, as well as biomechanical stress. Site preservation has become a predictable method to optimize bone dimensions and density for future implant sites [8,9].

Conventional implants (3.4 to 6.0 mm) are the primary type of endosseous implants used for long-term predictability in implant-retained or supported therapy [10]. They can be utilized when the facial-buccal or facial-lingual dimension exhibits a minimal bone of 6 to 8 mm. Conventional size implants remain the primary option for patients who have adequate bone or who accept bone grafting procedures, and who also have financial means.

SDIs (1.8 to 2.9 mm) are an alternative to CDIs when specific criteria are met [11]. The major reason for utilizing SDIs is minimal width of bone or space between adjacent teeth in a mesio-distal dimension. In addition, SDIs are indicated for patients who are not candidates for invasive bone grafting procedures due to medical reasons, limited finances, or time. SDIs demonstrate high success in the mandibular arch when retaining removable overdentures [12].

The maxilla has demonstrated lower success rates than the mandible in regards to implant therapy. Protocols have been established to enhance success rates as they relate to the mandible [13]. These protocols have centered around minimizing stress to the crestal bone, where bone loss is often seen. A critical consideration is utilization of implants with a diameter size greater than 3 mm, which reduces stress at the crest of the alveolar bone due to increased surface area. In addition, increasing the number of implants from four to six demonstrates higher success rates via an increase in cumulative surface area. Implant lengths of 12 mm or greater have exhibited two to three times greater success versus 10-mm lengths. Superstructure design without a cantilever component has demonstrated higher overdenture retention with less resultant crestal bone loss. The elimination of cantilevers in the maxillary superstructure bar reduces stress on the distal terminal implants.

Research has demonstrated positive long-term outcomes with the utilization of SDIs in the mandible [14]. Rigid fixation of the implant body at the time of placement is crucial for the osseointegrative process to ensue [15]. Secondarily, the auto-advanced technique coupled with a partial osteotomy enhances bicortical stabilization [16]. Flapless surgery and immediate load are considerations when utilizing a one-piece SDI [17]. However, a full mucoperiosteal flap with a three-month osseointegrative time period was utilized in this case.

In the case report, the decision to utilize conventional implants in the maxilla was based on diminished bone quality and significant biomechanical load. Research has exhibited guarded success rates with maxillary overdentures [18]. SDIs were employed in the mandible because excellent success rates have been demonstrated in similar cases [19]. The patient made a treatment decision based on personal finances, as well as an understanding of bone density and biomechanics and how they relate to long-term outcomes.

Conclusion

Oral implantology has become a major discipline in the field of dentistry. Clinicians must evaluate the patient's existing condition and develop thought-provoking treatment plans based on a variety of factors. The utilization of CDIs and SDIs should be considered in regards to bone, biomechanics, age, and finances. A synergy of different implant modalities can provide alternative approaches to resolve patient concerns in a predictable, less invasive, and more economical way.

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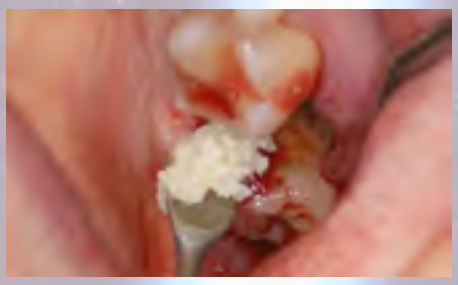
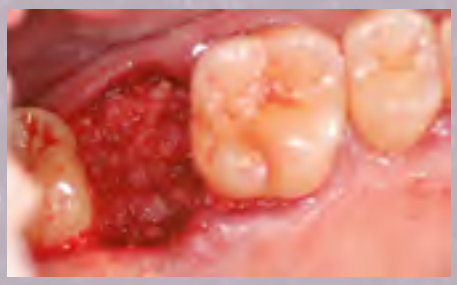
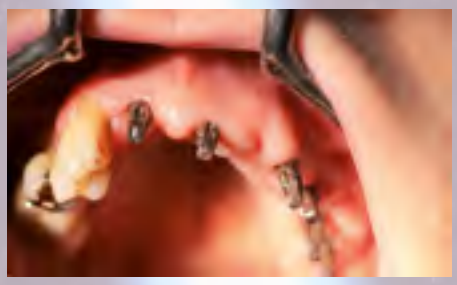


Placing the produced graft



Placed graft



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A guide to ensuring stability and ideal positioning

Maximizing aesthetics and function with immediate implant placement

JASON KIM, DDS, FLUSHING, NY, USA

The concept of immediate implant placement has taken on a new role in the treatment planning of dental implants. With this approach, it is no longer a prerequisite to let an extraction site heal for four to six months before placing a dental implant. Provided that certain criteria are met, implants can now be placed at the time of extraction.

Original protocol was such that in order for dental implants to be successful, they had to be submerged for a period of time to achieve osseointegration [1]. There is now evidence to support the fact that implants can be placed at the time of extraction and both achieve osseointegration and maximize aesthetics and function [2,3]. There are benefits to being able to simultaneously extract a tooth and place an implant. There are fewer surgeries involved, it takes less time to complete the case, and hard and soft tissues can be preserved. Along with the benefits also come some risk factors. Some of these may include but are not limited to: implant failure, infection, bone resorption, and soft tissue recession [4].

In cases of immediate implant placement, it is imperative to have a prosthetically driven treatment plan. The final restoration must be determined prior to having any type of surgical treatment. If a prosthetically driven approach is taken, the type of restoration will dictate the treatment flow for the case. Implant position will determine whether a screw- or cement-retained restoration can be fabricated.

A screw-retained restoration has its advantages in that there is always retrievability. The other advantage is not having complications related to over-retained cement in the gingival sulcus. For a screw-retained restoration, the implant placement must be in a lingually inclined position. That position must allow the screw access hole to emerge from the cingulum of the tooth to be restored. The slightest change in angulation negates the ability to have a screw-retained restoration but can still be restored as a cement-retained restoration [5]. Depending on clinician preference, the ability to have a screw- or cement-retained restoration is dependent upon appropriate implant placement.

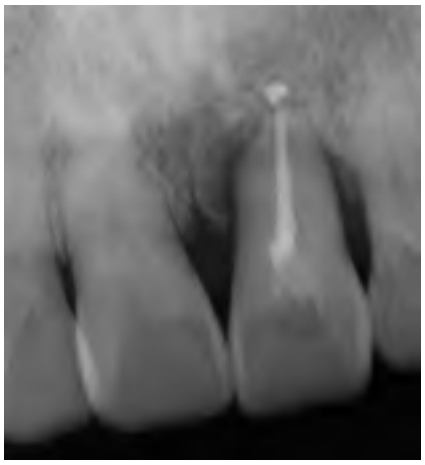
Primary stability

Patients today are not only asking to complete their cases faster, but implant companies are claiming to reduce treatment times with newer implant technologies and improved surgical techniques.

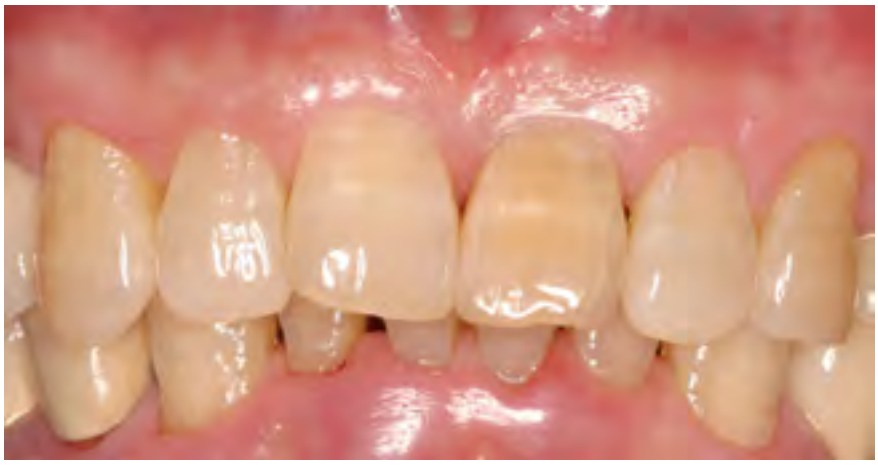
Immediate implant placement can be implemented provided that specific parameters are met. When planning for immediate implant placement, the first criterion that must be met is primary stability. To achieve primary stability, the implant must extend beyond the apex of the socket by 4 mm. Anything less than this may compromise the initial stability. The implant must engage bone beyond the apex because the extraction socket dimensions are going to be much larger than the size of the implant being placed. In cases involving the anterior aesthetic zone, one must be wary of the tissue remodeling that will occur following tooth extraction. The result is more buccal bone resorption than the lingual wall [6].

Extraction

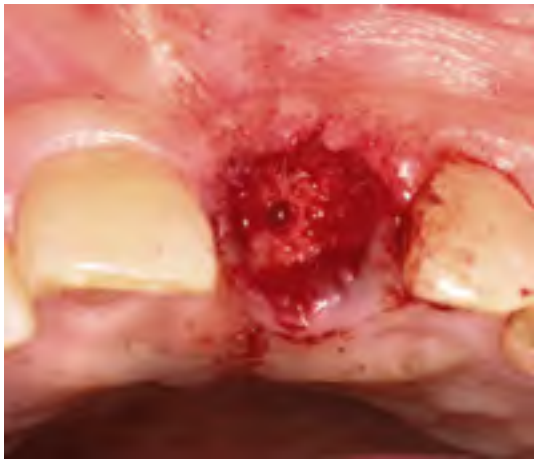
There are specific guidelines that must be met for one to be able to extract a tooth and place an implant at the same time. Figure 1 and 2 show a preoperative radiograph and photograph of a failing tooth that is periodontally involved.



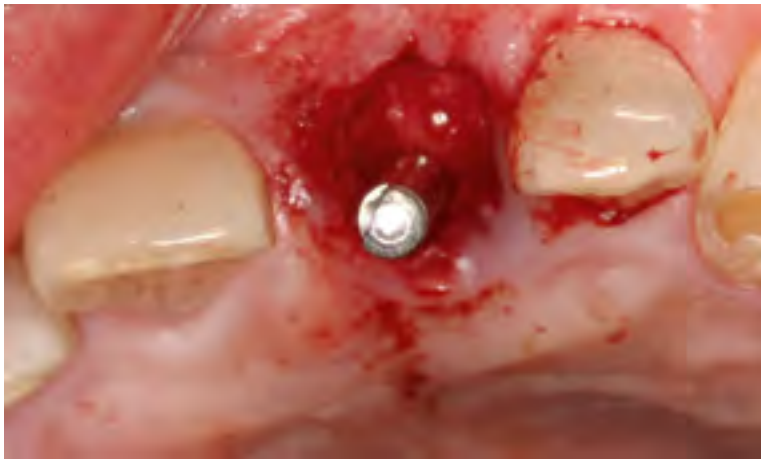
1 I Preoperative radiograph of a failing tooth that is periodontally involved.



2 I Preoperative photograph showing thick soft tissue biotype.



3 I Initial osteotomy point engaging the palatal.



4 I Implant placed inside the incisal line angle of the adjacent teeth.

When placing an implant at the time of extraction, care must be taken to remove the tooth as atraumatically as possible. The main purpose of this is to preserve as much bone as possible, especially the buccal plate. Any fracture of the buccal plate, especially at the crest where it is thinnest, can compromise the intended result with implant placement. This can be done utilizing periotomes, elevators, and piezosurgery technology, among others. The socket is then debrided to eliminate any infection, soft tissue, and granulation tissue.

Planning should have already involved evaluating whether a thick or thin soft tissue biotype is present. A thick biotype will promote long-term stability as well as allow for flapless extraction and implant placement. Thin biotypes are more prone to recession following healing, which allows the implant to show through, compromising aesthetics.

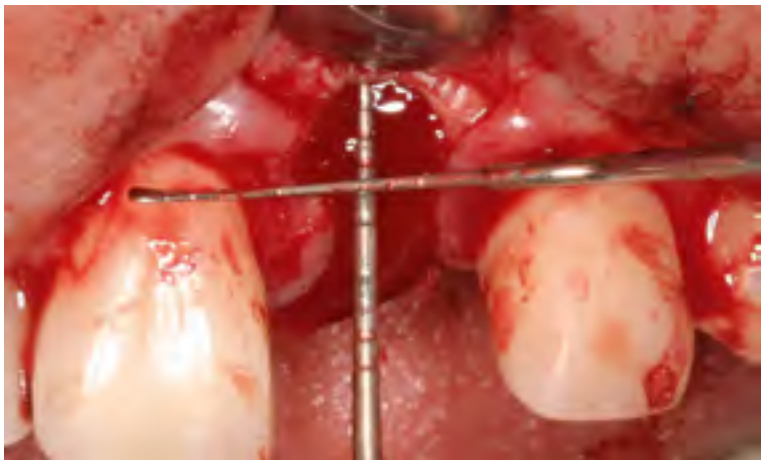
3D implant positioning

Step 1

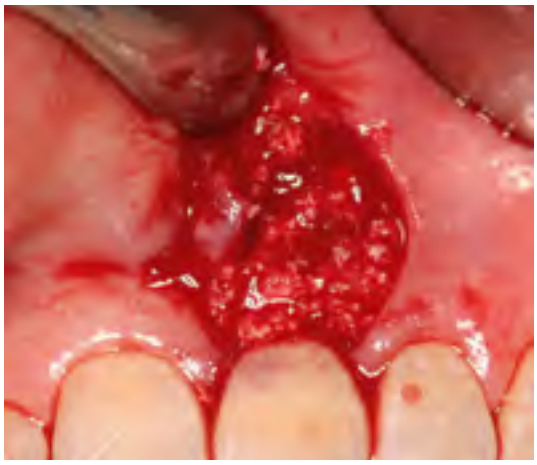
The next phase is to begin the osteotomy preparation. In the anterior aesthetic zone, it is important to engage the palatal wall of the socket. This must be initiated approximately two thirds of the way down the socket [7]. Figure 3 shows the direction of the osteotomy in relation to the palatal wall. This will ensure that the implant does not perforate the thin buccal wall and engages the denser bone of the palatal wall. In posterior regions, it is best to stay slightly more lingual and to go beyond the apex of the socket to ensure adequate initial primary stability.

Step 2

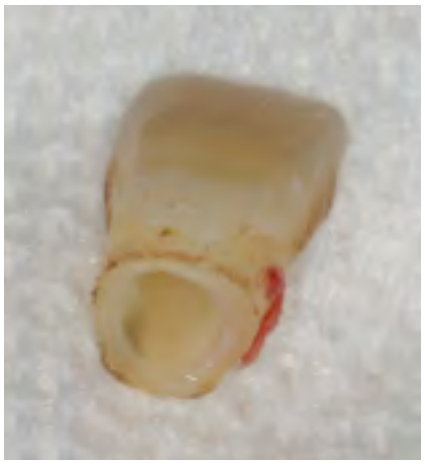
The implant should be placed inside the incisal line angle of the adjacent teeth. This will ensure adequate facial bone thickness for long-term stability and keep the implant from protruding too far facially (Fig. 4).



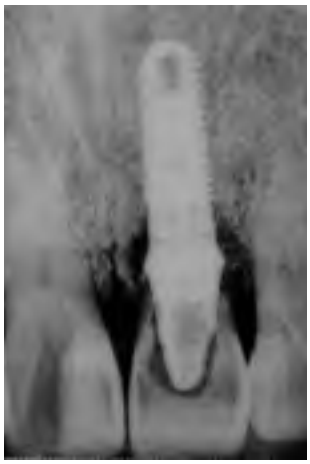
5 I Depth of implant placement should be 3 to 4 mm below the cemento-enamel junction of the adjacent teeth or the free gingival margin.



6 I If the gap between the implant and buccal plate is greater than 2 mm, bone grafting is recommended.



7 I Patient's natural tooth prepared for temporary placement.



8 I Radiograph of immediate implant placement with immediate temporization.

Step 3

Maintain a space of at least 1.5 mm from adjacent tooth to the implant. Depth of implant placement should be 3 to 4 mm below the cemento-enamel junction of the adjacent teeth or the free gingival margin. Maintaining this depth will give enough "running room" to create the proper emergence profile (Fig. 5) [8].

The size of the implant should be determined by the amount of space between the adjacent teeth and available bone around the implant. Traditional protocol called for the widest diameter implant to be placed into the socket so as to obliterate the socket. It is now understood that a minimum of 1.5 mm of space between the implant and the adjacent must be maintained with at least 1 mm of bone circumferentially around the implant.

Step 4

Maintain at least 2 mm of facial bone thickness for long-term aesthetic stability [9]. Having a narrower diameter implant placed at the time of extraction will leave a gap between the implant and buccal plate.

This gap, if less than 2 mm, does not require any bone grafting. If the gap distance is greater than 2 mm, grafting is recommended [10]. As a result of the thin buccal plate remaining after extraction, grafting the void as well as the facial bone is carried out regardless of the space between the implant and bone. This means having to raise a flap to graft the facial plate to ensure a minimum of 2 mm of facial bone thickness (Fig. 6).

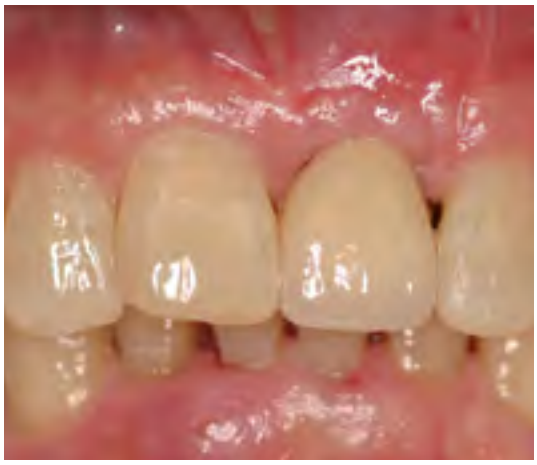
Temporization

To maximize aesthetics, the patient's natural tooth can be used as a provisional. If the root is cut off and the tooth hollowed out, it can be relined over the temporary abutment (Fig. 7). A temporary abutment supported the cemented natural provisional during healing (Fig. 8). Maximum soft tissue support maturation is achieved after four months. The natural provisional allows for proper emergence development.

