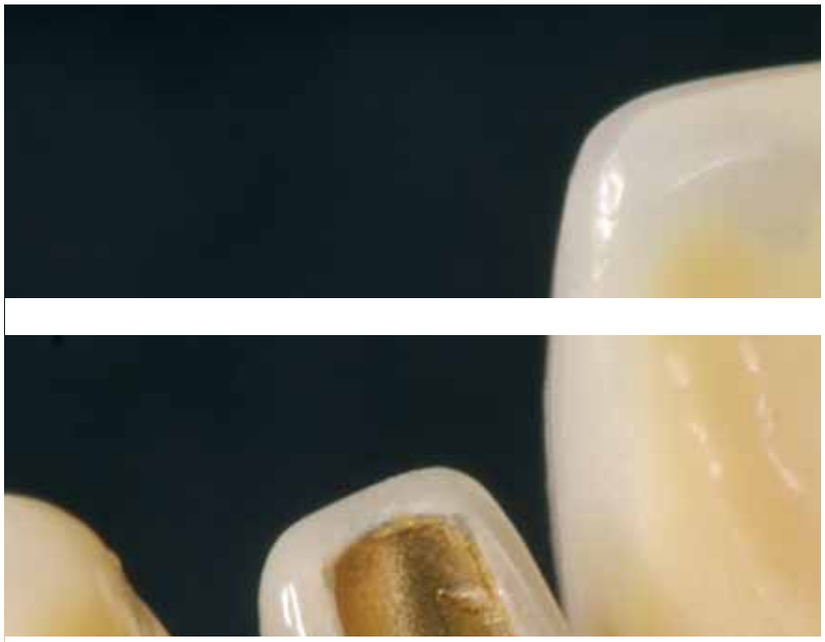
ISSN 1862-2879
Issue 4/2008 Vol. 4

EDI Journal

European Journal for Dental Implantologists







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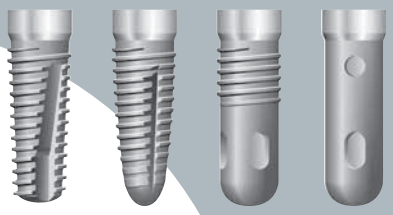

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BIOTECHNOLOGIES

Focus on 3D Implantology

Until only a few years ago, three-dimensional representations of the human body required the use of expensive computer tomography equipment. Today, three-dimensional dental digital volume tomographs allow us to plan complicated surgical procedures in the maxillofacial region down to the minutest detail. Looking into the future, clinical oral implantology will greatly benefit from navigated three-dimensional implant surgery, especially in complicated cases. State-of-the-art implantological clinics and the universities have been working with this method for some time now. Navigated, that is, guided implantation intends to prevent intraoperative complications and protect the blood vessels and nerves – making for a very safe technique for well-versed implantologists.

In 2009, BDIZ EDI will be intensely preoccupied with imaging techniques in general and 3D diagnostics and computer-assisted implantology in particular, starting with our 4th Expert Symposium in Cologne in February. "Implantology is three-dimensional" will be the title of this year's BDIZ EDI Expert Symposium. Our goal is to demonstrate the diagnostic and therapeutic advantages of cutting-edge technologies. Today, digital volume tomography (DVT) covers a highly diverse range of diagnostic radiological indications – from implantological and fracture cases all the way to complicated third-molar cases. *Prof Zöller* is not only the Scientific Director of our Expert Symposium – he is himself the expert on 3D implantology. At his Department of Oral and Maxillofacial Plastic Surgery at the University of Cologne, *Zöller* has been working with a DVT unit for many years. He is also the author of a textbook entitled Digitale Volumentomografie in der Zahn-, Mund- und Kieferheilkunde ("Digital volume tomography in oral and maxillofacial surgery"). The speakers invited to hold presentations at the symposium have all been intensively involved with the subject matter for years. And to make the picture more complete, we will be making frequent reference to methods of conventional 2D implantological diagnostics. Here we will be talking about radiological basics and about sectional image diagnostics and discussing the question what treatment planning systems are ready for use in clinical practice. We will also be comparing the systems themselves: from SkyPlanX and Newtom 3G to the Nobel-Guide system. And as has become the tradition, we will be calling for a European Consensus Conference on 3D implantology to meet prior to the Expert Symposium, to culminate in a consensus paper presented by experts from research and clinical practice.

In April, then, we will be discussing the same range of topics for a week, meeting with Greek colleagues at a hotel on the Mediterranean, near the Greek capital of Athens. German and Greek implantologists will join forces at a symposium and various workshops and exchange notes and share experiences on the topic of 3D implantology. The demand for the Greek Curriculum Implantology of BDIZ EDI, which was inaugurated as recently as a few months ago, has demonstrated the immense interest Greek dentists are showing in oral implantology and in new technical accomplishments and scientific results.

In October, too, we will be focusing on 3D diagnostics and computer-assisted oral implantology as we celebrate the twentieth anniversary of BDIZ EDI in Munich. At the 13th BDIZ EDI symposium, we will be highlighting the chances, but also the limits of new technologies in terms of usability, indications and contraindications, radiation levels and – especially – interdisciplinary aspects.

Every treatment we perform implies an enormous responsibility vis-à-vis our patients. We must carefully evaluate what treatment modalities or what materials will give the best results. This evaluation must include all aspects of the treatment, and we must subject the various new technologies to close scrutiny, both from a technical and an economic point of view.

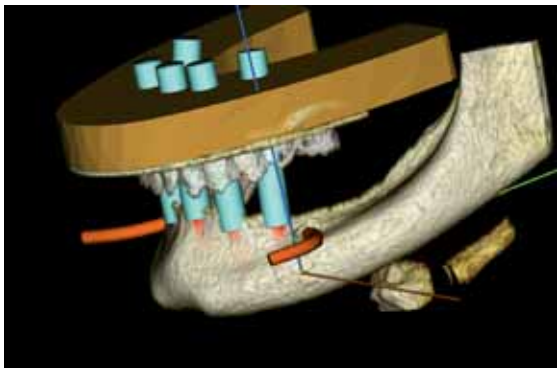
I am looking forward to an exciting year with top-notch events focusing on 3D implantology.