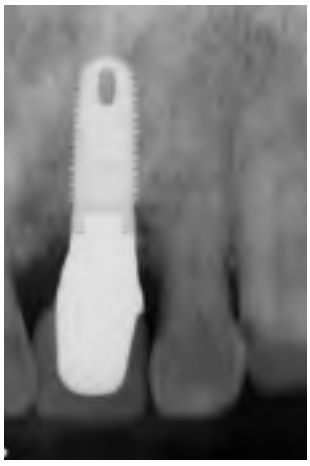
A radiograph and photograph after final crown insertion (Figs. 9 and 10) verified the preservation of bone and soft tissue support. According to *Tarnow* and colleagues, papilla formation will occur if the distance from the contact point to the interproximal crest of bone is 5 mm or less [11].

Conclusion

Immediate implant placement can be a predictable procedure provided that certain guidelines are followed. This treatment option, along with provisionalization, will enhance and preserve osseous and



9 I Photograph ...



10 I
... and radiograph after final crown insertion verifying preservation of bone and soft tissue support.

gingival architecture for long-term stability. Though this procedure can be technique sensitive, it goes without saying that proper treatment planning and case selection will allow for optimal results that will give maximum function and aesthetics.

The list of references can be found on www.teamwork-media.de/literatur.

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Good soft-tissue seal and a passive fit in immediate loading

The use of a Unit abutment for a screw-retained crown restoration of a single implant

DR EDUARDO ANITUA*, VITORIA, SPAIN

Achieving a good soft-tissue seal and a passive fit during immediate loading of a single dental implant could be a major challenge. The following product study illustrates in detail how the Unit abutment can facilitate the achievement of these goals in a single-tooth implant restoration.

*Private practice for oral implantology and oral rehabilitation; Director of the BTI Biotechnology Institute.

Previously, in case of single-tooth implant restorations, definitive abutments were placed to support temporary crowns, most oftenly cemented, in order to achieve a good fit and a tight seal at the contact area between the implant and the abutment. At the same time, this created a seal between the gingival tissue and the abutment; however, this seal was often compromised during the impression for the final restoration. In addition, connecting custom CAD/CAM-milled or cast abutments to the implant required soft-tissue manipulation within 24 to 48 hours after implant placement, which would not make this treatment option the preferred one.

Various studies on cemented and screw-retained restorations have reported that screw-retained single crowns had higher complication rates than cemented ones [1–5]. Complications described for screw-retained crowns included screw loosening, ceramic fractures (chipping), metal fractures and screw fractures. For cemented single crowns, the complications were mainly decementation and loosened abutments [6].

The higher complication rate of screw-retained crowns is a possible indication of a poorer prognosis for this kind of prosthetic rehabilitations. The limitations may be traced to the direct connection between the crown and the implant. To achieve a good soft-tissue seal and a passive fit of a cast component on the implant can be a tremendous challenge that is not often mastered. A component that would combine the main advantage of screw retention, revisability of the treatment, with a passive fit would be ideal for the immediate loading of single-tooth implant restorations.

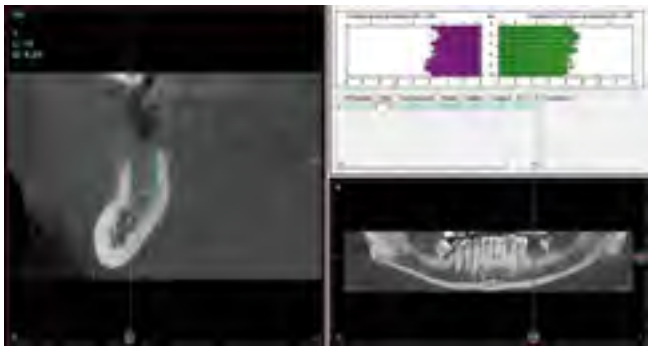
The antirotational Unit abutment is the said component that will ensure, from the beginning, a tight soft-tissue seal at the implant level and a passive fit of a screw-retained single-crown restoration. At the same time, the Unit abutment simplifies the fabrication process of a single crown for the immediate loading a single implant.

Materials and methods

The development of the new Unit abutment aimed to facilitate a revisable restoration with all the advantages of an individually CAD/CAM-milled or other non-cast component with regard to soft-tissue seal and fit.

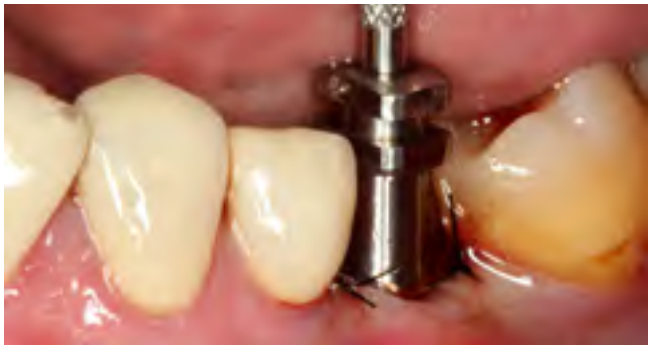
1 I Components of a Unit abutment.

2 I Baseline panoramic radiograph. The treatment of tooth 35 had evidently failed. Because of the minimal amount of remaining tooth structure, the tooth was not salvageable and had to be extracted. After healing of the extraction socket, an implant was inserted.



3 I CAD planning. The bone is dense enough for immediate loading.

4 I Radiograph of the inserted implant at site 35. The Unit abutment for digital impression scanning and for support of the immediate restoration is clearly visible. The abutment is tightened to 35 Ncm on the implant to ensure a hermetic soft-tissue seal.



5 I After suturing the soft tissue, a digital impression was taken of the abutment and the matching impression post to convey the soft-tissue contours to the laboratory.

The Unit abutment consists of two parts:

(a) A titanium sleeve with a Ti Golden coating. This coating provides greater surface hardness, meaning higher strength and better fatigue resistance. In addition, the coating is biocompatible and has antimicrobial properties. Its golden colour gives the gingiva a warm shade and an aesthetic appearance.

(b) A retention screw with Ti Black coating for greater hardness and preload, with a fatigue resistance comparable to gold.

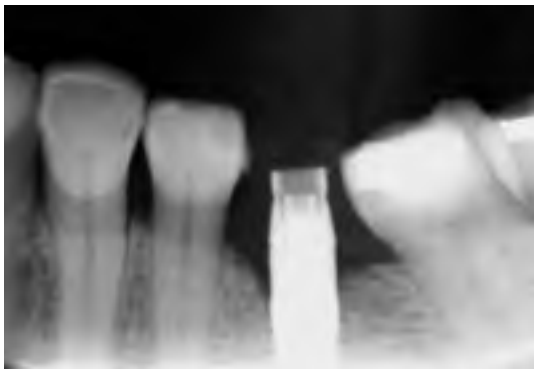
The abutment has a tetralobular connection to the implant and features, in its top portion, a rounded square shape (anti-rotation element) in which the components of the superstructure can be inserted (Fig. 1). It is available in multiple lengths (2, 3 and 4 mm) to adapt to different gingival tissue heights.

Major advantages of this abutment for immediately loaded single crowns include:

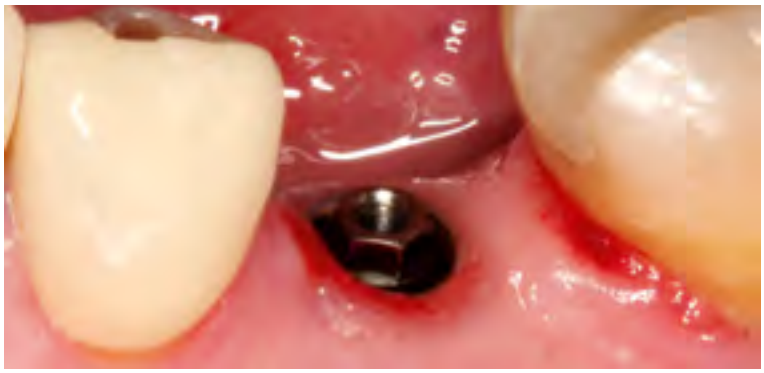
- Complete seal at the interface with the implant from the first moment of surgery. Being a prefabricated element, the abutment can be connected directly after implant placement. This results in a close seal from the very beginning, which is retained even after inserting the crown [7–9].
- Easier impression procedures. The abutment may remain in situ as the impression is taken, which greatly simplifies the impression technique. The location of the abutment margin at the gingival level eliminates the need for soft-tissue manipulation during immediate loading [10–11].
- Angle correction of up to 15° for more prosthetic flexibility.
- Suitable for CAD/CAM restorations or conventional aesthetic abutments.

Case report

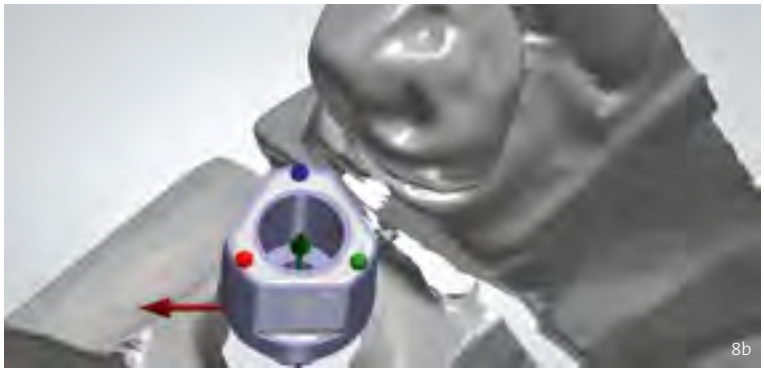
The illustrations above and on the following pages (Figs. 2 to 10) demonstrate in detail the use of the Unit abutment in immediate loading of a single implant.

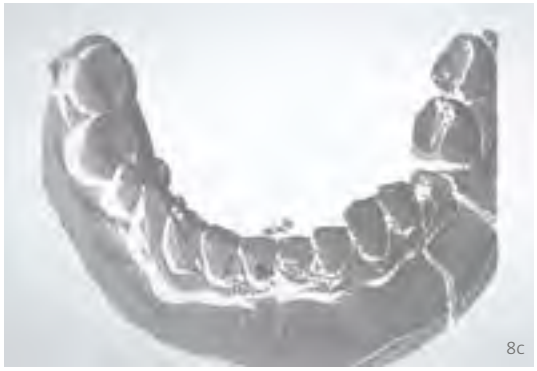


6 I The temporary crown was fabricated on the adapted screw-retained abutment and inserted after 24 hours. The radiograph shows the adjusted abutment on the implant.

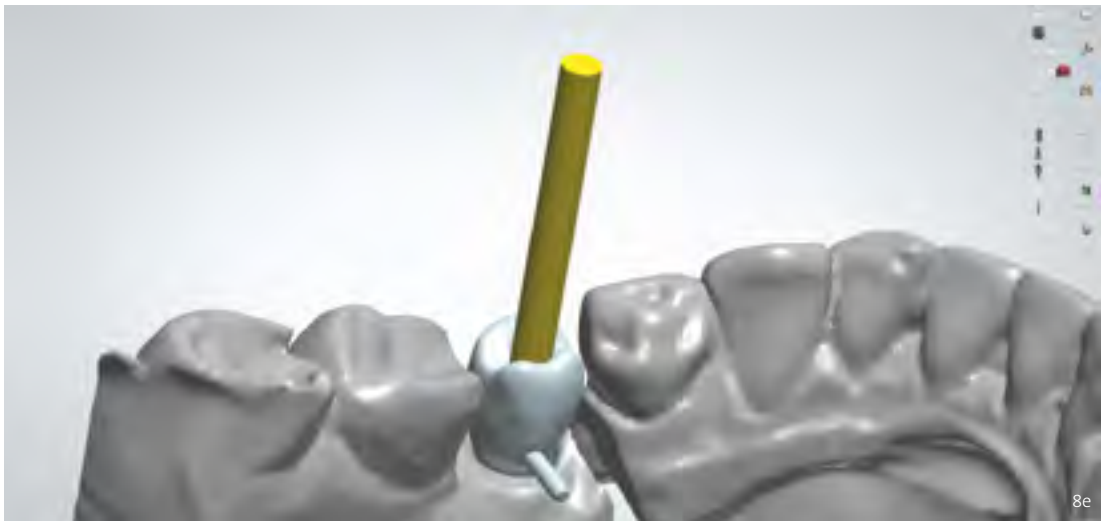


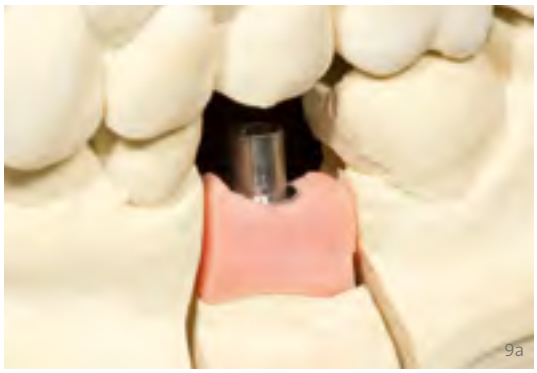
7 I Three months later, a digital impression of the abutment was taken for the definitive crown. The abutment did not have to be removed, preserving the hermetic seal that supported the favourable development of the soft tissue.





8a to e I The definitive crown was completely modelled by CAD. A screw-retained crown was fabricated and cemented onto a prefabricated post. This allowed the crown to be completed more quickly, and a continued tight seal was ensured.

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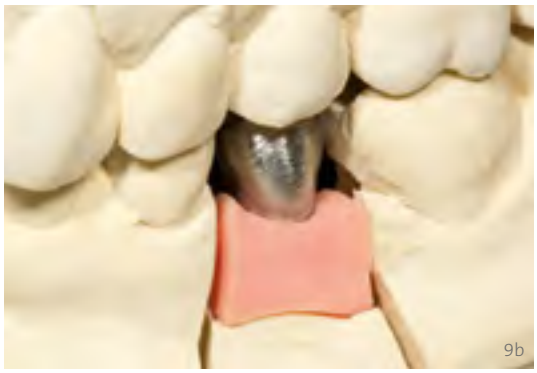
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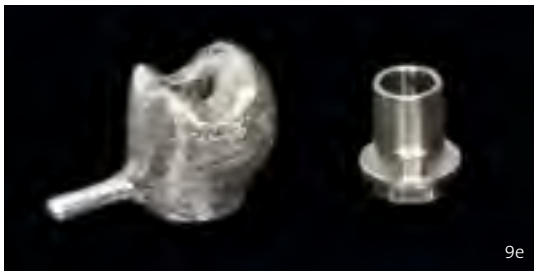
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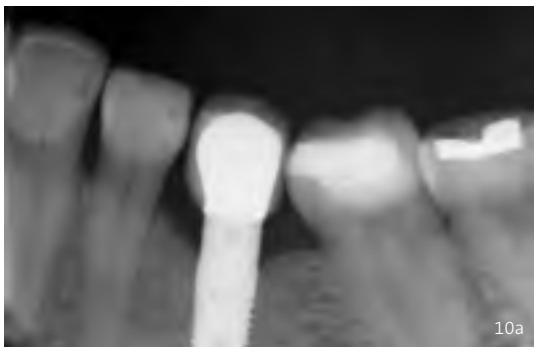
9a to f I The milled mesostructure (CAM) and the post on which the two parts are cemented. The various views show the two elements both individually and in combination.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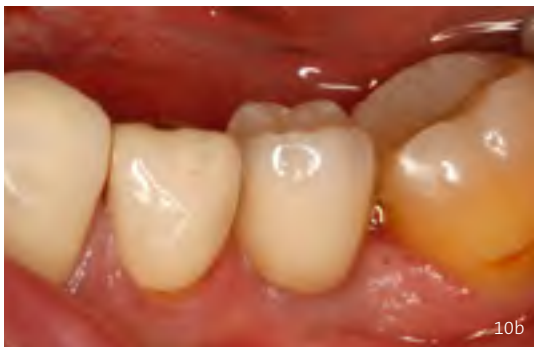
10b

10a and b I Clinical and radiographical status of the single-crown restoration with the Unit abutment one year after placement.

Conclusions

The Unit abutment combines the most important advantage of a screw-retained prosthetic restoration – namely its revisability – with the advantages of CAD/CAM-milled components such as passive fit and a good soft-tissue seal. This allows immediately loaded crowns to be realized quickly and efficiently.

The prosthetic versatility of the abutment also facilitates the use of screw-retained or cemented mesostructures. Overall, this product opens up many options for prosthetic rehabilitation for every clinical situation.

The list of references can be found on www.teamwork-media.de/literatur.

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Nobel Biocare Global Symposium 2016

The power of a global brand

It was the right backdrop for the Nobel Biocare brand – lively and constantly changing New York City with its historic Waldorf Astoria hotel, where memories of celebrities and events from a glorious past linger on into the present. Those who wanted once again to be part of the global circle of enthusiastic Nobel Biocare aficionados pronouncing "I'm a Nobel user" – not without pride and with a certain elitist self-confidence – had come to the right place as they met at the Nobel Biocare Global Symposium 2016 in June.

Before embarking on their journey, the more than 2,000 participants from all over the world had to select their personal favourites from the dense five-day programme with more than 150 expert presentations, 71 master classes and 59 workshops. To assist them in their "plight", Nobel Biocare had organized the event around three scientific themes: "Treatment enhancement and refinement – evidence counts", "Reaching excellence in aesthetics by joining the journey of digital dentistry" and "Achieving clinical excellence in challenging situations". Participants were able to define their very own congress journey, choosing from among professional presentations, hands-on training courses and expert discussion circles.

Melker Nilsson, Nobel Biocare Executive Vice President and head of Global Customers and Sales, said: "These 150 speakers are not just presenting here at the symposium, but they also form the cores of the thematic focus groups, which funnel insights into the needs of tomorrow's dental practices to us, where they are used in focused processes and ultimately turned into new product developments."

The most popular topic was, not surprisingly, that of digital technologies intended to improve efficiency, promote diagnostic accuracy, streamline treatment planning and introduce guided surgery. The integrated Nobel Biocare workflow is the unequivocal international leader. In a special exhibition area, visitors were able to witness vivid presentations on how efficiently yet reliably specific treatment steps can be accelerated, consolidated or even eliminated altogether. The often life-changing effect of an All-on-4 rehabilitation in a single day was demonstrated impressively: After their successful dental treatment, some of the featured patients changed not only their hairstyles, taste in glasses and fashion preferences, but also embarked on rather dramatic changes in their social and private lives.

Hans Geiselhöringer, President of Nobel Biocare and head of Dental Imaging, expressed: "Many of our products and solutions are so innovative and unique that they have already been patented or a patent is pending – all with the aim to give our users greater efficiency, accuracy and quality which in return enables them to shorten the 'time-to-teeth' for the benefit of their patients."

Left: Dr Isabella Rochietta and Dr José Navarro moderated the Next Generation forum.

Right: Dr Pascal Kunz discussed advanced digital workflow options for partially edentulous patients.

One of the newcomers in New York was the On1 concept, a unique modular implant base that stays in place throughout the healing process, the restorative workflow and the entire life of the restoration, offering a maximum prosthetic flexibility while ensuring the optimum in soft-tissue healing.

Other innovations included the NobelProcera FCZ crown (made of a highly translucent, fully contoured multilayer zirconia material), the new NobelDesign software, a new open-access option for NobelProcera, additional lengths and diameters for the NobelSpeedy implant as part of the All-on-4 treatment concept, a new multi-unit abutment "plus", and the enlargement of the zygomatic implant range by threadless fixtures (for placement inside or outside the maxillary sinus, depending on the anatomical situation).

Nobel Biocare is also adding the Creos Xenogain bone substitute to its portfolio of regenerative materials. It is available in multiple sizes and forms of application that are suitable for any indication and preference.

"Nobody had ever prepared me for the fact that I would have to run a business one day", said one workshop attendee as he focused on a very specific problem. "Patients today are more well-informed, more demanding – and more familiar with the now so ubiquitous digital technology and high-tech equipment that they expect no less of their dentist's office." Many presenters described not only their hardware and their surgical and prosthetic techniques, but also recounted how they shaped concepts for their own practices, achieved more patient acceptance, and improved patient compliance and motivation.

The main symposium was preceded by national event days, which helped fight many participants' jet lag by offering a tight all-day programme. Many also attended the Next Generation forum on Friday morning, populated by the promising experts of tomorrow, and the Innovation Assembly on Saturday, where the commitment of Nobel Biocare to basic research and broad scientific research topics was obvious. An impressive alternative option was a tour of the CAD/CAM production site in nearby Mahwah, New Jersey, highlighting the incredible precision, strict quality controls and immense speed attained in manufacturing milled bars and crown and bridge restorations, based on digital data or physical models.

"40 million patients in the Western world and 250 million patients in Asia currently suffer from edentulousness. Only a small number can be treated – integrated workflows are the way to treat more of these patients in less time, without having to compromise quality and stability", said *Geiselhöringer*.

For all those for whom their densely packed schedule of topics did not leave enough time to visit some of the most rewarding attractions of New York, Nobel Biocare had prepared a special treat for the festive reception: Spread out over three floors of the famous New York Public Library, erected in Beaux-Arts style and immortalized as the setting of many US blockbusters films, conference attendees and their friends from around the world were able to exchange ideas, network, and share the feeling of being someone very special. *STE*

More information

www.nobelbiocare.com

Curiosity was satisfied and information needs were met in the busy exhibition areas, which were structured by scientific themes.

6th International Camlog Congress

Solid as a rock

Nearly 1400 attendees from 33 countries and 72 speakers from twelve countries – these are the raw figures for Camlog's sixth, biggest and most international congress so far, held in Poland's charming secret capital Krakow. An illustrious cohort of speakers from all over the world, a pre-congress day replete with practical workshops and a separate innovative section dedicated entirely to digital dentistry, plus two tightly packed days of presentations with many original and interactive elements held in one of the oldest and still most vibrant cities of Eastern Europe, this congress bore witness once again to the cohesion and increasing global presence of Camlog.

Hypermodern architecture in a venerable city: the ICE in Cracow.

Congress presidents *Professor Piotr Majewski* (Poland) and *Professor Frank Schwarz* (Germany), as well as the president of the Camlog Foundation, *Professor Jürgen Becker* (Germany), formed part of the scientific committee. The motto of the congress was "Tackling everyday challenges" – and so the lectures addressed daily tasks and events in the implantology practice while never losing sight of the underlying science and evidence-based findings. The venue was the brand-new International Conference and Entertainment Center (ICE) in Krakow, architecturally fascinating and technically on the cutting edge.

A demanding programme

On Friday, led by *Professor Hendrik Terheyden* (Germany), speakers *Professor Piotr Majewski*, *Dr Paul Sipos* (Netherlands) and *Professor Stefan Wolfart* (Germany) presented the basic principles of treatment planning, implant surgery and prosthetics, which all now get obvious and conspicuously increasing support from digital-based planning tools and processes.

Dr Giano Ricci, past president of the European Academy of Esthetic Dentistry, initiated the second session dedicated to the management of the aesthetic zone. *Dr Michael Stimmelmayr* (Germany), *Dr Mario Beretta* (Italy) and *Professor Irena Sailer* (Switzerland) spoke about the right timing for implants, discussed indications and recommended techniques for soft-tissue augmentation, appropriate materials and methods for improving aesthetics.

Professor Fernando Guerra introduced three high-profile experts, *Professor Bilal Al-Nawas* and *Professor Robert Sader* (Germany) as well as *Professor Martin Freilich* (USA), who addressed challenges in the posterior zone, mainly in terms of choosing the right time for implant placement and bone augmentation.

Professor Jürgen Becker moderated the first session on Saturday with speakers on topics related to clinical research supported by the Camlog Foundation. *Dr Stefan Ulrici* (Germany) and *Dr Monika Puzio* (Poland), *Dr Ignacio Sanz Sánchez* (Spain), *Professor Salomão Rocha* (Portugal), *Professor Maximilian Moergel* and *Dr Dirk Duddeck* (Germany), and *Dr Thomas Balshi* (USA) presented a number of randomized controlled multicenter studies on Camlog and Conelog implants, the iSy system and a prospective study on Camlog-on-4.

Professor Frank Schwarz headed a topical session on the transmucosal zone with soft-tissue experts from all over the world: *Professor Tomas Linkevičius*

From left: Dr Gerhard Iglhaut, Professors Myron Nevins, Tomas Linkevičius, Mariano Sanz and Frank Schwarz engaging in discussions about the transmucosal zone.

From left: Dr Paul Sipos and Professors Stefan Wolfart, Piotr Majewski and Hendrik Terheyden discussing the basic principles of treatment planning.

(Lithuania), *Professor Mariano Sanz* (Spain) and *Professor Myron Nevins* (USA) as well as *Dr Gerhard Iglhaut* (Germany).

A successful new format: interactive panels

A novel and successful conclusion of each of the two congress days was an interactive panel of a group of speakers as a team with the participation of the entire audience. The first day saw *Dr Karl-Ludwig Ackermann* (Germany) and *Professor Gerald Krennmair (Austria)* heading a group discussion with *Dr Ralf Masur*, *Dr Jörg Ruppin*, *Dr Martin Gollner* and *MDT Stefan Picha* (all Germany) as well as *Dr Edward Gottesman* and *CDT Roberto Rossi* (both USA), on factors that build a team's success, especially in the context of digital networks.

On the second day, *Professor Mariano Sanz* and *Professor Thomas Taylor* (USA) presided over an illustrious group consisting of *Professor Katja Nelson* (Germany), *Professor Myron Nevins* and *Professor Frank Schwarz*, *Dr Markus Schlee* and *Dr Dietmar Weng* (both Germany), who spoke on current issues such as "Peri-implantitis: Treat it or remove the implant?" or "Implant-abutment connection: Parallel or conical?" and also engaged in many discussions on issues raised by the audience.

Almost one out of four German implants is a Camlog implant. And of the total Camlog production, one out of three implants is now sold outside Germany. With its Camlog, Conelog and iSy brands and the Dedicam digital process chain, Camlog has been an exceptionally successful manufacturer on the German market for more than ten years, and has now expanded and taken root internationally, which was also evident by the participation of large groups from, e.g., Japan and Eastern Europe. Also recorded with keen interest was the company's announced entry into the ceramic implant segment. The Biodental system, manufactured by the Swiss dental company Axis Biodental, is an innovative two-part ceramic implant, which from 2017 will be supplemented by matching prosthetic components and an easy-to-use surgical kit bearing the Camlog brand.

For the first time, Camlog offered a special "digital pre-congress" on the day before the main congress, once again presenting itself as a company that does not just identify new requirements in the market but actively promotes them. Nevertheless, *Dr Peter Gehrke* and *MDT Carsten Fischer* (both Germany) never tired of stressing the importance of developing the technical skills of their craft. Without the requisite experience and skills, even the most sophisticated CAD/CAM process will not yield good results.

Participants could submit questions via a smartphone app. After each session, speakers were available to answer individual questions in a more tranquil environment. The breaks were also used for extensive networking, for visiting the exhibition stands, and for taking in the poster presentations.

What is currently the Camlog Foundation will be renamed to OR (Oral Reconstruction) Foundation at the end of the year, a move intended to underscore the scientific independence of the Foundation. However, the objective of the organisation remains unchanged: support young talents, promote basic and applied research and continuing professional development and training, and, hence, let patients benefit from progress within oral implantology. True to its academic responsibilities and its obligations from several international collaborations, the OR Foundation will also take over the task of organising the biennial event, the International Camlog Congress.

Second largest city and former royal capital of Poland, today's Krakow is a leading centre of science, culture and art. Camlog certainly paid tribute to this special atmosphere, not least with its legendary congress party. "Hard Rock Camlog" sent the cobblestones of venerable Krakow Old Town vibrating.

STE

More information

www.camlog.com

30 years Ankylos implant system

Always on top

Where can you find an implant system that is the topic of two entire conference days with exciting presentations without the speakers constantly repeating themselves and the benefits offered by one of the most established and still most innovative implant systems? Dr Paul Weigl, Frankfurt am Main, scientific chairman of the "30 years of Ankylos" anniversary congress, had the solution at hand: He divided the presentations of the two fora "Founding generation" and "Next generation" like a large and diverse birthday cake into many tasteful wedges – emotional icing included and with a surprise cherry on top.

Chris Clark (President and Chief Operating Officer Technologies, Dentsply Sirona) honours the "founding fathers" of the Ankylos implant system (from left): Dr Walter Moser, Professor Georg-Hubertus Nentwig and Dr Werner Groll.

Old love never dies. "We could have filled this hall three times over", said *Oliver Betsch*, Vice President Global Sales, as he warmly welcomed the Ankylos aficionados from 35 countries. *Dr Karsten Wagner*, managing director of Dentsply Sirona Implants Germany, introduced *Dr Gregor Hundeshagen* (Dessau, Germany), who had been the 60th German to reach the summit of Mount Everest on the 60th anniversary of the first Mount Everest ascent. His rousing presentation entitled "30 years of Ankylos and extreme mountaineering – similar recipes for success" highlighted many parallels, from the selection of suitable participants and the correct assessment of their capabilities and compliance to perfect organisation and consummate teamwork, with all members of the team taking responsibility for each other.

The "founding fathers"

The Ankylos system had been developed by *Professor Georg-Hubertus Nentwig* and *Dr Walter Moser* "on the back of a beer mat" and introduced under the auspices of the German manufacturer Degussa. As a result of the merger in February 2016, Ankylos is now part of the portfolio of Dentsply Sirona. Many implantologists have developed a near emotional relationship with this system, not least because it is deeply associated with so many iconic personalities in the field.

Not surprisingly, "Mr. Ankylos", *Dr Werner Groll*, was enthusiastically received by the audience as he took to the stage. Contributor from the early days until 2014, he offered a fascinating historical overview on the successful development of the system. He felt that not only the past but also the future of the system looked bright; not least because of the emerging digital opportunities created by the merger of Dentsply and Sirona that allow Ankylos and its users to continue on the successful road towards the best in oral implantology, today and tomorrow.

Professor Georg-Hubertus Nentwig (Frankfurt, Germany) recalled the underlying ideas not only of the original Ankylos but of many later innovations. It was one of the first systems to feature a conical connection, in order to achieve high mechanical strength even at small diameters while presenting the best possible bacterial seal. An important milestone was the TissueCare concept, where the system-intrinsic platform switching feature in combination with subcrestal placement and a microrough surface eventually leads to the formation of new bone up to and beyond the implant shoulder.

Just as enthusiastic was *Holger Zipprich* (Frankfurt, Germany), who summarized the absence of micromobility and the close seal with the words, "You have here an innovative system that has been on the market for 30 years." "The bacterial film is a highly sophisticated strategic system", added *Dr Dietmar Weng* (Starnberg, Germany) in his lecture on the TissueCare concept. Of prime importance is the bacterial seal as this alone allows subcrestal placement, with the enormous prosthetic benefits this entails. Nor does the well-known *Tarnow* rule of minimum distances apply to Ankylos, since it was not devised with bacteria-proof connections in mind. *Dr Mischa Krebs* (Alzey, Germany) concluded the first block by presenting long-term results with the Ankylos system that had impressively beaten many of the complication rates accepted as near-universal by oral implantologists.

International slate of speakers

Professor Georgios Romanos (New York, USA) entered the stage as one of the pioneers of immediate loading, "successful not least because he had backed the right implant system", as *Dr Weigl* put it.

Dr Nigel Saynor (Stockport, Great Britain) devoted himself to the key factors of optimal aesthetics in his lecture entrenched in typical British humour. He, too, refuted the factors often described as limiting. Thanks to Ankylos, he said, the obstacles were surmountable, even in situations with immediate restoration and immediate loading. The highly creative *Dr Marco Degidi* (Bologna, Italy) surprised with a synergetic composition of WeldOne, conometrics and CEREC, the "conometric chamber concept" for simple, predictable, cost-effective and easily reproducible restorations, from multi-unit bridges to full-arch rehabilitations. *Professor Ye Lin* (Beijing, China) concluded the first day of lectures with an exciting presentation of complex clinical cases.

The younger generation of implantological professionals increasingly uses computer-navigated implant placement and enjoys the benefits of a digital workflow. The resulting reduction and simplification of working steps and their importance in clinical practice was demonstrated on the second day at the "Next generation" forum. *Dr Pablo Hess* (Kelsterbach, Germany) demonstrated how the ideal Ankylos property supported immediate implant placement in single-tooth situations following extraction. *Dr Cheng-Tzeh Chou* (Taipei, Taiwan)reported on the positive effects of the Ankylos properties on bone remodelling and soft-tissue regeneration following tooth extraction and immediate restoration. *Dr Nadine von Krockow* (Frankfurt, Germany) demonstrated the comparable performance and clinical benefits of reduced-diameter and reduced-length Ankylos implants.

"Long-term behaviour of Ankylos implants" by *Dr Philipp Jesch* (Vienna, Austria) was a report from an authoritative source, because *Jesch*'s father, *Professor Wolfgang Jesch,* had been one of the first users of the Ankylos system. Nearly 20,000 implants placed showed a long-term success rate of over 97 per cent. *Dr Michał Chrobak* (Kłodzko, Poland) devoted his time to biological factors and materials in the aesthetic zone. *Dr Gerhard Werling* (Bellheim, Germany) continued down the same path with his notes on navigated implantology using customized CEREC abutments. *Dr Sébastien Felenc* and *Dr Josselin Lethullier* (both Saint-Clement-de-Rivière, France) supplemented their youthfully fresh and appealing dialog-type presentation with a case series of CAD/CAM restorations on Ankylos implants. *Professor Ernest Cholakis* (Winnipeg, Canada) concluded the morning session with demographic facts that should be taken into account during treatment planning for edentulous patients.

The final session was initiated by *Dr Ashdin Turner* (Mumbay, India), another representative of a new generation; he, too, had a father, *Dr Porus Turner,* who had been among the first users of Ankylos implants. His attention was focused on the thin tissue biotype typical of most Asian populations and on the ideal characteristics that the Ankylos system offered for these. *Dr Gang Chen* (Shenzhen, China) focused on the positive effects of subcrestal implant placement and platform-switching on the peri-implant soft tissue, as well as on the emergence profile and on papillary growth.

"I was ten years old when Ankylos was created, and I would never have imagined that a system from that time would still be so dominant today", said the final speaker, *Dr Marco Schwan* (Rümlang, Switzerland). Not only the bone-ring technique presented by him but also the bone/soft-tissue grafting column from the molar region look very suitable for filling the extraction socket.

The prizes for the accompanying poster presentation were awarded to *Dr Friedemann Petschelt*, *Dr Arwed Ludwig* and *Dr Puria Parvini* (all Germany), and *Dr Alberto Maria Albiero* (Codroipo, Italy).

The two-day main podium was complemented by 15 highly varied workshop and a well-structured exhibition. Even as it joins up forces with Dentsply Sirona, Ankylos will continue to take an active part in shaping the future as it has done for thirty years.

STE

More information

www.dentsplyimplants.com

Dr Paul Weigl, scientific director and patron of the Ankylos congress, charmingly guided the audience through the programme.