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

EDI News

European Law

Case Studies



Implant extensions perforating a virtual indexing arch, see article on page 72.

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Business & Events

News and Views

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published by **teamwork media GmbH, Fuchstal**

Association: The European Journal for Dental Implantologists (EDI) is published in cooperation with BDIZ EDI

Publisher Board Members: Christian Berger
Prof Dr Dr Joachim E. Zöller
Dr Detlef Hildebrand, Dr Thomas Ratajczak

Editor in Chief: Ralf Suckert, r.suckert@teamwork-media.de

Editors: Anita Wuttke, Phone +49 89 72069-888, wuttke@bdizedi.org
Simone Stark, Phone +49 8243 9692-34, s.stark@teamwork-media.de

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All case reports and scientific documentations are peer reviewed by the international editorial board of "teamwork – Journal of Multidisciplinary Collaboration in Restorative Dentistry"

Project Management & Advertising: Marianne Steinbeck, MS Media Service, Badstraße 5, D-83714 Miesbach,
Phone +49 8025 5785, Fax +49 8025 5583, msmedia@aol.com

Publishers: teamwork media Verlags GmbH, Hauptstr. 1, D-86925 Fuchstal
Phone +49 8243 9692-11, Fax +49 8243 9692-22
service@teamwork-media.de; www.teamwork-media.de

Layout: Sigrid Eisenlauer; teamwork media GmbH

Printing: J. Gotteswinter GmbH; Munich

Publication Dates: March, June, September, December

Subscription Rates: Annual subscription: Germany € 40.- including shipping and VAT. All other countries € 58.- including shipping. Subscription payments must be made in advance. Ordering: in written form only to the publisher. Cancellation deadlines: in written form only, 8 weeks prior to end of subscription year. Subscription is governed by German law. Past issues are available. Complaints regarding nonreceipt of issues will be accepted up to 3months after date of publication.
Current advertising rate list No. 1, from 1/01/05
ISSN 1862-2879

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12th BDIZ EDI Symposium/Hesse Dentists' Congress

Fit for the Future – and an Outlook on GOZ 2009

The timing was perfect – the German Federal Ministry of Health had published its GOZ draft only a week before. (GOZ is the German standard fee schedule for dentists, applicable to private patients, including patients with private health insurance.) The dentists were shocked – after 20 years (!) of no movement, the draft was suggesting a rate increase of a whopping 0.4 percent. At the joint congress of BDIZ EDI and the Hesse Chamber of Dentists under the motto of "Fit for the Future", which was held at the Congress Centre in Frankfurt on 7 and 8 November and which had drawn an attendance of approximately 1300 dentists, the GOZ specialists of the two organizations discussed the text, structure and consequences of GOZ 2009. A highlight of the two-day event was the short presentation by Hinrich Romeike, two-time victorious Eventing rider from Rendsburg in northern Germany.

For *Dr Thomas Ratajczak* (Sindelfingen), counsel of BDIZ EDI and an expert in medical law, the contents of the GOZ confirmed the fears he had already had after looking at a preliminary draft in May 2007: "GOZ 2009 will to a very great extent build on BEMA." (BEMA is a German catalogue of service point values that regulates the fees received by dentists from statutory health insurers.) Given the insertion of Section 2a into the GOZ, *Ratajczak* believes that the retention of the pre-existing Section 2 in unmodified form is unconstitutional. In addition, he believes that the refusal to increase the point value to compensate for inflation is equally unconstitutional, as is the introduction of the previous common multiplier of 2.3 as a standard ceiling – an assessment based on a rule that mandates a minimum difference between GOZ values and the fees paid by statutory health insurers.

Hosts Dr Michael Frank and Christian Berger.

More red tape in physicians' and dentists' offices

Dr Gerhard Brodmann (Bad Dürkheim) fears further massive manipulation of the relationship between physician and patient, in addition to those we are already experiencing in the wake of certain "reform" laws and, now, the new GOZ. He anticipates that the amount of red tape will increase immensely. The discussion, which was hosted by *Dr Michael Frank* (Lampertheim), president of the Hesse Chamber of Dentists and vice president of the German Dental Association, placed particular emphasis on two aspects. Dentist's bills to private patients will require more detailed and, especially, more highly customized explanatory notes of the fees charged, and each dental office should create its own calculation base for typical dental services performed. "Find out what your average treatment times are – preferably using a stopwatch", was the suggestion offered by *Dr Josef Sobek* (Hamm). *Dr Olaf Winzen* (Frankfurt) urged his listeners to continue putting quality first in their treatment offers. The HOZ (a fee schedule developed and presented by the German Dental Association)

GOZ 2009 causing apprehensive faces: The expert panel with Dr Josef Sobek, Dr Olaf Winzen, Dr Gerhard Brodmann and Dr Thomas Ratajczak.

Implant surgery and prosthodontics: Speakers Dr Christian Foitzik, Prof Joachim Zöller and Dr Detlef Hildebrand answering questions from the floor.

A calendar with horse drawings – what else. Two-time Olympic gold winner Hinrich Romeike is visibly pleased about this gift from the BDIZ EDI. Here he is shown together with Dr Michael Frank and Christian Berger.

kept creeping up in the discussions. Experts claimed that HOZ made it possible to calculate average values for one's own practice.

GOZ in daily practice

The GOZ forum was followed by presentations on GOZ in daily practice. First of all, three clinical cases – a periodontal case, a prosthodontic case and an implant case – were presented together with their fee implications according to GOZ 2009 and HOZ. *Dr Benjamin Ehmke* (Münster) and *Dr Olaf Winzen* presented the periodontal case. *Dr Detlef Hildebrand* (Berlin) and *Dr Josef Sobek* found for periodontics that GOZ 2009 allowed dentists to bill only 204.44 euros (63.09 minutes) for a functional diagnosis , compared to 301.19 euros (92.95 minutes) according to the 1988 (!) schedule. In the implant case presented next, BDIZ EDI vice president *Prof Joachim Zöller* (Cologne) had augmented a mandible vertically and horizontally using bone grafts from the iliac crest. *Dr Christian Foitzik* (Darmstadt) calculated his fee for an implant insertion and vestibuloplasty as 611.04 euros according to GOZ 2009, compared to 777.99 euros according to the 1988 schedule.

According to BDIZ EDI president *Christian Berger*, who hosted the GOZ day together with Hesse Chamber of Dentists president *Dr Michael Frank*, the draft GOZ in no way meets the requirements of a dental fee schedule, because it does not take into consideration the progress of dentistry during the past 20 years. He announced that BDIZ EDI would scrutinize GOZ 2009 very closely and did not exclude the possibility of legal action.

Hinrich Romeike: Professional and athletic activities

Much more pleasant than the GOZ discussion was the visit by *Hinrich Romeike* of Rendsburg on the scientific day of the event. *Romeike*, who is an active implantologist, had won equestrian gold in both Eventing Team and Eventing Individual at the 2008 Olympic Games, which made him the most successful German Olympic athlete. As invited speaker of the BDIZ EDI, he spoke about the balancing act between his profession and athletics. He presented himself to the public as a "completely normal dentist and implantologist". He was the only non-professional athlete to win Olympic gold, for which he gave the following explanation: "We dentists know how to concentrate on minor details, and minor details are often the key to success." Read more about *Hinrich Romeike* on page 26. ■

Dental medicine in dialogue

The scientific day was dedicated to dental medicine and aspects of general medicine, offering clinical concepts for implementation in the dental office. Implantology came into its own in the afternoon the highlight being the live implant/prosthodontic session by *Dr Paul Weigl* (Frankfurt). Read more about this on page 10.

12th BDIZ EDI Symposium and Hesse Dentists' Congress

Dental Medicine in Dialogue

For the first time, BDIZ EDI held its annual congress jointly with a cooperating partner. Thus, the 12th BDIZ EDI Symposium was held together with the 13th European Forum on Dentistry in Frankfurt on 7/8 November 2008. Under the motto of "Fit for the Future", Scientific Directors Prof Zöller and Dr Michael Frank hosted Saturday's events, covering topics from clinical concepts for implementation in the dental office all the way to oral implantology.

Dentistry in dialogue with general medicine was the first focus of the day, hosted by *Dr Michael Frank*, president of the Hesse Chamber of Dentists. The second focus was on oral implantology, from the planning stages to the prosthetic result, hosted by *Prof Joachim Zöller*, vice president of BDIZ EDI. The culmination of the scientific day was the live implant/prosthodontic session by *Dr Paul Weigl* (Frankfurt). TED surveys on aspects of everyday clinical practice allowed the approximately 1300 participants to voice their views.

The future: interdisciplinary dentistry

Prof Ferdinand M. Gerlach, MPH, is Vice President of the German Society for General Medicine and Family Medicine (DEGAM). In his lecture entitled "The future is chronic" he pointed out parallels between dentistry and general medicine. More and more people suffer from chronic diseases as life expectancy keeps increasing. Both general practitioners and general dentists are increasingly treating the same (chronically sick) patients. In addition, there is evidence of causal relationships between oral and systemic diseases. *Prof Gerlach* addressed the relevance of findings and concepts used in general healthcare and in dentistry. He pointed out that modern dental offices have major strengths, including extensive consultation and dialog, teams characterized by growing professionalism, well-implemented strategies of disease prevention, and comprehensive interdisciplinary collaboration. Dentists are a few steps ahead of physicians in various departments. Most notably, they have better recall and prophylaxis programs installed. They also score more highly on established structures of continuing education. *Prof Gerlach* warned dentists to resist compartmentalization like in general medicine and expressed his belief that comprehensive interdisciplinary dentistry was an asset worth preserving. There is a future in maintaining cross-connections between specialties, in avoiding risks, and in establishing proactive strategies of disease prevention (e.g. through medications). *Prof Gerlach* envisioned a shift away from mechanical and technical toward medical aspects.

Prof Wilfried Wagner (University of Mainz, Germany) talked about diagnosis of oral mucosal diseases. He said it was regrettable that skin-cancer screening was not included in dentistry, considering that 80 percent of these tumors are diagnosed in oral and maxillofacial regions. *Prof Wagner* made an impressive case for brush biopsy. A comparison of histological and cytological diagnoses revealed that more than 80 percent of all carcinomas could be identified in this way. Moreover, the brush technique also performed strongly in terms of specificity, as over 80 percent of non-malignant lesions were correctly identified. There is a need to promote this practice in dental offices. The TED survey revealed that only 23 percent of the respondents used brush cytology to track down the nature of unclear alterations in their offices.




The hosts: Prof Joachim Zöller, Dr Michael Frank, Christian Berger and Dr Christian Foitzik (from left).

1300 dentists attended the two-day symposium in Frankfurt.

Management of periodontitis

Next in line were presentations dealing with current concepts of restorative treatment (*Prof Albert Mehl* from Zurich, Switzerland), endodontics (*Dr Matthias Zehnder*) and microbiological diagnostics (*Dr Benjamin Ehmke*). *Dr Zehnder* (Zurich, Switzerland) shed light on a number of allegedly "new" endodontic concepts, demonstrating that they are not quite that new after all. However, some truly new findings were made in recent years. They have simplified and improved the treatment and prevention of apical periodontitis. *Dr Zehnder* focused on disinfection of the root canal system. *Dr Ehmke* (Münster, Germany) talked about systemic antimicrobial therapy, focusing on its application and its relationship with microbiological testing in the treatment of periodontal diseases. Surprisingly, no hard evidence has yet been furnished that better clinical results are achieved by specific antibiotic treatment if the microbial composition in the oral cavity is known than by unspecific antibiotic treatment if the microbial composition is unknown. The question whether routine microbial screening is actually justified in periodontally compromised patients cannot be answered with ultimate certainty. Moreover, technical improvements in the field of in-vitro diagnosis are needed to clearly demonstrate any benefit of routine microbiological testing.