EFP European Day of Periodontology

National perio societies promote gum health

The European Federation of Periodontology (EFP) is delighted to report an excellent level of activity across Europe in support of its European Day of Periodontology on 12 May 2016 – designed to raise awareness of the importance of gum health and its links with other systemic diseases such as diabetes and cardiovascular diseases. Supported by 21 national perio societies, the "Healthy gums for a better life" initiative has exceeded expectations by reaching millions of people, not just in Europe but all across the world.

The EFP-affiliated societies used a broad mix of activities including TV and radio interviews, public events, advertising, free screening, literature and social media. Although this is the third year that the campaign has been run, it has been adopted more widely and extensively this year with many societies reporting a marked increase in the level of public engagement.

In the UK, the heart of the campaign involved 90,000 engaging mouthcards showing the effects of advanced perio disease. These were given out at a number of events and resulted in a social media campaign – #howsyoursmile – that went viral, reaching over four million people to date. This was supported with an advertising campaign and educational website. The British perio society is already looking to 2017 and planning its next initiative to capitalise on this effort.

The Spanish perio society created a coalition called "Alliance for Perio and General Health" together with the Spanish scientific societies of cardiology, diabetes and general health practitioners. This partnership aims to promote gum health within a framework of general health. A press conference held during the national annual perio conference SEPA València 2016 helped to create interest and awareness of this work.

The Lithuanian perio society used the medium of national TV in a series of interviews to get their message across. The Belgian perio society organised for 200 participating dentists to run a free screening day which was highlighted on national TV. It also created an educational website in both French and Dutch for dentists and patients.

The EFP supported its affiliated societies with press releases, strategic guidance, and printed materials specifically for the campaign. It is too early to announce figures on the number of people touched by this campaign as many activities are still running, but it is true to say that it runs into several million across the globe. "We are looking forward to seeing the full results of the combined European activities and eagerly await news of what is planned for next year", commented *Juan Blanco*, the EFP president.

More information
www.efp.org

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The calcium ion fulfils decisive functions during all the biological processes of bone regeneration.

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SAVE THE DAY: www.btiday.com

BTI APP

Interview with Juan Blanco, new President of the European Federation of Periodontology

A responsibility to contribute to oral, general and public health

Juan Blanco, Professor of Periodontology at the School of Medicine and Dentistry at the University of Santiago de Compostela, in north-west Spain, takes the helm at a historic moment for the EFP, which this year is celebrating its 25th anniversary.

Juan Blanco, the new President of the EFP.

Professor Blanco, what are your main aims for the European Federation of Periodontology (EFP) during your presidency?

I am looking forward to an extremely interesting year for the EFP and the whole perio team. We must continue to work with other professional organisations that can help us to improve our global positioning – with institutions like the European Union and the World Health Organisation.

Also, the number of EFP-accredited postgraduate programmes in periodontology needs to increase. At present, there are twelve such programmes in ten countries. We must also share the knowledge of all the European national societies involved in research projects, including epidemiology studies, periodontitis and systemic links and genetic studies.

Finally, we have a fundamental need for improved communications and a strong media campaign to help us project our vision and expertise. We need the media – specialist and non-specialist – to help us create a meaningful link between the perio team and general public.

Who do you see as part of the perio team?

I see the periodontal community as consisting of general dentists, hygienists, dental surgeons, dental students, cardiologists, diabetologists, researchers, and other health professionals. If your profile fits one of these categories, you are a member of the perio team.

How will you achieve success?

Discussing gum health and gum disease at national, European and global levels will help put perio where it deserves to be in terms of official recognition. It will also increase awareness among politicians, journalists, patients and fellow health professionals everywhere. And by doing so, the EFP will be fulfilling its responsibility of disseminating valuable periodontal knowledge and contributing to the improvement of oral health, general health and public health in Europe and around the world.

Also, don't forget that I am building on some great work of my predecessors: *Søren Jepsen*, *Phoebus Madianos* and *Michèle Reners* to name just three. We recognize that the EFP is here not only to serve the interests of the perio community, but also the wider interests of the public.

How will improved communication benefit the EFP?

Better communication with institutions, universities, the media and medical organisations is very important for our strategic goals. This will create true behaviour change in terms of gum hygiene and the perception of the role of the perio team. Our public affairs programme will enable us to engage with allies who can help convey our message to a broader audience and thereby make our success greater in the long term.

We also need to look inwards and make our internal communication even better. To support our accredited centres that teach the postgraduate programmes and to encourage scientific cooperation among EFP-affiliated national societies is not enough. I would like to boost coordination among the EFP committees and show how the EFP can decisively help our affiliated societies.

How do the 29 national societies contribute towards the EFP vision?

Together we are stronger. By acting together, exchanging resources and tools, and learning from each other, we will succeed in changing attitudes towards periodontology. We have shown, through the extraordinary activities that were organised across Europe for the European Day of Periodontology in May (see page 82), that we can do this. However, I would like to encourage and support all 29 societies, including those with less resources.

Which EFP-led collaborations are you keen to pursue?

Søren Jepsen established relationships with members of the European Parliament and senior officers of the World Health Organisation and the International Diabetes Federation, among other influential allies. I am eager to continue his good work by developing these professional connections further – to help support my aims for the EFP during my presidency.

And finally, what is on the EFP agenda for the future?

We are working towards another great step forward with the European Day of Periodontology in May 2017 and looking forward to the EuroPerio9 congress that takes place in Amsterdam in June 2018. We are planning research-based workshops and other educational meetings throughout the year ahead. It's going to be a challenging time but I firmly believe the EFP can make changes that will make a difference to the levels of oral and general health across Europe and beyond.

More information
www.efp.org

Dr Peter Fairbairn

Interview with Dr Peter Fairbairn, London, Great Britain

A paradigm shift in bone regeneration

Dr Peter Fairbairn is a world authority in synthetic bone regeneration. EDI Journal took the chance to talk to the Visiting Professor, Department of Periodontology and Implant Dentistry, University of Detroit Mercy School of Dentistry, MI, USA; Director of Education, ADI (UK); President of London Dental Fellowship; Clinical Director of Regenamed and owner of a private practice in London.

So how did it all start?

After a few years of following the exciting developments within the field with interest, I began placing dental implants in 1991 under the mentorship of *Barry Edwards*. *Barry* was the founding President of the UK Association of Dental Implantology (ADI). He had an incredible knowledge after 20 years involvement in the field and was always looking to the future, developing new techniques and materials. *Barry* had a particular interest in ensuring that the patient's own bone surrounded the implant in order to give long-term function. This helped me to develop the desire to always search for improved protocols and materials to help my patients.

It appears that your main interest is bone regeneration?

Yes. True host bone is critical for the long-term success of dental implants both functionally and aesthetically. To be called Guided Bone Regeneration, we must be able to return the diseased, deficient host site back to what it would have been before, i.e. healthy 100 per cent host bone. It is not merely the quantity of the bone that needs to be assessed but the quality as well, with reduced or, preferably, no residual foreign material. Achieving true host bone not only provides the optimal support for implants, but also appears to provide benefits for the soft tissue where we need attached keratinized tissue.

What is your history with particulate graft materials?

In the 1990s, I used allografts and liked them, but then the issue with source malpractice broke and it was a big story in the UK press. At this stage, I decided to move away from donor materials and to be more open with my patients about the materials that I was using. I began to look into synthetic or alloplastic materials. I tried a few different materials and in 2003 discovered a beta-tricalcium phosphate/calcium sulphate mixture that gave me what I was looking for: synthetic, stable bone growth, great tissue response and easy to use. Since then I have done over 3,500 successful grafts with synthetic materials.

I understand that you have been involved with the development of a new material?

I have worked with numerous very good companies throughout Europe developing synthetic materials, conducting research and lecturing globally. Although it was exciting seeing all of the developments at first hand, I feel that we have had to deal with materials developed and made from the scientific perspective. I felt the need to develop a particulate material from initially a clinical standpoint; something that was easy to use on a daily basis as well as reliable and consistent. I obviously wanted the material to be biocompatible, but it should also give initial graft stability and long-term bone volume maintenance, preferably have an in-built barrier function and, importantly, turn over to a high percentage of true host bone in a timescale compatible with host bone regeneration. After four years development, we now have "ethoss", a new material based on these principles that I view as a paradigm shift in true host bone regeneration.

What is ethoss?

I like the name, because it represents the ethos of what we are doing: working with host healing in the relevant timescale to produce healthy new bone, with reduced surgery and no donor material. It has been published [1] that the ideal particulate graft material should exhibit the following characteristics:

- osteoconductive,
- osteoinductive,
- biocompatible,
- totally replaced by bone with an appropriate resorption time,
- maintain graft stability,
- have satisfactory mechanical properties and
- no risk of disease transmission.

The only material that fulfills all these criteria is beta-tricalcium phosphate (BTcP), which, apart from being a material made from the basic element of bone, has been shown to aid angiogenesis, the precursor to new bone growth. Ethoss is the latest generation high porosity BTcP combined with calcium sulphate. The calcium sulphate enhances the material properties by improving graft stability and, since it sets, it produces a graft with an in-built membrane function so it can be used without the need for a traditional membrane. This also means that the graft is in contact with the periosteum, which has been shown to be a great source of progenitor cells that accelerate bone growth and aid healing. The soft tissue healing response to the calcium sulphate is also significantly improved.

GBR – black art or science?

Definitely science. We need to heed biology and understand what and why we are doing things in this area of dentistry that I feel is currently industry led. As *Einstein* said: "Do not let your education interfere with your ability to learn." My view is that using new graft materials is analogous to using new golf clubs. There are a number of clubs to choose from and good clubs will not necessarily make you a better player unless you are prepared to take time to learn how to use them properly. The same can be said of graft materials. ethoss has proved to be a big step forward for my practice and my patients, but you need to be able to play the game. For consistent success, thorough site preparation and good surgical practice are always important as well as understanding the regeneration process. I have a published protocol [2] to optimize the procedure developed over a ten-year period. This protocol has produced a high long-term success rate of over 98 per cent. Below is a typical case showing the new bone regenerated after twelve weeks.

The future?

With ever more patient friendly procedures including tunnel grafting, improved PRF etc., it is an exciting time for bone regeneration. I feel that we are at last moving away from a carpentry approach to a more biologically driven one in GBR. Back in 2008 when I first lectured on bone grafting in Zurich, the title of the lecture was "The body wants to heal, let's work with it" (a case study under that title was also published in EDI Journal and BDIZ EDI konkret, May 2015). I never realized how important this simple title would become. It is an approach (or ethos) that puts our patients and their well-being in primary position. ethoss is a step towards this ideal and I am proud to have been a part of it.

Thank you, Dr Fairbairn, for your time and for this interview.

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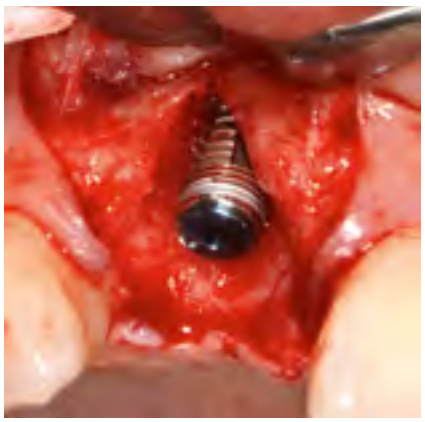
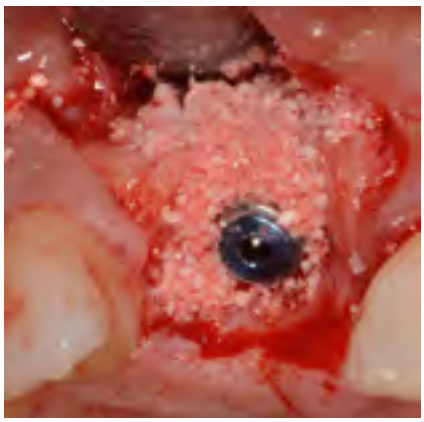
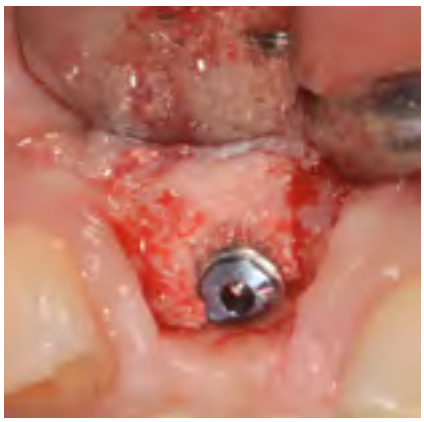
The list of references can be found on www.teamwork-media.de/literatur.



Implant placed.



Graft placed.



New hard tissue. Over 50% new host bone.

Interview with Professor Tomas Albrektsson, University of Gothenburg, Sweden

A nuanced view on peri-implantitis

One of the most quoted scientists in dental implantology, Professor Tomas Albrektsson, worries that peri-implantitis is increasingly used as an alarming label for benign marginal bone loss around implants. On a recent visit to Zurich he took questions from Dr Stefan Holst, Nobel Biocare's Vice President of Implant Systems & Research, on this controversial topic.

Peri-implantitis is currently a prominent discussion topic at various events and congresses. Is the nature of these discussions beneficial for the implantology community or could it be a threat to our reputation?

When incorrect biological reasoning is done, it is always a threat. When we look at the clinical outcomes in long-term studies, they are so much better than many of those that we are hearing and reading about. I'm very critical of this. It is trying to make problems of things that may not be that problematic. The frequency of peri-implantitis has been grossly exaggerated in the literature. All bone loss that happens in the first year is definitely not peri-implantitis.

We see bone remodeling and bone loss for very different reasons. This bone loss is benign in that it doesn't threaten the implant. Then we have a disease called peri-implantitis which, with controlled (clinically documented) implants placed by properly trained individuals, is a rare disease, but still one of some magnitude. With one to two per cent of modern controlled implants showing clear signs of disease at ten years or more of follow-up, we can't ignore it. But an exaggeration of the figures is not helpful at all. There are 13 different definitions available for peri-implantitis. And we can do without the great majority of those.

Professor Tomas Albrektsson (right) and Dr Stefan Holst discussing peri-implantitis.

How does a clinician determine whether bone loss is a natural physiological reaction or caused by disease?

From the clinician's standpoint, we should take all types of marginal bone loss seriously – even if the great majority of implants with some bone loss will never develop peri-implantitis. The problem is that we don't know which ones.

For example, one reason for problems with bone loss are cement remnants in the soft tissue. If you remove them in time, the bone loss stops. The implant can function happily ever after, without any problems. But there is also the possibility that, were you to leave the cement remnants in place for 10, 15 or 20 years, then peri-implantitis may develop with the same implant.

A clinician should always take action when he or she sees marginal bone loss or rather the preface of it, which is called mucositis. Mucositis is only the first sign of an immunological reaction; it has nothing to do with anything else but immunology, which is unfortunately not understood by many of our clinical colleagues.

Recent studies based on the Swedish population imply that implant brand plays a role in peri-implantitis. Is this not misleading given that so many factors influence treatment outcomes?

Many of the figures that are being quoted, be that in the recent Swedish publication or others, are lamentably unrealistic. They have used the most liberal definitions they can find of what they call a disease when in reality it is no such thing.

Our own studies of long-term follow-up on implants demonstrate very clearly a similar, small percentage of implants between one and two per cent that are hit by peri-implantitis; whether you prefer one of the major implant systems or the other makes no difference.

But implant systems that claim not to need any documentation of their own because they are similar to another company's documented implants are not to be trusted. Clinicians need to pick an implant system that has its own documentation published in peer-reviewed papers. If that does not exist, don't buy it. Never forget that buying a cheap implant that is undocumented can prove to be very expensive.

Based on your clinical experience, what are the factors that play a role?

It is complications to treatment that cause bone loss. We call it the "Triad of Poor". First, poor implant systems. As mentioned, these exist and are sold at a cheap price. Again, you should avoid these implant systems. Second is poor clinical handling by clinicians without the right skills. Finally, there is what we can term poor patients – those patients who are difficult to treat. These are the causes of bone loss, that in some rare cases may in the long-term lead to peri-implantitis, but in most cases do not.

So what can we as dental implant professionals do to prevent the proliferation of misinformation about peri-implantitis?

I'm increasingly irritated with people calling benign bone loss a disease. Those who are doing so have to read the new research that is out and they have to realize they are wrong.

And the profession must, in a united manner, protest against alarming reports in a much stronger way than we have done to date. At the same time, we must of course continue to take patients very seriously. We cannot ignore bone loss, even if it proves to be benign. We have to be active all the time and work to the best of our knowledge for our patients.

Thank you for the interesting interview, Professor Albrektsson.

Interview with the management team of Omnia

"We are able to respond to any kind of need"

From our last visit at Omnia, renowned supplier of surgical hygiene kits, disposables and instruments which follow most demanding international standards, we remembered a nice, but quite modest building. This time, it took us four reminders of the navigation system to recognize this former edifice as part of a long stretched and very Italian style building with an impressive concave glassy middle part. It was time we had another talk with Alexander Keim, International Sales & Marketing Director, Francesca Isi, Marketing Manager, Marco Caravita, Web Marketing Manager, and the four international managers Ilaria Cotti, Tamara Gottardi, Marco Calzavara Bertinelli and Michael Giovannetti.

Obviously, you have been quite busy in recent years, we hardly recognized the building!

Isi, Caravita: That's true, the last years have been very exciting and we are looking forward to continuing on our path. However, it's not the size of the building that counts: We focus more on what is inside – on the overall quality of our products and our services. High quality products, combined with the highest attention to our customers' demands, is in the centre of our everyday effort. ››

Always ready for the customers' surgical requirements and needs: the sympathetic and most dedicated Omnia management team.