How important is implant planning?

Dr Detlef Hildebrand (Berlin, Germany) is secretary-general of the BDIZ EDI. His lecture on "Correct implant-supported prostheses: dialog between the restorative clinician and surgeon" kicked off the implantology section. Patients' aesthetic demands have become the main criterion by which to judge the prosthetic and aesthetic treatment goals of modern implantology. Precise diagnosis and planning of implant positions are matters of utmost importance. *Dr Hildebrand* identified three phases of implant planning: radiographic diagnosis, online three-dimensional planning and navigation: "This approach

Prof Ferdinand M. Gerlach

Prof Wilfried Wagner

Prof Albert Mehl

Dr Matthias Zehnder

Dr Benjamin Ehmke

Dr Detlef Hildebrand

Dr Jörg Neugebauer

Dr Paul Weigl

eliminates the imponderables that give us such a hard time." The TED survey asked the following question: "Do you routinely use DVT data for preoperative evaluation, diagnosis and implant planning?" Only 9 percent of the respondents said they did. *Dr Hildebrand* elaborated in detail on the various stages of treatment from the time of first presentation up to the time of delivering the definitive fixed implant-supported superstructure. He described causal relationships between clinical and technological expertise and concluded his lecture by stressing the importance of quality management in implantology, the catchwords being "prosthetic stimulation and backward planning".

Dr Jörg Neugebauer (University of Cologne) is another member of the BDIZ EDI board of directors. His topic was "Correct implant-supported prostheses: dialog between the surgeon and restorative clinician". The goal of dental implants is to anchor prosthetic restorations. To define this goal, the restorative clinician needs to discuss all available (conventional and implantological) treatment options with the patient. To achieve the goal, a surgical approach must be identified that will predictably lead to the desired outcome with reasonable effort in accordance with the baseline anatomical conditions and the patient's expectations. The restorative clinician needs to be familiar with available options of reconstructive surgery in order to advise the patient on augmentation procedures and surgical procedures associated with implant placement. Once the consultation and the surgery-related examination have been completed, the definitive treatment protocol is developed and coordinated with the restorative clinician. This was *Dr Neugebauer's* TED survey question: "Would your patients reject your proposed treatments if they were to include referrals for any surgical procedures rather than being performed exclusively in your office?" Sixty percent of respondents answered in the negative. *Dr Neugebauer* presented the case of an 83-year-old female patient to illustrate aspects of rehabilitation in the presence of cardiac risk factors.

Dr Paul Weigl, assistant medical director in Frankfurt, Germany, delivered a live session in 16:9 HDTV format, which was both the highlight of this two-day event and its outgoing presentation. Its topic was "Correct implant-supported prostheses: step by step from registration to delivery." The 12th BDIZ EDI symposium covered a variety of implantological treatment concepts and interdisciplinary approaches. Moreover, it was the first symposium to address dentists whose therapeutic armamentarium does not (yet) include implants. ■

BDIZ EDI demonstrated a strong presence – not only inside, but also outside the large lecture hall. The photograph shows Alexandra Papke of SZD and Uschi Zolper.

20th Anniversary of BDIZ EDI

13th BDIZ EDI Symposium
9/10 October 2009 in Munich

3D diagnostics and computer-assisted implantology

- International speakers
- Workshops on individual systems

We will be highlighting the chances and limits of the new technologies in terms of usability, indications and contraindications, radiation levels and – especially – interdisciplinary aspects.

BDIZ EDI will be celebrating its 20th anniversary with a cavalcade of everything it has to offer: information on the law, accounting and reimbursement procedures, scientific findings, and plenty of services for its members.

BDIZ EDI

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11th BDIZ EDI European Committee meeting in Frankfurt

New Members of the BDIZ EDI Family

The global banking crisis was not felt in Frankfurt that day. The European banking metropolis, rather unprepossessing during daytime, is quite impressive to the beholder at night, when its skyline starts gleaming, as the European guests of BDIZ EDI were able to testify to. The European Committee held its meeting ahead of the 12th BDIZ EDI Symposium, defining its goals for 2009 and beyond.

BDIZ EDI president *Christian Berger* welcomed *Prof António Felino* of the Portuguese partner association SPCO (Sociedade Portuguesa de Cirurgia Oral); *Yannis Roussis* of Omnipress Publishing, Greece; *Dr Dusan Vasiljevic*, president of the partner association UOI-SCG EOI, Serbia-Montenegro; *Prof Hakan Özyuvaci*, Turkey; *Ralf Suckert*, whose company teamwork media publishes the two journals BDIZ EDI konkret and EDI Journal; *Dr Peter Ehrl*, conceptual administrator on the German end of the Greek-German Curriculum Implantology; and as a guest *Dr Dieter Nolte*, who conveyed the greetings of the Hesse Chamber of Dentists that had organized this year's Annual Congress together with BDIZ EDI. Other representatives of the BDIZ EDI were its secretary-general *Dr Detlef Hildebrand*, who maintains close contacts with Greek and Turkish implantological societies. *Berger* gave the participants information about the upcoming 12th symposium on "Dental Medicine in Focus". He also referred to the German standard schedule of fees, GOZ, the draft of which had just been presented by the German Ministry of Health. He invited those present to attend the next meeting of the BDIZ EDI European Committee in Cologne on 26 February 2009. For the fourth time now, BDIZ EDI will be letting a consensus conference on the same topic precede its symposium, the topic for 2009 being "Implantology is three-dimensional". Both events will be taking place on the last weekend of the Carnival season in Cologne.