During the last years, we have also invested a lot in our education programmes, combining traditional marketing activities such as exhibitions, congresses and publicity with a more "direct" approach to our valued customers. We are working on a new communication strategy on the web, based on simplicity, interaction and usability.

Which are your most relevant products for dental implantologists?

Bertinelli: Our three main product groups are custom surgical procedure packs, irrigation lines for drilling and piezo units and sutures.

The custom procedure pack is obviously our core business. Thanks to the enlarged production site, we are now able to satisfy any request of personalized kits for practicians around the world within 30 days. Depending on the differences between countries, the selection of products is based on the specific needs of each market.

Being represented in more than 40 countries worldwide, and in a price-sensitive field, how can you as an Italian manufacturer survive?

Giovannetti: Competition is always good as long as it is fair, which includes prices. Being in this business for more than 25 years gives us a small advantage, but we always need to improve and to adapt; that's why we have invested in automation and are monitoring our overall performance day by day.

In the production of custom kits, it's not only the price that matters. Time is a relevant factor, too, and we have improved a lot by reducing the overall lead time from the moment we make the initial offer for the kit until its delivery. Combined with the high quality of all materials used in our kits and products, this allows us to continue to be successful and competitive.

Furthermore, we have developed different material options from which our customers can choose. This approach enables us to enter more price-sensitive markets. We dispose of a widespread catalogue that allows us to respond to any kind of need, from a very demanding European doctor to customers from developing countries who have completely different needs.

Where and when can interested implantologists and surgeons meet Omnia in autumn?

Cotti, Gottardi: There are quite a few occasions and places to meet us this autumn: at the AAP in San Diego, the EAO and the ADF in Paris, the AAOMS in Las Vegas and the 33. Annual Conference of the BDO in Berlin. For us, it is important to establish a direct contact with our customers, which we can achieve by being present at the most important events of our market.

Thanks a lot to all of you for your time and your contribution to this interview. *STE*

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Interview with Michael Kehoe, President and CEO of Keystone Dental

"Customer support is the pride of our organisation"

For over 30 years, Keystone Dental has been a specialized oral healthcare company, providing advanced "Smarter Thinking. Simpler Design" implants, biomaterials, and planning software for implant practitioners who want to provide both functional and aesthetic outcomes for patients. Keystone Dental develops, acquires and commercialises oral healthcare technologies that ultimately improve a patient's treatment and quality of life. The company thrives to meet every clinical challenge with innovative products that enhance without over-engineering. In the US, Keystone Dental has a production site, Worldwide Headquarters and R&D in Burlington, Massachusetts, and a second production site in Irvine, California. In Europe, there are the European Headquarters and Customer Service in Verona, Italy, and five subsidiaries with a dedicated sales force. EDI Journal talked to President and CEO Michael Kehoe.

Michael Kehoe

Why would a practitioner want to work with Keystone?

I think most of the doctors who are familiar with our products and who trust us with their business would agree with the fact that we offer a range of implant products that is broad, fulfilling both niche and standard requirements for all specialties.

Moreover, Keystone places high importance on customer support, which is the pride of the organisation. We train our sales representatives, customer service teams and product support personnel intensely, and most of the new employees spend several weeks in our US training centre before interacting with customers.

Which are the best selling products at present and why?

Genesis and Prima due to our TiLobe Technology, a patented internal 6-lobed connection which provides strength and stability. Let me start from our premier system called Genesis. It is the first biomimetic implant system and it offers superior aesthetic advantages with the AnaTite pink collar and the BioSpark surface that will assist in soft-tissue healing immediately after implant placement. Then let's move to Prima, which features among other things one of the only full lines of consistent contoured prosthetic components in the market, to maximize tissue support throughout the restorative process. As regards our regeneration materials: Our DynaMatrix collagen membrane product is among the best in class. We brought this product from the medical market into the dental market. The technology incorporated into DynaMatrix has been heavily relied upon for burn repair, dural repair and hernia repair for over 20 years. Unlike resorbable membranes, DynaMatrix "remodels", which means it becomes part of the new soft tissue that grows over it.

Where do you think implant dentistry is developing to and how will Keystone Dental be part of this?

Keystone continues to research improvements in both its implant and biomaterials portfolios. We are also working hard on bringing new digital dentistry solutions to the market that provide even more technology and flexibility for the surgeon. With all this activity, now is a good time to bet Keystone will become a very significant player in the market – in both Europe and North America.

Is there anything in your product launch preparing for IDS Cologne? What can we look forward to?

We will certainly be offering new products but like Christmas we want to surprise you ...

Thanks a lot for your time and this interview.

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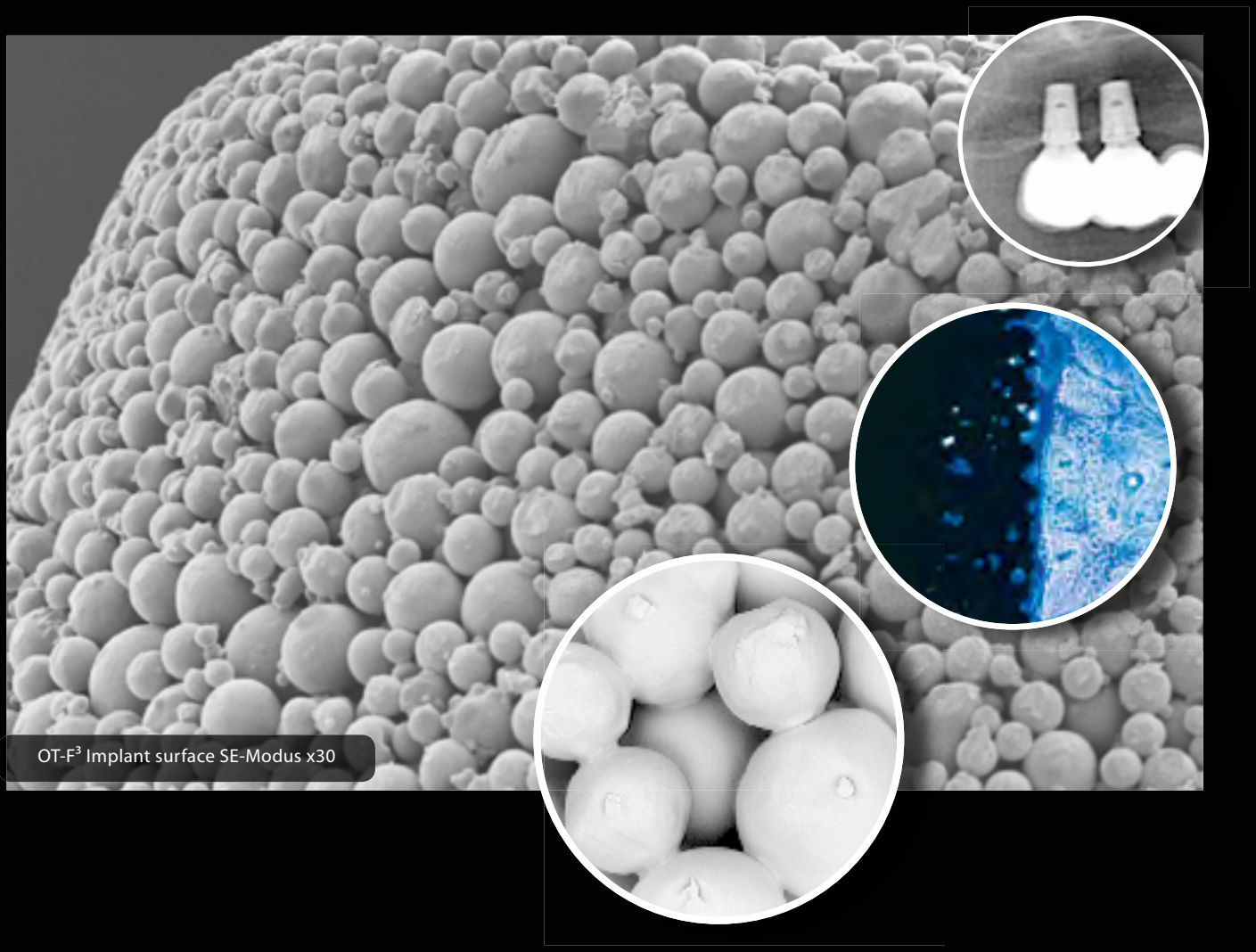

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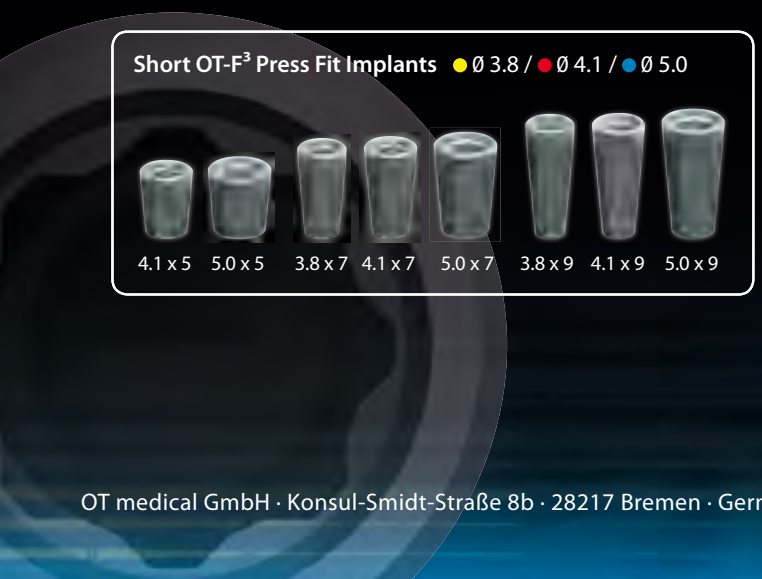

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Interview with Dr Karl-Ludwig Ackermann, Filderstadt, Germany, on W&H's new Implantmed

Precision, efficiency and some useful innovations

Since 2001, W&H has been offering oral implantologists the Implantmed, a high-quality rotary surgical device characterised by safety, ease of use, high precision and flexibility. When the new Implantmed device was announced for September 2016, observers immediately asked the question whether this was not simply another case of a manufacturer tinkering a bit with the design of a product, just to be able to boast a "new generation". Marianne Steinbeck, project manager of EDI Journal, spoke with Dr Karl-Ludwig Ackermann, who had been given the opportunity to take a close and (as usual) critical look at the device.

Dr Karl-Ludwig Ackermann

Old wine in new bottles, or a genuine new Implantmed generation?

The latter. This device represents a real advancement – in every respect.

Which details do you see as particularly valuable for your practice? And why?

The macroscopic design, the "touch screen" and the dockable peripherals such as the ISQ meter, plus compatibility with the piezo surgery device with only one wireless foot control – all that makes surgery easier. The surgical documentation can be digitally stored on an USB stick, making it available as text-only and PDF files for reading on a computer.

Measurement of primary stability using measurement devices has at times been the subject of controversy. How reliable are the data, especially with the Osstell ISQ method used?

Even if the system provides relative values, the reliability is very high if the measurements are consistent. Absolute values measured by other measurement technologies and supposedly comparable are not an issue.

Why and in what situations do you consider measurements of primary stability essential?

We live in an age of "extreme documentation" for forensic transparency. Anything that is not documented and recorded is simply considered non-existent.

How does the new Implantmed feel in your hand?

I have used a number of surgical motors from different manufacturers over many years. Since I began using the Implantmed by W&H, I have actually felt safer and more relaxed in my work.

Thank you very much, Dr Ackermann, for your time and for this interview.

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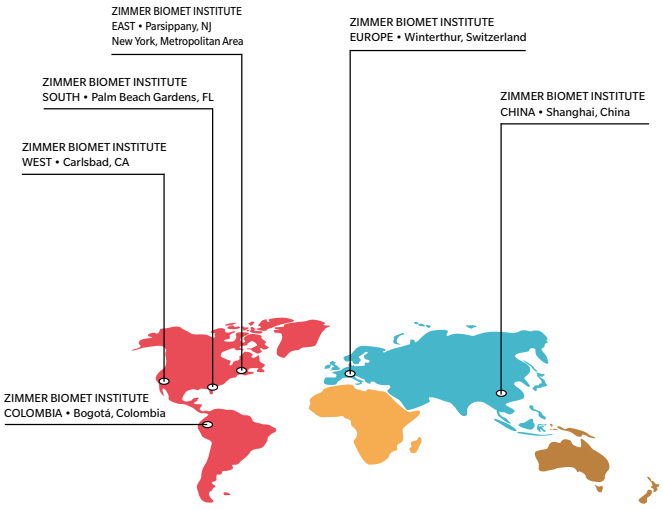

ZIMMER BIOMET
Institute

Interview with Dr Ueli Grunder, dentist and author, Zürich-Zollikon, Switzerland

Simplicity, a reasonable product range and a sophisticated concept

The many recent implantological anniversaries have made us realize how far the discipline of implant dentistry, still seen by many as comparatively recent, has come along. Thommen's implant-abutment connection, at the time then a part of the HaTi system, was introduced as early as thirty years ago. EDI Journal marked this anniversary by interviewing Dr Ueli Grunder, an established dentist in private practice in Zürich-Zollikon, Switzerland, and an internationally appreciated speaker, author of many scientific publications and a textbook entitled "Implants in the Esthetic Zone", published by Quintessence Publishing.

Dr Ueli Grunder

Please tell us about your three essential criteria for an implant system that meets your expectations.

Of immense importance is simplicity in application – surgical and prosthetic. A second criterion is a clear and uninflated product range that still covers all my clinical needs. And the third but probably most important criterion is that I want to be able to rely on a sophisticated concept that provides proven long-term success.

What do you think is the reason for the good performance of the Thommen Implant System in this regard?

The system was co-developed by experienced practitioners who knew exactly what they wanted and needed. The Thommen system still has one of the best available implant-abutment connections and an implant surface leading to increased stability but which does not extend to the implant collar – in my opinion, 1 mm of machined implant collar has enormous biological benefits.

How important are such long-standing traditions and partners to you personally in this fast-paced day and age?

They are actually more important than ever. I want a partner whose focus is on the patient and the dentist and not on the stock price – not a partner who keeps having to launch new products that do not add value, just to keep investors and shareholders happy. A partner for whom my patients and their needs – and therefore my own needs – are paramount. And, last but not least, it is nice to establish good rapport with long-term employees – that makes it so much easier to talk business, they know exactly how I think and what my values are.

How did you come to be the one who started emphasizing aesthetics and soft-tissue management when plenty of other clinicians were still celebrating the fact that "the screw didn't break"?

As for so many other things, I have to thank my teacher *Professor Peter Schärer* from Zürich for that; he was world-famous in the field of aesthetic dentistry as early as during the 1970s and 1980s. In this way, I was professionally raised on the theme of aesthetics. Neither has my training in prosthodontics and periodontics caused any harm; it has taught me to pay attention to more than just mechanical and functional aspects. Starting in 1986, together with *Professor Jörg Strub*, I designed the first metal-ceramic bridges on implants for edentulous patients, and at the same time, we started using special superstructures for systematic soft-tissue conditioning. Since 1991, we have routinely practised GBR in the aesthetic zone and used connective-tissue grafts. Meanwhile, the importance of tissue volume for long-term stability, not only in purely aesthetic but also in functional terms, has become generally accepted.

Thank you, Dr Grunder, for your time and for this interview.

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Interview with Professor Ralf Smeets, University Medical Center Hamburg-Eppendorf, Germany

Maximum flexibility and efficiency

Professor Ralf Smeets, oral and maxillofacial surgeon.

Since its introduction in 2012, the iPad app-controlled implantology/surgery system iChiropro by Bien-Air has kept adding new integrated functions to meet the increasing technical and efficiency requirements of the dental practice. In its most recent version, the currently most powerful micromotor on the market includes a number of new digital links and practical functions. Marianne Steinbeck, project manager of EDI Journal, spoke with Professor Smeets, Hamburg, Germany, who was an early adopter of this system.

What are the main requirements of an implantology/surgery system?

First of all, I would like to stress that we at University Medical Center Hamburg-Eppendorf have made a completely independent decision in favour of the iChiropro. Dentists and oral surgeons working in oral implantology are increasingly going digital, so any system I use must integrate perfectly with my existing data chain, from importing my planning data to the coDiagnostiX software and subsequent validation and traceability of the data.

What is more important: efficiency, durability or price?

Who says that I must choose? With all its high-tech performance and efficiency, the iChiropro has an extremely robust drive system and guarantees more than 1600 interventions at 70 Ncm. As far as I am aware, this is currently the most powerful micromotor there is. The manufacturer offers purchasing as well as rental options, so there should be an offer to match every budget.

Looks great as far as it goes, but isn't control via an iPad app more like a gimmick for Apple aficionados?

Absolutely not. And it is not for nothing that Apple is so successful with its intuitive, ergonomic user interface. It is no less than sensational that we are now able to work with this in the dental surgery as well. What I find especially interesting is the option of using the free app, which is constantly updated with new, innovative features, to customize the device for my own taste and working habits if I like to do so, while still being able to employ pre-programmed treatment processes. Various clinicians can log on to the multi-user interface, and up to eight implants can be planned and placed simultaneously. This boosts the attractiveness of the device in terms of cost even more. In addition, what is quite attractive to practitioners, is that the procedural settings for the leading implant systems are included in a constantly updated and expanded library, ensuring safe implementation.

What has been your experience in terms of technical robustness and maintenance requirements?

We are talking about a high-precision, high-quality product. The engine runs on maintenance-free ceramic ball bearings, which are extremely reliable and durable. In addition, one could, if needed, certainly rely on the otherwise excellent service by its manufacturer Bien-Air.

With so many integrated and automated processes that the iChiropro offers – are specialists still needed at all?

We all know that it is the well-trained dentist or surgeon with top-of-the-line technical and manual skills who makes the difference in any treatment. Technical devices only serve as a support. But this is why it is all the more important to use technology that offers the maximum in precision, flexibility and efficiency.

Thank you very much, Professor Smeets, for this interesting talk.

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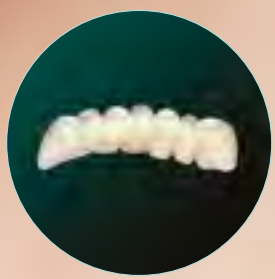
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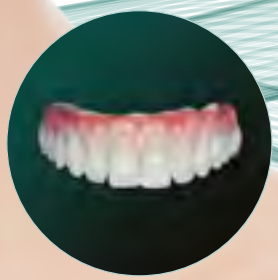
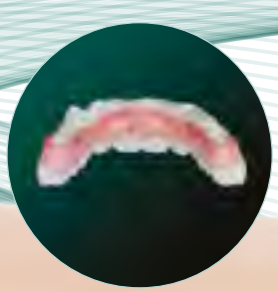

Fixed Prostheses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Interview with Dr Marcus Seiler, CEO of ReOss GmbH, Filderstadt, Germany

Squaring the circle

The biggest challenges for oral and maxillofacial surgeons and experienced implantologists continue to be large and complex defects where vertical volume has to be gained. The requirements for bone augmentation and the membrane techniques sound like having to square the circle, demanding a high regenerative potential coupled with long-term stabilization of the graft, preferably with ideal adjustments to the defect morphology, however complex, paralleled by a trouble-free healing process. Geistlich Biomaterials and the start-up ReOss, both specialists in the field of bone regeneration, have teamed up to present promising solutions – the ReOss technology and the Yxoss CBR lattice structure. Marianne Steinbeck, project manager of EDI Journal, spoke with ReOss CEO Dr Marcus Seiler.

Dr Marcus Seiler

If our information is correct, you now have a solution for many situations that would previously cause despair for clinicians and patients. Could you briefly describe the technology, materials and clinical procedures?

The Yxoss CBR is a 3D-plotted titanium lattice structure that can be adapted precisely to a bone defect on the basis of a DICOM data set. It allows us to treat bone defects whose morphology involves horizontal and vertical components and curvatures and require long-term stabilization of the graft. The greatest benefit here is precision of fit. For example, the practitioner no longer has to trim and bend the titanium lattice structure, which eliminates restoring forces and avoids sharp edges, significantly minimizing the risk of dehiscence. Compared to block augmentation, a high-performance biological graft can be obtained by adding autologous bone. In addition, the excellent fit shortens the time required for the surgical procedure, since only one or two screws are required to insert and secure the lattice structure. Removing it is also easy because it has a predetermined breaking line, which in turn reduces the cost to the dentist and patient alike.

CAD/CAM-manufactured bone blocks already exist and are apparently used quite successfully. So why should I fumble around with crumbs in a grid now?

As an oral surgeon, I frequently had the experience that bone blocks do not heal easily and that dehiscence occurs, which usually means the loss of the entire block. Furthermore, it is still unclear at this point whether allogeneic bone blocks are completely ossified. The studies by *Professor Schwarz* suggest that the opposite is the case. We often found very inhomogeneous structures within the blocks. Add to that the safety concerns related to allogeneic materials. In my experience, granular material ossifies better than block grafts. However, this requires long-term stability in the case of large defects, something we can now offer our customers with Yxoss CBR.

Does this suggest to you entirely new options for the treatment of peri-implantitis?

Patients with advanced peri-implantitis in whom considerable bone loss has already occurred and explantation seems inevitable can be treated successfully with Yxoss CBR to reconstruct the jawbone. It is obvious that one prerequisite for this is that the causes of peri-implantitis are addressed and eliminated, or in other words, that no infection and no inflammation is present.

Wouldn't you and Geistlich Biomaterials actually be considered competitors?

Both companies and their different product portfolios complement each other. The high-quality Geistlich products help regenerate weak bone beds so they meet the basic biological requirements for bone regeneration. Yxoss CBR as a long-term stabilizer, Bio-Oss to guide bone formation and Bio-Gide as a barrier membrane complement each other perfectly in complex bone defects.

Dr Seiler, thank you very much for your time and for this interview.

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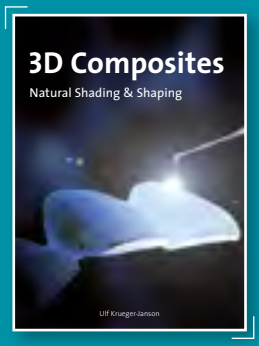

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Dentsply Sirona acquires MIS Implants

“A great complement to our company”

Dentsply Sirona announced a definitive agreement to acquire all of the outstanding shares of privately held MIS Implants Technologies Ltd. (Barlev, Israel), a dental implant systems manufacturer headquartered in northern Israel.

Dentsply Sirona CEO Jeffrey T. Slovin: “MIS is uniquely positioned to address the value segment of the implant market.”

“MIS is uniquely positioned to address the value segment of the implant market in both its home region and around the globe. It is strategically important to be able to address the implant market with distinct organizations, portfolios and brands targeting both the premium and value segments. MIS has a broad portfolio of implants and related products under a well-established brand, making it a great complement to our company”, comments *Jeffrey T. Slovin*, Chief Executive Officer of Dentsply Sirona. The agreement opens up many new opportunities of growth and services for both parties, which benefits customers and patients around the globe.

High quality standards across all implant lines and brands

For over 30 years, Dentsply Sirona has accumulated unique industry knowledge and experience in the field of dental implants. The company develops and produces seminal and significant innovations in implant surface technologies, implant-abutment connections, immediate placement protocols and guided surgery. The basis for this is a thorough scientific approach and dedication to long-term clinical evidence. To achieve perfect results, clinicians need predictable solutions. Dentsply Sirona delivers individual and strongly tested products for every stage of implant therapy. Solutions like Ankylos, Astra Tech Implant Systems and Xive rank among the leading implant systems and are designed to help make the clinical implant procedure better, safer, easier and faster. The addition of MIS, a leading value implant company, will extend the range of therapy concepts to additional market segments.

MIS – a young innovative company

MIS was founded in 1995 in Shlomi, Israel. The company has a strong presence in the value segment, selling its products in more than 65 countries worldwide. MIS (Make It Simple) aims to simplify implant dentistry through innovation and clinical education. The MIS brand offers a wide range of dental implants and prosthetic solutions, together with grafting materials and guided surgery services. MIS launched its latest innovation with the V3 implant system last year in June at the EuroPerio8 in London. It is patented for its unique triangular shape and brings biological benefits in many different aspects. The V3 design allows for greater volume of bone and soft tissue, reduces pressure on the cortical bone, and does not compromise primary stability. ■

More information
www.dentsplysirona.com

ITI World Symposium 2017

Key factors for long-term success

The International Team for Implantology (ITI) is holding the next edition of its flagship event – the ITI World Symposium – from 4 to 6 May 2017 in Basel, Switzerland. The scientific programme along with the faculty list have now been published on the ITI World Symposium 2017 website.

More than 80 speakers from all over the world will be sharing their expertise in a series of plenary and parallel breakout sessions over three days. They will be providing keys to the entire treatment cycle from diagnosis through treatment to aftercare, offering sustainable long-term solutions. In addition to the field's leading international speakers, the faculty also includes a broad cross-section of young and talented specialists from around the world, representing a diversity of evidence-based approaches and the next generation of implant dentistry.

The Scientific Programme Committee led by *Professor Daniel Wismeijer* has designed a practically oriented programme of information and approaches that participants can immediately implement in daily practice. To ensure that the take home messages are directly accessible to as broad an audience as possible, all plenary sessions will be simultaneously translated from English into nine languages.

"With the theme 'Key factors for long-term success', our aim is not only to highlight what is state of the art today but also what will be important tomorrow – looking at the technology and approaches that are set to direct practice in the near future", *Professor Wismeijer* explains. "Our speakers are providing keys to various areas within implant dentistry and are also showing how they can be used to open doors to best practice."

The role of technology in our lives is the theme of keynote speaker *Dr Kevin Warwick*, a leading cybernetics researcher at the University of Coventry whose area of study is artificial intelligence, robots and cyborgs. *Kevin Warwick* will be taking a look at how healthcare is developing in the light of technological advances. By contrast, the groundbreaking work of the ITI in the field of implant dentistry during its 37-year history forms the subject of a presentation by *Dr hc Thomas Straumann* and *Professor Daniel Buser*.

The World Symposium scientific programme is complemented by a half-day Pre-Symposium Corporate Forum presented by Straumann, Morita and botiss, where opinion leaders talk about their experience with the latest products and technologies. The extensive industry exhibition provides participants with a perfect opportunity to visit key companies, see what's new and find out how they can apply it in daily practice.

The ITI World Symposium is being held at the Messe Basel within the halls designed by renowned Basel architects *Herzog & de Meuron*. The exciting scientific journey that all visitors will be going to is facilitated by an innovative technology service that allows participants to exchange and gather information using a small interactive device. Any information gathered continues to be accessible and up to date in the "cloud", which eliminates the need to produce and carry around large amounts of paper during the event.

By choosing Basel as the event location, the ITI is returning to its roots and home base. The city itself provides a beautiful backdrop to the event, with a charming old town that is easily accessible from all the hotels and the congress venue.

More information and registration
www.iti.org/worldsymposium2017

Photo: MCH Messe Basel/Congress Center Basel

The unique facade of twisted aluminum bands encloses the ITI World Symposium 2017 setting that is inspired by the dynamic world of modern airports.

Dentsply Sirona Implants World Summit Tour 2017 Poster Competition

Highlight your work – apply now!

In 2017, Dentsply Sirona Implants will tour the globe with the state-of-the-art World Summit Tour, a scientific congress on implant dentistry. An important and inspiring part of the congress is the Poster Competition. The Scientific Committee now welcomes aspiring scientists to seize the opportunity to step into the light and showcase their posters in the categories Clinical Application and Research.

Four well-known metropolitan cities – Tokyo, San Diego, Nice and Shanghai – will be the hosts when Dentsply Sirona Implants invites dental professionals to the dynamic and interactive World Summit Tour 2017. At each tour stop, 1200 dental professionals will experience a congress programme with scientific lectures from international and regional speakers, hands-on workshops, and a display of the comprehensive solutions portfolio.

Each tour stop lasts for two intense and exciting days where the most recent findings in the field of implant dentistry will be in focus. Dedicated to enhanced quality of life for patients, Dentsply Sirona Implants will tour the globe with the motto "Because inspiration and confidence matters".

The aim is to inspire clinicians and researchers to come together to share scientific knowledge and clinical experience and to discover the latest scientific, clinical and digital developments. An important part of each tour stop is the Poster Competition, where aspiring scientists, researchers and dental professionals are given the possibility to promote their latest research and findings.

The Poster Competition is arranged in the following categories:

- Clinical Application – abstracts should focus on the clinical use of Dentsply Sirona Implants solutions.
- Research – abstracts should focus on dental implants and related research associated with Dentsply Sirona Implants solutions.

All submitted abstracts will be reviewed by the Scientific Committee at each tour stop. The Scientific Committee is an international group of highly respected experts and it is a great opportunity for all participants to showcase their findings to this group of renowned scientists. All accepted abstracts will be presented as posters during the congress and at the end of each stop on the World Summit Tour, an award winner will be announced in each category.

More information
www.worldsummittour.com

Four thrilling cities – four thrilling events: Dentsply Sirona Implants World Summit Tour 2017.

Osstem Implant at the EAO 2016

Welcome to Paris!

Osstem Implant is a leader in the field of dental implants worldwide and sets international standards in the modern implant dentistry. The South Korean company will be present at the EAO Annual Scientific Congress which will take place in Paris, France, from 29 September to 1 October 2016.

Osstem Implant offers high quality products for the individual treatment of different patient needs and provides aesthetically valuable solutions that preserve the natural quality of life. An excellent customer service adds to the satisfaction of doctors and patients. At the EAO Congress in Paris, the company will exhibit its latest product line and display its newly developed products: Osstem Implant Systems such as TSII, TSIII, TSIII Ultra-Wide, TS III SA diameter 3.0 and extra-short implant (5-6 mm length); surgical kits CAS/LAS Kit for sinus surgery, Parallel Guide Kit for the Surgery Guide Tool and Esset Kit for ridge split and expansion; SmartBuilder and Autobone Collector for GBR surgery.

Visitors of the EAO congress are invited to take part in hands-on exercises and gain practical experience with the new surgical kits at the Osstem Implant exhibition stand no. P02.

More information

en.osstem.com

Nobel Biocare's new restorative approach

An innovative concept in tissue-level treatment

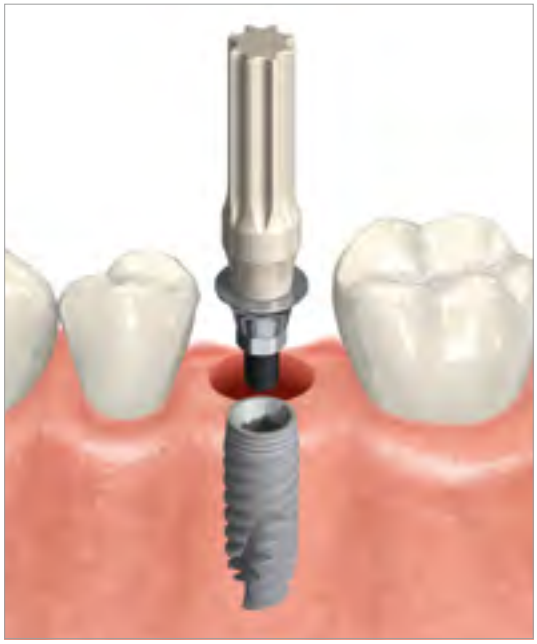
The role of soft tissue maintenance in supporting successful outcomes for dental implant treatment should not be underestimated. Not only does healthy, well-adhered soft tissue provide better aesthetics, it acts as a barrier to bacteria and helps to maintain bone volume around the implant. The On1 restorative concept* is designed to help the soft tissue play these important roles while offering flexibility.

Undisturbed soft tissue healing

The central component of the On1 concept is the On1 Base, which can be placed on any Nobel Biocare conical connection implant at the time of surgery. The base brings the connection for restorative components to tissue level so that, unlike with traditional two-stage healing and temporary abutments for bone level implants, the biological seal created by the soft tissue remains undisturbed for optimized healing.

The restorative components within the On1 concept have been designed with ease of use in mind – for example the On1 IOS Healing Cap that supports an intraoral scanning approach, which can speed up the impression taking process. In addition, the On1 IOS Healing Cap, the On1 Base and the On1 Temporary Abutment all come with a pre-mounted handle for easier placement.

For the surgeon, the On1 concept means the flexibility to use any of three different implant systems with internal conical connection – NobelActive, NobelParallel and NobelReplace. It also offers peace of mind that only precision-engineered Nobel Biocare components can be used for the restoration, removing the risks associated with an ill-fitting or non-biocompatible third-party abutment. For the restorative clinician, the raising of the connection to tissue-level not only ensures no interference with the soft tissue during healing, it also simplifies the placement of the restorative components.



Ease of use and flexibility are key advantages of the On1 concept. Shown here, a pre-mounted handle aids placement of the On1 Base.

Retain restorative flexibility

With two height options available, there is the flexibility to change the On1 Base depending on the thickness of the soft tissue. Unlike with traditional tissue-level implants, this makes it possible to optimize short- and long-term aesthetic outcomes. Depending on the indication or personal preference, the restoring clinician can choose either a cement-retained or a screw-retained final restoration.

In summary, the On1 concept is much more than a new abutment line: It's a new restorative approach created to support soft tissue healing and address the clinician's desire for flexibility and ease of use.

* under 510(k) review

More information
www.nobelbiocare.com

MIS VConcept: innovation for dental implants

“It is all about being as unobtrusive as possible”

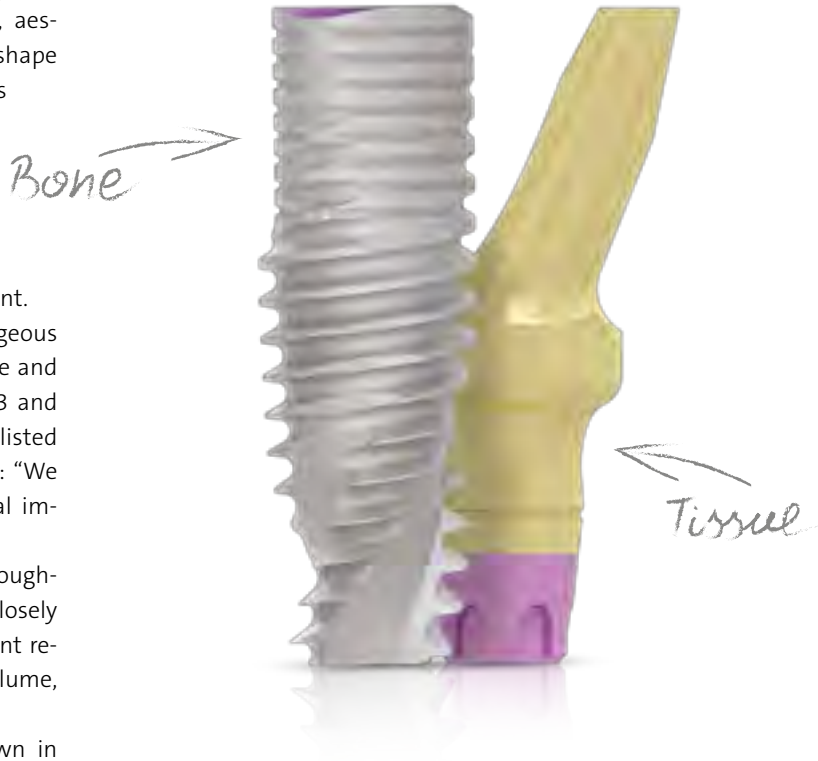
Introduced at the third MIS Global Conference in Barcelona this past May, the MIS VConcept is a holistic approach that provides clinicians with all the tools necessary for a successful and complete rehabilitation process: the innovative V3 implant, the advanced prosthetic system and their effect on a greater volume of bone and soft tissue.