European Congress of Oral Surgeons in Oporto

Prof António Felino reported on the very successful EFOSS congress in Oporto, which the European societies of oral surgery had participated in in October. SPCO had been the organizer of this event, and *Prof Felino* had been the director of the scientific committee. *Felino* briefly introduced his association and gave an overview of the situation in Portugal.

Participants of the European Committee meeting in Frankfurt (left to right): Dr Dieter Nolte, Yannis Roussis, Dr Peter Ehrl, Prof António Felino, Dr Detlef Hildebrand, Prof Joachim Zöller, Prof Hakan Özyuvaci, Christian Berger, Dr Dusan Vasiljevic and Ralf Suckert.

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Greek-Turkish cooperation in the BDIZ EDI European Committee: Yannis Roussis and Prof Hakan Özyuvaci.

The Portuguese Association of Oral Surgery has existed for ten years and has 150 members. Portugal has eight million inhabitants and a total of 5000 dentists.

Dr Dusan Vasiljevic reported on Promodentis, the annual congress and major trade show in Novi Sad. Attendance at the congress, he reported, had far exceeded the figures of the previous year. BDIZ EDI president *Berger*, he said, now participated as a speaker almost every year, which might very well have contributed to the popularity and success of Promodentis.

Third symposium on the Mediterranean

Yannis Roussis reported on the BDIZ EDI Mediterranean symposium, to be held again next Easter near Athens, Greece. Both German and Greek speakers will be holding presentations; there will be a congress and a week of workshops in a hotel on the Mediterranean, not far from the Greek capital. *Roussis* also reported on the third Greek-German Curriculum Implantology that had recently started in Athens. The second Curriculum was nearing its close, and many participants were interested in becoming members of BDIZ EDI. *Christian Berger* explained conditions and the benefits of membership. Individual implantologists may become members directly or via the partner associations, and there is also the possibility of becoming a European member in BDIZ EDI.

EDI in Turkey?

Prof Hakan Özyuvaci, a lecturer at the University of Istanbul and director of his own private clinic in that city, had already given a detailed description of the situation of oral implantology in Turkey in EDI Journal issue 1/2008. This country, straddling two continents, has only 17,000 dentists for a population of 76 million. Approximately 25 percent of the dentists are active in oral implantology. *Özyuvaci* hopes that the impending elections for the Board of the Turkish Dental Association will also pave the way for membership in the European Association of Dental Implantologists (EDI). *Berger* interjected that BDIZ EDI considered itself the European platform for any interested implantologist.

Dr Peter Ehrl, Berlin, is the driving force behind the Greek-German Curriculum Implantology of BDIZ EDI. He had adapted the individual building blocks to the situation in Greece and the needs of clinical dental implantologists in that country. He expressed his hope that the international associations would unite on a European level in the medium term. While at this point, oral implantologists were operating on quite different levels in different countries, they were sure to have been brought into line within two to five years.

Dr Detlef Hildebrand explained that not only the implantologists in Greece and Turkey were interested in the work of BDIZ EDI; Japanese implantologists were also greatly interested and were seeking to make contact.

Anita Wuttke, assistant editor-in-chief for EDI Journal, encouraged representatives of partner associations to contribute more editorial content to the publication and to alert the editorial board to authors whose contributions might be of interest to European readers. Event notifications, too, would be appreciated.

Revalidation procedure in the UK

Christian Berger described the revalidation procedure for physicians currently in progress in the UK. The new process – which will be drawn up and piloted over the next year – includes a system for re-licensing the UK's 150,000 physicians to test their basic medical competence. Like the physicians in the UK, BDIZ EDI is skeptical toward this procedure because it questions the professional qualification of physicians. To get the better idea of developments within the partner associations of BDIZ EDI, *Berger* proposed distributing the CED newsletters of the European Dental Liaison Committee on the internal mailing list. The proposal by *Berger* to arrange for a visit of the European Committee in Brussels, including a visit at the EU Parliament, in May/June 2009 met with general approval.

At the end of the meeting, *Christian Berger* invited all members of the European cup committee to participate in the 20th anniversary celebrations of BDIZ EDI on the occasion of the 13th BDIZ EDI Symposium in Munich on 9 and 10 October 2009. ■

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Fourth BDIZ EDI Expert Symposium in Cologne, 22 February 2009

Implantology is three-dimensional

BDIZ EDI will be holding its Fourth Expert Symposium in Cologne on Sunday, 22 February 2009.
Theme: Implantology is three-dimensional

Right from its beginning, this series of symposiums has addressed controversial issues. Despite the undisputed high success rates in oral implantology, many claims have not yet been supported by reports at a high level of clinical evidence. BDIZ EDI considers it important to look for, and find, a pan-European consensus on these topics. In 2006, we addressed immediate placement and immediate loading; in 2007, we discussed ceramics as an implantological material; in 2008 our topic was peri-implantitis and 2009 we will be focussing on "Implantology is three-dimensional".

Like no other dental, or indeed medical, discipline, oral implantology can boast success rates of between 90 and 98 percent. So do we still have to strive for continuous improvement? The answer, of course, must be yes. The predictability of treatment results in difficult cases can be significantly improved by exact treatment planning using three-dimensional diagnostics. 3D diagnostics will be the wave of the future when it comes to complex planning challenges. We will recognize situations that we had not been able to recognize before. Areas where 3D imaging offers clear advantages over conventional 2D imaging include sinus diagnostics, implant planning and detecting the paths of nerves.

The Fourth Expert Symposium in Cologne will be revolving around these questions, but also look beyond. At the University of Cologne, we have been working in navigated oral implantology for many years and recognize that 3D imaging is vastly superior to all other methods because of the excellent representation of the bone, including its internal structure. The entire facial skull is scanned, allowing the viewing of all conceivable planes.