The conference in Barcelona and the clear message that MIS brought forth to all who participated focused on three major points: innovation, aesthetics and simplicity. The unique triangular shape of the coronal part of the V3 implant results in less titanium and more room for bone growth. The compression-free gaps at this top portion of the V3 provide a reservoir for blood pooling and the formation of blood clots, leading to enhanced bone growth at the crestal area around the implant. The V3 provides doctors with a more advantageous starting point, where greater volume of bone and soft tissue is achieved. Expanding on the V3 and its innovative qualities, MIS CEO *Idan Kleifeld* listed innovation as one of the main goals of MIS: “We would like to be the most innovative dental implant company in the world.”

A consistent concave emergence profile throughout all prosthetic components, which more closely resembles natural contours, allows an efficient restorative procedure and extra soft tissue volume, leading to favorable aesthetic results.

The impressive VConcept video first shown in Barcelona emphasizes best the belief that MIS holds regarding nature: “There’s no need to change nature, its perfect just the way it is. We need to become part of it and learn from it. When we rid of our preconceptions, we reshape our mindset ... we make room for more nature, that’s to our advantage.”

Simplicity is a driving force for all MIS innovation. VConcept is the epitome of the MIS “Make It Simple” philosophy. Doctors can enjoy all VConcept benefits of greater bone and soft tissue volume without learning new protocols or procedures. In addition, a dedicated V3 surgical kit makes procedures especially simple, safe and accurate.



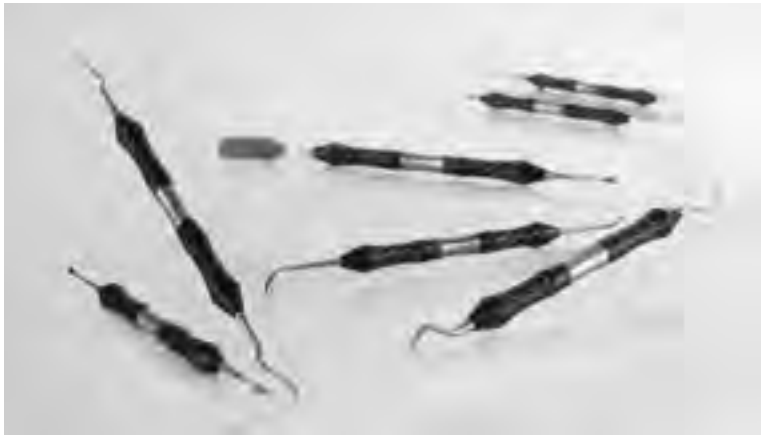
Dr Yuval Jacoby, co-creator of the V3 implant, shared some of his thoughts about the VConcept: “It is all about being as unobtrusive as possible to the tissues in all phases of implant therapy, so that the result is indistinguishable and long lasting. As clinicians, that’s all we strive for.”

More information
www.mis-implants.com

Aesculap's periodontology instruments

Outstanding design: Ergoperio wins iF Award

Ergoperio, the new generation of dental instruments for periodontology, won the prestigious 2015 iF Design Award in the "Medical/Healthcare" category. The prize recognizes the ergonomical and functional design of Aesculap's product range for dentistry. The iF seal of approval has been awarded since 1953 and is regarded as one of the most significant design competitions worldwide.



Improved shape and a substantial reduction in weight: the Ergoperio dental instruments.

Based on the Ergoprobe diagnostic instrument range, the instrument family for periodontology therapy has now been updated to the newly developed design, combining the benefits of a process that took more than two years. *Pedro Morales*, Director Research and Development at Aesculap, is delighted with the award: "We are very proud about this recognition of Ergoperio. Practitioners from university schools of dentistry and dental practices were closely involved in the development process and this is reflected in the result – a synthesis of ergonomics and aesthetics which makes the dentist's work more comfortable and less tiring."

Traditional dental instruments are made of steel, leading to an increased rate of work fatigue due to their weight. Hence, these instruments are very finely shaped. However, from an ergonomic perspective, this has an adverse effect because bulkier instruments sit much better in the dentist's hand. In the Ergoperio design, a new material blend of steel and extremely light, thermostable and durable PEEK-plastic, developed for aeronautical applications, is used for the instrument handles. This results in an improved shape and handle thickness, as well as a 30 per cent reduction in weight compared with the much finer traditional steel instruments.

The Ergoperio range includes all instruments for periodontologic treatments such as scalers and curettes, raspatories and elevators, forceps, sharp curettes and chisels, tunneling instruments, gingivectomy knives, mouth mirror holders and periodontometers. In addition to the updating of the 80 already existing instruments to the new Ergoperio design, 21 new instruments were added to the periodontal instrument range.

The newly developed micro forceps demonstrate a special feature for tissue conserving surgery. The micro forceps plateaus close in parallel, thereby enabling the soft tissue to be grasped along the entire length of the plateau. In this way, the micro forceps can be held with reduced selective contact pressure, thereby protecting the delicate soft tissue structures. In addition, the width of the working ends is designed to facilitate filigree, microsurgical work, but also to allow the soft tissues, needle and suture material (up to 6-0) to be held. At the same time, it prevents the working ends from cutting into the soft tissue structures. The shape and design also follow ergonomic principles: The tapered shape guarantees a comfortable, haptic grip and the round shape of the handles allows the dental surgeon to turn the instrument between the fingertips. ■

More information

www.aesculap-dental.com

Locator R-Tx now available for Nobel Biocare implants

Next-generation attachment

Nobel Biocare is further advancing its comprehensive product range for edentulous treatment with the Locator R-Tx Removable Denture Attachment System. Locator R-Tx was officially launched for Nobel Biocare implants at the company's Global Symposium in New York in June 2016.

Locator R-Tx is an evolution of the successful Locator Attachment System. This next-generation attachment offers clinicians a number of advantages versus its predecessor. These include the new DuraTec titanium carbon nitride coating which is harder and more wear-resistant than the nitride coating of the legacy Locator and is designed to reduce roughness. The Locator R-Tx system eliminates the need for pre-angled abutments. Its redesigned attachment housing is able to pivot up to 30° over the seated Locator R-Tx nylon retention inserts, allowing up to 60° convergence or divergence between implants. The attachment housing also incorporates flats and grooves to prevent dislodgement of the denture and is anodized to give it a pink color, which can help improve aesthetics. Seating is aided by the narrow coronal geometry of the attachment, while dual retentive surfaces support strong engagement. For convenience, all the required components are delivered together, with abutment and processing components held separately in one double-ended vial. With an industry-standard .050"/1.25 mm hex-drive mechanism, no special drivers are required.

The Locator R-Tx attachment system is available for Nobel Biocare implants with internal conical, tri-channel and external hex connection.

More information
www.nobelbiocare.com

Dentalpoint receives FDA clearance for its Zeramex P6 implant system

Now also approved in the US

The Swiss manufacturer Dentalpoint AG has reached another milestone in the company's history. Zeramex P6, its two-piece screw-retained ceramic implant system, has received marketing approval from the US Food and Drug Administration (FDA).

The innovative carbon-fibre reinforced Vicarbo screw facilitates 100 per cent metal-free, reversible screw connections. The company's carbon-ceramic technology and its audited clinical data meet the FDA's stringent requirements. This opens the way to other countries that base their regulatory approvals on FDA approval, which they accept as a quality standard. The USA are one of the world's largest and still growing markets for dental implants and offer attractive sales potential.

More information
www.zeramex.com

creos regenerative solutions

Designed by nature, developed for clinicians

Sufficient bone quantity and quality is a key factor in successful dental implant treatment. That's why Nobel Biocare has introduced creos regenerative solutions – an extensive array of options for guided bone regeneration (GBR) and guided tissue regeneration (GTR) procedures.

creos xenogain is available in a bowl, ready for mixing, eliminating the need for an additional sterile dappen dish.

The latest addition to the creos range is the creos xenogain bone substitute. Together with the creos xenoprotect resorbable collagen membrane, it now offers clinicians a comprehensive set of xenogenic options for a wide variety of indications and preferences.

creos xenogain – a foundation for implant treatment

The creos xenogain bone substitute has been developed with clinical needs in mind. It is proven biocompatible [1–4] and unique processing methods remove the bovine proteins and lipids [5,6]. The natural bone matrix of creos xenogain is characterized by micro- and interconnected macropore structures [5,6].

With a calcium phosphate ratio that reflects the composition in human bone and a low crystalline structure, creos xenogain is accepted by the body as a suitable framework for bone formation [6–8]. Bone substitutes in the creos xenogain range have a slow resorption rate and act as a long-lasting scaffold, maintaining space for bone regeneration [2].

For quick and easy application of the graft, creos xenogain bone substitutes are delivered sterile and come either in a vial, in a syringe, or in a bowl ready for mixing. There is also a choice of two granule sizes and up to four volume options, offering a wide variety of alternatives depending on the clinical indication and preference.

creos xenoprotect – the natural barrier

Once the bone substitute is applied, the resorbable creos xenoprotect membrane can be used to hold it in place and act as a barrier to soft tissue ingrowth. Manufactured using highly purified collagen and elastin fibers, it possesses outstanding handling properties that make it easy to reposition and unfold. Hydrated in seconds, but with minimal size increase, creos xenoprotect can be trimmed when dry for accurate placement at the graft site [9].

Once hydrated, creos xenoprotect is stronger than other non-cross-linked and chemically cross-linked membranes [10]. With a higher pull-out force, it also offers advantages in terms of suture retention. As it is highly resistant to degradation, creos xenoprotect offers prolonged protection of the graft site, while its excellent vascularization behavior and tissue compatibility support fast healing [11].

Each product in the creos range of xenogenic solutions has been developed to optimize treatment results. This comprehensive selection offers biocompatibility, easy handling, slow resorption rates and variety. Whichever option the clinician chooses, he can be confident of building a reliable foundation for implant treatment success [1-11].

The list of references can be found on www.teamwork-media.de/literatur.

More information
www.nobelbiocare.com

Dental prosthesis fixation with miniSKY implants

A satisfactory solution for the edentulous patient

Elderly and toothless patients frequently complain about loose-fitting full dentures. Short-term relining solutions usually do not give satisfactory results. If an augmentation is declined or the patient's general state of health calls for a procedure involving no major surgical work, the practitioner needs a simple, reliable and profitable treatment option. Bredent Prosthesis fixation using the miniSKY system is a fast and secure procedure.

Implants with a reduced diameter are often the only way of retaining dental prostheses in patients in whom bone augmentation is no longer possible. As the miniSKY implants by bredent medical are minimally invasive and atraumatic, the original bone can be used to optimum effect, and expensive augmentations can be avoided. Thanks to the transgingival healing process, the patient is spared a second intervention and the costs are kept low. miniSKY not only means increased comfort for patients, but also offers the dental surgery a very cost-effective and profitable concept which can be quickly and easily integrated into daily practice.

The miniSKY implants can be treated with the miniSKY Locator immediately after being inserted, and the prostheses are then fixed with retention.sil 200. The rotation-locked conical abutment connection provides a high level of stability and also reduces the risk of the screw loosening. All miniSKY implants are provided with the reliable osseo connect surface (ocs), which allows for quick and secure osseointegration and, therefore, a secure hold and a long-lasting result.

More information

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Geistlich Bio-Gide Compressed

Get to know the twin

The new member of the Geistlich Pharma AG family of membrane products is a native bilayer collagen membrane specially designed for dentists who prefer membranes with alternative handling properties compared to the reference membrane in regenerative dentistry: Geistlich Bio-Gide [1,2].

Geistlich Bio-Gide Compressed: the twin membrane to Geistlich Bio-Gide.

As the twin to Geistlich Bio-Gide, the new Geistlich Bio-Gide Compressed membrane adds alternative product properties to the features of Geistlich Bio-Gide, extensively documented over decades of clinical success.

A new product with a long tradition

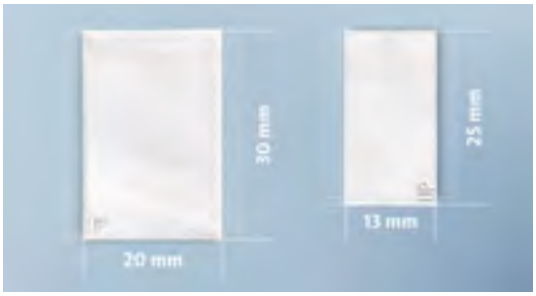
Since Geistlich Bio-Gide Compressed is the twin to Geistlich Bio-Gide, the well-known benefits of Geistlich Bio-Gide remain unchanged, providing its unique biofunctionality [3,4] with outstanding quality.

More than 280 publications [5] document the extensive research performed on Geistlich Bio-Gide, the first native collagen membrane designed for GTR [6]. And the number of publications is still growing, thereby underlining the importance of Geistlich membranes. After 20 years in the market, Geistlich Bio-Gide remains the reference membrane in regenerative dentistry.

More flexibility in your choice

Geistlich Bio-Gide Compressed is available in two standard sizes and provides the flexibility dentists need during surgery. While it still provides Geistlich Bio- Gide's well-known natural bilayer structure for reliable bone regeneration, the new twin shows a smoother surface. The compact side of the membrane is marked "up" to ensure identification of the two layers.

When handling Geistlich Bio-Gide Compressed, the difference is even more tangible. The membrane is firmer to the touch, providing an alternative handling experience, and is thus even easier to cut during surgery.



Geistlich Bio-Gide Compressed: available in two sizes.

For dental regenerative procedures

Today, the combination of Geistlich Bio-Gide and Geistlich Bio-Oss as a part of GBR is considered the standard therapy for a wide range of indications [7]. With documented success: 91.9 per cent implant survival rate of implants placed in regenerated bone with Geistlich Bio-Gide and Geistlich Bio-Oss – similar to pristine bone [8].

The list of references can be found on www.teamwork-media.de/literatur.

More information

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www.geistlich-biomaterials.com

Zygomatic implants for graftless treatment of severe maxillary resorption

High primary stability for immediate function

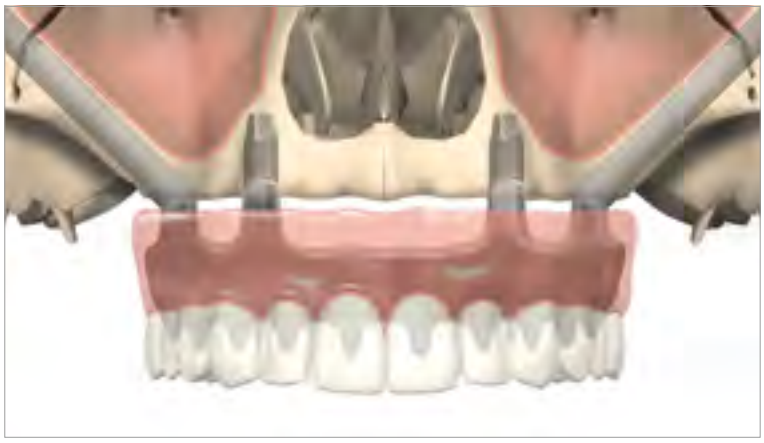
For patients with severe maxillary resorption, extensive grafting procedures can mean lengthy treatment times. But there is an alternative. By anchoring in the zygomatic bone, the NobelZygoma implant system can enable an immediate loading protocol for a graftless treatment. It also offers a broad choice of prosthetic options. This dramatically shortens time-to-teeth for increased patient satisfaction, and allows patients with severely resorbed maxillae to return to a normal quality of life [1].

Nobel Biocare's zygomatic implants are designed to achieve high primary stability [2]. This allows patients with severe bone loss to have a fixed provisional prosthesis fitted immediately after surgery, avoiding the average nine-months wait and multiple surgeries required with grafting. Immediate function with zygomatic implants has other benefits besides shorter treatment time, such as fewer clinical visits and a less invasive intervention compared to grafting procedures.

Nobel Biocare Zygoma implants are thoroughly documented zygomatic implant solutions for the severely resorbed maxilla. Not only does the procedure avoid complex bone-grafting, Zygoma implants show remarkable survival rates in a long-term study, with an average implant CSR of 95.12 per cent after ten years [3].

Surgical flexibility

Building on 25 years of success with Nobel Biocare's zygomatic implants, the new NobelZygoma implants anchor in zygomatic bone and provide an excellent option for treating severe maxillary resorption without bone grafts. They have an unthreaded implant body designed to interface with soft tissue, and – depending on the anatomical situation – parts of the implant body can be located outside of the maxillary sinus. For the extra maxillary placement, the coronal part of the implant should still have bone support. This technique enables a position of the implant head close to the crest of the alveolar ridge that facilitates a prosthetic procedure which in turn offers easier cleaning and better comfort for the patient [5] while improving phonetics [6].



By anchoring in the zygomatic bone, the NobelZygoma implant system can enable an immediate loading protocol for a graftless treatment.

The implant of choice for severely resorbed maxilla

The zygomatic implant has become the implant of choice for cases with a severely resorbed maxilla. Without this implant, many patients would otherwise require invasive grafting procedures to establish adequate bone volume for the placement of conventional implants. Zygomatic implants help avoid grafting and shorten treatment time, with significant improvements in function and aesthetics [4]. The zygomatic concept addresses the needs of this patient group by providing the implant surgeon more treatment options for the edentulous maxilla.

The list of references can be found on www.teamwork-media.de/literatur.