Already on Saturday, 21 February, a European panel of experts consisting of practitioners and academics will meet under the auspices of BDIZ EDI to draft guidelines for approaching 3D-Implantology. The objective of this European Consensus Conference is to publish a consensus paper similar to those for immediate placement and immediate loading, for ceramics and peri-implantitis.

It is with good reason that the Expert Symposium in Cologne has been dubbed the "Carnival Symposium". As the revellers are feverishly awaiting the climax of the Cologne Carnival, BDIZ EDI will be holding its symposium on implantological topics right in the middle of town, at the Hilton – and joining the celebrations at the night, at the Great Carnival Session at the Gürzenich Hall and at the Rosenmontag parade the next day. ■

Schedule of events

Sunday, 22 February 2009

9:15–9:30 am	**Welcoming address** C. Berger, President, BDIZ EDI
9:30–10:00 am	**Implantological diagnostics using 2D techniques** Prof U. J. Rother, Hamburg
10:00–10:30 am	**Options for 3D tomography in diagnostics** Prof S. Haßfeld, Dortmund
10:30–11:00 am	**Fundamentals of 2D and 3D diagnostics from a radiological point of view** Dr J. Fleiner, Dr D. Schulze, Freiburg
11:00–11:30 am	**Indications for diagnostic tomography diagnostics in oral implantology** Dr J. Neugebauer, Köln
11:30 am–12:00 noon	**How much diagnostics do we need?** Dr S. Schmidinger, Seefeld
	Lunch
1:00–1:30 pm	**What treatment planning systems are ready for use in clinical practice?** ZTM G. Stachulla, Augsburg
1:30–2:00 pm	**Clinical experience with the SkyPlanX System** Dr M. Weiss, Ulm
2:00–2:30 pm	**2D vs 3D templates: Advantages and disadvantages** Dr C. Foitzik, Darmstadt
2:30–3:00 pm	**5 years of implant planning using the Newtom 3G** Dr H.-P. Ulrich, Lübeck
3:00–3:30 pm	**The ExpertEase system, based on CT imaging** Dr D. Grubenau, Trier
	Coffee break
4:00–4:30 pm	**Clinical application of the ExpertEase system using Galileos DVT records** Dr A. Schmitz, Cologne
4:30–5:00 pm	**Using the NobelGuide system with CT data** Dr D. Vasiljevic, Friedeburg
5:00–5:30 pm	**Clinical experience with the NobelGuide system** Dr S. Reinhardt, Münster
5:30–6:00 pm	**SiCat 3D templates without Dicom import or export** Dr P. Ehrl, Berlin
	Discussion and summary Prof J. E. Zöller
6.30 pm	**Reception at the Lobby**
20.11 pm	**Carnival Session at Gürzenich Hall**

Fax to
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or mail to

BDIZ EDI Office
An der Esche 2
53111 Bonn
Germany

Registration

for the **Fourth BDIZ EDI Expert Symposium** (Cologne, 22 February 2009)

The registration fee includes one ticket for the Great Carnival Session, Gürzenich. Additional tickets for accompanying persons can be ordered at a price of €70 on a first-come, first-served basis.

Please register before 1 February 2009, as hotel accommodation in Cologne is limited because of the Carnival season.

I hereby register for the Fourth BDIZ EDI Expert Symposium (Cologne, 22 February 2009)

Registration until 1 February 2009		**Registration after 1 February 2009**	
Members	€ 175,–	Members	€ 250,–
Non-members	€ 250,–	Non-members	€ 325,–

Note: A limited number of rooms has been a reserved for our participants at the **Cologne Hilton:** Single room with breakfast, € 165; double room with breakfast, € 195. You may purchase grandstand tickets for the Rosenmontag parade at the hotel, at a cost of € 169 each. Please make your own reservations at +49 221 13071-2300.

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Fourth BDIZ EDI Expert Symposium: Interview with Professor Joachim E. Zöller

Revealing the Secrets of 3D

Three-dimensional implantological imaging is becoming increasingly important in dental offices. The Fourth BDIZ EDI Expert Symposium is scheduled for 22 February 2009 at the Hilton Cologne. The title of the symposium will be "Implantology is three-dimensional" – BDIZ EDI is taking up a topic that will remain on dentists' agendas over the next several years. Professor Joachim E. Zöller is the Scientific Director of the symposium. In the following interview, he answers questions about the importance of imaging techniques in implantology.

Professor Zöller, you selected the title "Implantology is three-dimensional" for the Expert Symposium in February 2009. This sounds, well, enigmatic. What can attendants expect in Cologne?

We will reveal a secret: current technologies of three-dimensional imaging are capable of making implantology much simpler and more efficient. Our goal is to demonstrate the diagnostic and therapeutic advantages of today's cutting-edge technologies.

You are director both of the Department of Oral and Maxillofacial Plastic Surgery and of the Interdisciplinary Policlinic for Oral Surgery and Implantology at the University of Cologne. As such, you are routinely faced with the most complicated oral and maxillofacial situations. What percentage of your patients needs this type of diagnostics? Where are the limits of periapical and panoramic radiography, and where does three-dimensional radiography come in?

We are able to cover a wide spectrum of indications for radiographic diagnosis with today's systems of digital volume tomography, or DVT. These indications may include implant treatments or fractures, but we also like to use DVT in complicated situations involving third molars. Of course, an orthopantomogram may be sufficient in many situations, but it requires a second image to capture the second plane.

How good are today's systems? What information do three-dimensional images supply?

The various systems available differ mainly in terms of radiation exposure, volume size and the software that is supplied. Different systems offering identical resolutions do not vary a great deal with regard to their quality of clinical imaging. Reliability is more important to us. We need reliable systems with user-friendly software that will ensure smooth clinical procedures.

Speaking of radiation exposure – what are the strengths and weaknesses of 3D radiography as compared to CT and OPG?

Computed tomography, or CT, will expose patients to radiation levels five to ten times higher than our DVT system (Galileos, Sirona). We therefore have a policy to use DVT in many situations. With regard to the information offered about bony structures, DVT is equivalent to CT and superior to OPG. However, there is still a need for CT in dealing with malignant diseases.

Do you believe that it is necessary (in addition to being required by law) for physicians or dentists to undergo formal training before trying their hands on a 3D system?

Training for DVT is required and does have useful practical implications. Those who have attended our courses still feel the benefit. The courses will reveal completely new aspects of three-dimensional diagnosis, which need to be learned and understood. That is why our teaching of 3D diagnostics goes beyond the legal requirements. The courses have become firmly established in our implant curricula.

The capital expense of acquiring a digital DVT system is enormous. For your average implantological practice, when would such a purchase make sense, and when would you recommend against it?

Some of these systems are no longer quite as expensive as they used to be. Offices with a focus on surgery may only require a relatively short time for the investment to pay off, given the substantial number of surgical indications for three-dimensional radiography. Offices whose focus is on conservative and restorative treatment can still use the services of a diagnostic centre. There are a plenty of them around the country.

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What criteria will impact the buying decision? Speaking of cost-effectiveness, can today's commercially available systems be readily compared at all?

While most systems certainly do not differ much in imaging quality, there are nevertheless large differences in volume size. Systems offering small volumes cannot be used for all indications. Ease of handling is another consideration, especially with regard to the software. Substantial variation exists in this department as well. Care should also be taken that adequate support is provided for a specific system. Some users have reported very long waiting times, since not all manufacturers have been able to develop service networks covering the whole of Germany at this time.

Three-dimensional imaging frequently involves scanning of the entire facial skull. How will 3D diagnostics change the ways of dental practitioners? Will the future bring closer collaboration with medical disciplines like, for instance, otorhinolaryngology?

Dentistry does boil down to a fully-fledged medical discipline. Good collaboration with other disciplines has always been one of its hallmarks. However, one must not ignore the limitations of DVT in the process of extolling its huge potential. Unlike CT, the technology is unable to represent soft-tissue structures in its present form. And as with orthopantomography, we continue to focus on imaging hard-tissue structures with these systems. This still includes numerous diseases treated by us in a multidisciplinary fashion.

Professor Zöller, thank you very much for this interview. ■

Editor's note

In his book entitled Digitale Volumentomografie in der Zahn-, Mund- und Kieferheilkunde, *Professor Zöller* addressed the fundamentals as well as the diagnostic aspects and treatment planning options for this field. This volume was published (in German) by Quintessence in 2007 (ISBN 978-3-938947-46-3).

gIDE/UCLA

One-year Master Certificate in Implant Dentistry

The first group of students attending the one-year Mediterranean Master Programme in Implants – organized by Omnipress Greece in collaboration with the University of California (UCLA) and the Global Institute of Dental Education (gIDE) in Los Angeles – graduated in September. Twenty-eight dentists from different countries received their certificates in an impressive ceremony at UCLA in Los Angeles.

The second group of students took up its studies in November. More than 30 dentists from all over the world are participating. *Dr Sascha Jovanovic*, Program Chairman and Educator of this Master Program, is now successfully offering it in five countries.

The third group of students is scheduled to start in November 2009. ■

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5th EFOSS Congress in Oporto

Focussing on Oral Surgery in Portugal's Secret Capital

Oporto, the city on the banks of the river Douro, is considered to be Portugal's secret capital and one of the most beautiful cities in Europe. Facing the big lodges of port wine to which it gave its name, Oporto is Portugal´s second largest city. And between its medieval roots and the modern thriving city, Oporto is a perfect place to host a congress.
The 5th EFOSS (European Federation of Oral Surgery Societies) Congress took place here.

The 5th EFOSS Congress, which was coincident with the 7th Congress of the SPCO – Sociedade Portuguesa de Cirurgia Oral, the associated partner of the BDIZ EDI – covered a wide range of topics within oral surgery. Between October 9 and 11, the EFOSS Congress was the meeting point for international experts, providing balanced and in-depth information on new diagnostic and therapeutic procedures, including results from multidisciplinary research and development efforts.

One of the hosts of the congress was none other than *Professor António Felino*, who is a member of the European Committee of BDIZ EDI and holds close contact to the European partner associations. *Prof Felino* welcomed the speakers and congress participants in his capacity of director of the Scientific Committee. "Oral surgery", he said, "is probably one of the areas where the most progress has been registered in the last few years. Portugal is no exception in this respect – it leads Europe on the organizational level with the official creation of the oral surgery specialty." *Professor Francisco Salvado*, president of the SPCO, added that for his society, organizing the congress was not only a matter of pride but an opportunity for all those who practice oral surgery to discuss techniques, ideas and working philosophies.

Prof Salvado and *Prof Felino* themselves opened the congress with presentations on the regeneration of maxillary bone dimensions on paediatric oral surgery. *Jose Luis Gutierrez-Peres* from Spain introduced listeners to the possibilities of virtual reality applied to oral surgery in the operating theatre. That same day, the evolution in the field of immediate implants (*Covani*, Italy) was discussed, as were current concepts on socket and ridge preservation (*Jakobs*, Germany). The next day, *Keith Smith* (United Kingdom) showed how inferior alveolar nerve injuries should be managed. *Christian Berger*, Germany, talked about decision-making: whether to keep a tooth or to place an implant. The relevant pathology of the oral mucosa was the topic addressed by *António Mano Asul* (Portugal). His question was whether we improved the treatment of our patients during the last ten years.

Christian Berger and Prof António Felino at dinner.