More information

www.nobelbiocare.com

The new Implantmed by W&H

A device that respects your needs

W&H has been selling the Implantmed surgical device since 2001: a high-quality device that offers dental implant specialists a greater safety, simple operation, a high degree of precision and flexible application options. The new generation of Implantmed introduced in September 2016 offers users both the tried-and-tested Implantmed functions and a unique system for assessing the stability of an implant, customizable features that can be retrofitted if required, a high-tech, intuitive user interface and an even more powerful motor. The new W&H surgical device supports practitioners both with its precise performance of oral surgery procedures and with its efficient time management.

Improved safety

Deciding the best time for loading an implant is becoming more and more complex when trying to take into account all key parameters and the patient's risk factors. The optional W&H Osstell ISQ module* for the new Implantmed makes assessing the success of the treatment safer and more reliable. While the Implantmed's integrated automatic thread-cutter function and the torque control help the dentist during insertion of implants, the Osstell ISQ (Implant Stability Quotient) module now makes it easier to decide the optimum loading time for an implant. The stability value measured by the device helps improve the success rate and is a form of quality assurance. Not only can this non-invasive measuring system be used to determine the primary stability of implants, but it can also observe the osseointegration using secondary measurements and be used to determine the optimum time for loading the implant. The ISQ value (ISQ scale of 1–100) is shown on the screen after taking the measurement and is easy to interpret thanks to numerous clinical trials. The W&H Osstell ISQ module is an optional extra and can be easily retrofitted to the new Implantmed. When the documentation function is enabled, all implant insertion values, such as defined device parameters, the implant insertion curve, the Osstell ISQ measurement, and basic data such as the documentation ID and tooth position can be saved to a USB stick.

The straight and contra-angle surgical handpieces with LED+ now provide full illumination of the surgical site regardless of the motor speed.

Simplicity of operation

The new Implantmed's user interface helps the dental practice team to streamline the treatment steps as they are simpler, take less time and are more efficient. The high-tech colour touch screen with the glass surface makes it easy to operate the device. The important information for the particular step of the procedure is clearly visible on the large screen. The logical and intuitively designed navigation system and the customizable programme sequences allow the dental implant specialist to concentrate on the essentials. The Implantmed can be customized for up to six users, making it ideal for improved efficiency in group practices.

The redesigned coolant pump also helps make the surgical device especially easy to operate and prep times are even faster. With the new design, the irrigation tubing can be inserted very easily, quickly and above all safely even under sterile conditions.

Precise and powerful

Even difficult procedures can be performed with less effort and great precision, thanks to a motor torque of 6.2 Ncm and a speed of 200 to 40,000 rpm. The

new device also has the shortest surgical motor on the market. The ergonomically shaped and perfectly balanced combination of motor and W&H contra-angle handpiece allows the user to work for extended periods without fatigue affecting the hands. In addition, the five new straight and contra-angle surgical handpieces with LED+ now fully illuminate the surgical site regardless of the motor speed. The high-quality stainless steel with its scratch-resistant coating means that the surgical straight and contra-angle handpieces have a particularly long service life and are very sturdy.

High degree of flexibility

Flexibility is an important feature of the new Implantmed. In addition to optional features that can be selected at purchase and the W&H Osstell ISQ module, which can also be retrofitted, the new wireless foot control offers even greater flexibility and convenience. The Implantmed can also be operated easily and sterilely with the foot control as an alternative to the touch screen. The new wireless foot control can be used with multiple W&H devices, such as the piezosurgical device Piezomed, and can also be fitted easily to these devices at a later time. The wireless foot control can be placed anywhere in the work area for greater safety and convenience in the surgical environment.

*The availability of the accessory W&H Osstell ISQ module depends on country or region.

More information

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office@wh.com
www.wh.com

The new Implantmed is characterised by greater safety, ease of use, high precision and flexibility in application.

Book review

Esthetics in Dentistry

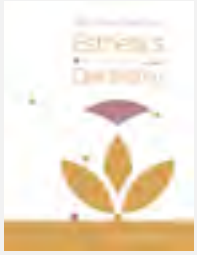
Dr Devorah Schwartz-Arad

A unique collaboration between 17 internationally renowned women dentists has resulted in an inspirational textbook on aesthetics in modern dentistry. Illustrated with over 800 figures, the book presents a thorough overview on various aspects of aesthetics, including orthodontics and orthognathics, implant therapy, restoration, rehabilitation, materials, trauma, and surgery. Furthermore, each author provides fascinating insights into her journey to become a successful female dentist in a male-dominated industry. The stories differ, but the results are the same – excellent patient care and excellent aesthetics.

The editor, *Dr Devorah Schwartz-Arad*, received her DMD and PhD degrees from the Faculty of Medicine at the Hebrew University in Jerusalem, Israel. She was a senior lecturer in the Department of Oral and Maxillofacial Surgery at the Goldschleger School of Dental Medicine at the Tel Aviv University, has published numerous scientific articles and is a frequent speaker at international scientific conferences. She was the author and editor of the book "Ridge preservation & immediate implantation" published by Quintessence in 2012.

Dr Schwartz-Arad on "Esthetics in Dentistry": "My sincere hope is that, over and above its professional contribution to the dental community, this book will encourage both young and experienced women dentists to escalate their knowledge, wisdom, and artistic talent, and to have the impact on the dental community they so rightly deserve."

Bibliographic information



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6 Kirsti Hurmerinta

Teeth and jaw posture behind the attractive smile 7

Evaluation of face and smile

Today, three-dimensional (3D) computerized imaging is widely used in craniofacial surgery. However, 3D computerized tomography (CT) analysis is still mainly used for individual examination, and as yet, no accepted norms have been established for 3D CT. Thus the evaluation of face and orthognathic and orthodontic diagnosis is still mostly based on 2D cephalometric measurements. Cephalometric measurements provide objective guidelines to define skeletal and dental structures and describe deviations from the norm. However, cephalometric analysis alone is not sufficient. Although the profile, dentition, and bony structure can be seen in cephalometric analysis, the smile itself cannot. It has also been shown that good facial harmony can exist within a wide range of cephalometric values.[9–11] Thus the lateral cephalometric evaluation should be complemented by clinical and dynamic examination from anterior, lateral, and 45-degree angle views during speaking and smiling. The attractiveness of a smile has been shown to be dependent on the extent of incisal and gingival exposure during smiling. A smile depends on the alignment and symmetry of the anterior teeth, the gingival margins, the maxillary incisor inclination, and the form and fullness of the lips.[12,13] However, the influence of the width of the buccal and posterior corridors on the attractiveness has been shown to be controversial.[14–17]

A multidisciplinary team approach in enhancing smile attractiveness

Treatment for enhancing smile attractiveness can be based on a multidisciplinary cooperation process, which includes the seamless teamwork of surgeons, orthodontists, prosthodontists, and periodontists. The aims of orthognathic and orthodontic treatment have changed over the years. Nowadays, treatment planning emphasizes facial esthetics rather than focusing solely on correcting the occlusion. Today, the treatment outcome of the enhancement of a patient's smile and profile is not driven by the orthodontist's or the surgeon's ability to perform the treatment, but by a proper esthetic- and function-driven clinical diagnosis and by interdisciplinary collaboration in treatment planning. The goal of preoperative orthodontic treatment is to align the occlusion according to functional and esthetic objectives and also to create an optimal form of dental arches to achieve the desired surgical repositioning of the skeletal bases. The goal of orthognathic surgery is the optimal 3D positioning of the jaws and harmonized dentition in sagittal, vertical, transverse, and midline aspects. Prosthodontists, restorative dentists, and periodontists are needed to finalize dental characteristics and provide an attractive gingival margin.

Surgical repositioning of jaws in enhancing the attractiveness of a smile

In orthognathic planning, prime attention is given to achieving the proper localization of the maxilla. During surgical repositioning of the maxilla, the main factors that affect the attractiveness of the smile are the inclination of the maxillary incisors, the dental display, and the fullness of the lips (Fig 1-2). The position of the mandible is secondary to that of the maxilla, and the mandible is placed according to the maxillary occlusion into the best possible interdigitation and functional occlusion. In the incisal area, the preference for a horizontal overjet is 2 to 3 mm, and 3 mm for a vertical overjet.[18,19] In maxillomandibular surgery, the posterior downward rotation of the maxillary occlusal plane markedly affects the anterior position of the mandible and the prominence of the chin point.[18,19]

A particular case study: Gioconda's smile.

Contents

The esthetic smile
- Teeth and jaw posture behind the attractive smile: Orthodontic and orthognatic aspects
- How to detect facial defects to create a perfect smile
- Smile design
- Esthetics and orthodontics: Alignment for a perfect smile
- Creating the smile with dental implants

Esthetics in adults
- Anterior conservative rehabilitation with composite resin
- Esthetic rehabilitation of endodontically treated anterior teeth
- Adult orthodontics: Collapsed arch patients
- Full-mouth reconstruction and esthetic implant therapy
- Premature tooth wear and esthetic dentistry
- A holistic approach to esthetics in prosthodontics

Materials for esthetic treatment
- Dental ceramics: Classifications and indications

Surgery for long-term esthetics
- Horizontal bone augmentation: Achieving long-term predictable outcomes in implant placement
- Facial esthetics after tumor/trauma-surgeries and congenital defects
- Combined surgical procedures for improving the esthetics in moderate to severe bone deficiency in the anterior maxilla

teamwork **bookshop**

Ulf Krueger-Janson

3D Composites – Natural Shading & Shaping

Contains an instruction sheet for an uncomplicated layer construction as well as hints for the correct handling of the appropriate materials and tools.

264 pages, 1300 pictures

178,– € plus shipping

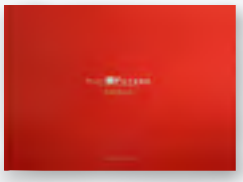
Jan Hajtó

Anteriores – Natural & Beautiful Teeth

This collection can be a great help for communication between the dentist, patient and the dental technician.

270 pages, 950 pictures

149,– € plus shipping



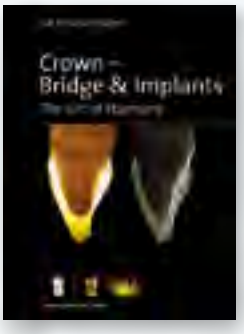
Naoki Hayashi

Past << Future: Envision 77 Heart Beats

Master ceramist Naoki Hayashi presents a portfolio of beautiful restorations in a unique book reflecting his high quality work and unique style.

320 pages with excellent four color photographs

349,– € plus shipping



Luc Rutten & Patrick Rutten

Crown – Bridge & Implants: The Art of Harmony

The authors show the way to a perfect red and white esthetic by using pictures and a cross section out of their daily work in the laboratory.

296 pages, 1300 pictures

99,– € plus shipping

Knut Miller

Individualitas Naturae Dentis

This valuable workbook supports and inspires dentists in their quest to consciously replicate the individual shapes of the natural tooth.

139 pages, 154 picture

154,– € plus shipping

Oliver Brix

Fundamentals of Esthetics

Reader-friendly format and ample illustrations are designed to illuminate the way to practicable solutions. Available in English, French and German.

244 pages, 1015 pictures

79,– € plus shipping

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TEAM WORK MEDIA
dental publishing

Bioimplon Hypro-Sorb M

Product
Hypro-Sorb M Matrix

Indication
GTR/GBR

Distribution
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35398 Gießen
Germany
www.bioimplon.de

The Hypro-Sorb M Matrix is a multilayer tissue matrix of pure, crystalline atelocollagen type I derived from the bovine Achilles tendon for GTR in periodontology and GBR in maxillofacial surgery. The Hypro-Sorb M Matrix has a bacteriostatic effect; it supports rapid neovascularization and controlled soft tissue integration and is a safe alternative to the patient's own tissue grafting material. In addition, the matrix has an excellent barrier function due to the solid collagen structure and a long resorption time of six months after which it is completely remodeled into the patient's own tissue. Furthermore, it can be trimmed to the shape of the wound site which allows perfect adherence and positioning. The Hypro-Sorb M Matrix is made of 99.9 per cent atelocollagen (telopeptides-free collagen) which ensures highest degree of biocompatibility.

Planmeca Romexis ProMax 3D

Product
Romexis ProMax 3D

Indication
CAD/CAM workflow

Distribution
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Member of other Societies:

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Continuing education Courses: .....

.....

Fellowship status / diplomate status in implantology

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(For information on BDIZ EDI Directory of Implant Dentists see overleaf)

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Calendar of Events

	Event	Location	Date	Details/Registration
9/2016	**EAO Annual Scientific Congress**	Paris France	29 September – 1 October 2016	European Association for Osseointegration www.eao.org/eao-congress
10/2016	**11th International Conference of the DGÄZ**	Tegernsee Germany	6 – 8 October 2016	DGÄZ www.america-meets-europe.com
	BDIA Dental Showcase 2016	London Great Britain	6 – 8 October 2016	British Dental Industry Association www.dentalshowcase.com
	Pragodent 2016	Prague Czech Republic	6 – 8 October 2016	Incheba Praha www.pragodent.eu
11/2016	**Swedental 2016**	Stockholm Sweden	16 – 18 November 2016	Stockholmsmässan www.swedental.org
	ADF Annual Dental Meeting	Paris France	22 – 26 November 2016	Association Dentaire Française www.adf.asso.fr
12/2016	**20th Annual Symposium of BDIZ EDI**	Berlin Germany	9 – 10 December 2016	BDIZ EDI www.bdizedi.org
2/2017	**Dentsply World Summit Tour 2017**	Tokyo Japan	18 – 19 February 2017	Dentsply Implants www.worldsummittour.com
	Chicago Dental Society Midwinter Meeting	Chicago USA	23 – 25 February 2017	Chicago Dental Society (CDS) www.cds.org
3/2017	**37th International Dental Show**	Cologne Germany	21 – 25 March 2017	Koelnmesse GmbH www.ids-cologne.de
5/2017	**ITI World Symposium**	Basel Switzerland	4 – 6 May 2017	International Team for Implantology www.iti.org/worldsymposium2017/
	Global Symposium 2017	Miami USA	4 – 6 May 2017	BioHorizons www.biohorizons.com

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

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[2] Hildebrand, H. F., Veron, Chr., Martin, P.: Nickel, chromium, cobalt dental alloys and allergic reactions: an overview. Biomaterials 10, 545-548, (1989)

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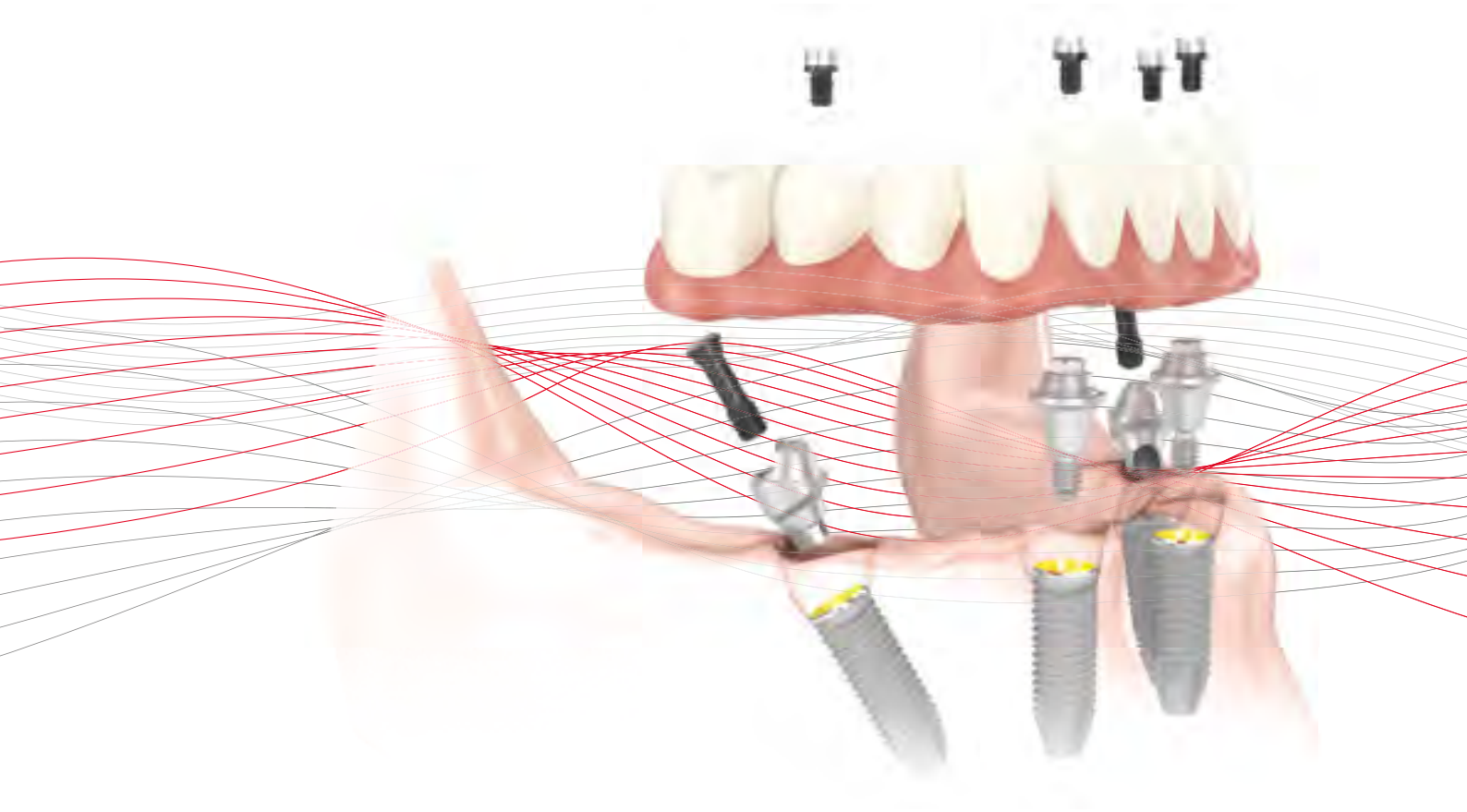

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