The last congress day was dedicated to the use of the laser in oral surgery (*Ramos*, Portugal) and aesthetic periodontal surgery (*Noronha*, Portugal). A very interesting aspect was presented by *Diamantino Gomes* (Portugal), who focussed on the oncological patient in the oral surgery. Sleep disorders, the interaction of plastic and oral surgery and risk patients (*Winck*, *Parreira*, *Leite*, Portugal) were the concluding issues that rounded off this very ambitious programme. ■

Curriculum Implantology of BDIZ EDI in Greece

Second Mission Complete

Successful graduates of the second Greek Curriculum Implantology and their teachers pose with BDIZ EDI president Christian Berger, Germany.

124 hours of training had been completed: The second Greek Curriculum Implantology of BDIZ EDI and the University of Cologne ended with a solemn ceremony in Athens.

This time, 14 graduates received their certificates from BDIZ EDI president *Christian Berger* personally. The tremendous number of applications for the curriculum shows how interested the Greek dentists are in dental implantology. Curriculum 3 has already been going on for several months now. *Dr Peter Ehrl* from Berlin and *Yannis Roussis* of the Greek dental publisher house Omnipress were the driving forces behind the scenes to get the Greek-German Curriculum started. The BDIZ EDI assisted in getting the curriculums going, but there was certainly no intention to simply implement the German setup one-to-one. While preserving the guidelines laid down in the curriculum of the Consensus Conference on Dental Implantology, the concept implemented gave special regard to the specifics of the Greek environment. At the graduation ceremony of Curriculum 2 in Athens, *Yannis Roussis* expressed his thanks to the lecturers of the curriculum: *Dr Ioannis Fakitsas, Dr Georgios Goumenos, Dr Spyridon Karatzas, Dr Constantin Laghios, Dr Efstratios Papazoglou, Dr Stavros Pelekanos, Dr Nick Petrou* and *Dr Nick Raptis*. The German lecturers were *Dr Peter A. Ehrl, Christian Berger, Dr Detlef Hildebrand, Dr Steffen Köhler, Prof Klaus-U. Benner* and *Prof Joachim E. Zöller*. ■

Graduates

Dr Georgios Filinis
Dr Areti Bourha
Dr Vasiliki Dervakou
Dr Dionisis Pavlopoulos
Dr Kyriakos Rousounidis
Dr Georgios Raptopoulos
Dr Lambros Kaffes
Dr Maria Kontou
Dr Panagiotis Anastasakos
Dr Ioannis Stabelos
Dr Georgios Georganginos
Dr Ioanna Koufatzidou
Dr Vasilis Regkoukos
Dr Ioannis Pothitos

Portrait: Hinrich Romeike, dentist and Olympic gold medallist

"I am a Child of Fortune"

Being a dentist requires many years of attending dental school and pursuing continuing education: assistantships, trainings, seminars, symposiums and – in most cases – extensive capital outlays for a private practice. A route you will all be familiar with. However, dentists can also be found in professional politics, in political bodies on the state and federal levels, and even at the head of ministries. But how does one become a dentist plus Olympic gold medallist? Member of BDIZ EDI Hinrich Peter Romeike has managed this feat – through talent, through concentration, through discipline and, most importantly: with the fortune that favors the bold. "I am a child of fortune", he says.

In the German state of Schleswig-Holstein, wedged as it is between the North Sea and the Baltic, it is either sailing or horseback riding. *Hinrich Romeike* has been a rider ever since he can remember. He performed exercises on horseback, broke in young horses and got interested in eventing. He won rural tournaments and was state junior champion with his team. And still he was never sure if what he had achieved was enough.

So here he sits, telling stories about his life that all of a sudden all of Germany seems to have become interested in, and yet he is mildly confused. His childhood? At age 17, his father gives him the first horse. Also at age 17, he learns that studying can be fun and that with discipline comes success. The place he learns this at is an English boarding school, where expectations of pupils are high, all day long. *Romeike* talks about the harsh discipline that in the end he no longer experienced as harsh. He learns to play by the rules and train his body. To this day, he knows how to do a full kayak roll. Another result of his England years is his ability to concentrate. After graduation, the choice is his: going to dental school or joining the army – the latter would have given him a chance to engage in eventing on a professional level. *Romeike* chooses dentistry. Not just because the Rendsburg *Romeikes* have had a long family tradition of being dentists (his grandfather and father were both dentists, and so is his uncle). In fact he always wanted to be a dentist.

Despite a few highlights, his was not an entirely unusual youth. While in dental school and later, when opening his own practice, getting married and becoming a father, eventing fades into the background. Until he meets – *Marius*. *Hinrich Romeike* sees something in this horse that others do not. This Holstein half-breed is healthily self-confident, robust and a true daredevil. A horse that can go at high speeds and is not afraid of obstacles. From that point on, *Romeike* spends his time after work training this horse, guiding it to the top of the world elite with horse sense and patience. A dentist during the day, trainer and partner of *Marius* at night.

Romeike remains an amateur – in the best sense of the word – at a time when all the other riders on the German team are professionals. Where others work with up to ten horses, he concentrates on a single one and is still the most successful German rider. "What others achieve by routine, I have to achieve with my brain", he says. He is the first one to arrive at the course and the last one to leave. And he is a great competitor. Whenever *Romeike* wants something, he concentrates on his goal and rarely loses sight of it. *Romeike* is meticulous, both as a dentist and as a rider. He explains that he likes to play around with little things, always has, even as a child. As a self-made man, he is also a child of fortune, as he keeps saying. But he is also someone who can grit his teeth and whom a measly tinnitus cannot keep from showing up at an important tournament.

Hinrich Romeike

We all know the footage that was shown again and again on TV. *Romeike* riding for gold in individual eventing and *Romeike* riding for gold in team eventing. He ended up getting both. He is the most successful German athlete at the 2008 Olympics. And this has changed his life as well. People approach him for an autograph, give them a slap on the back, are proud of him. Some of Germany's famous faces like to be photographed with him – *Chancellor Merkel*, *President Köhler* and of course all the stars and starlets in the media. Dentists are proud of their colleague, and his fellow riders adore him.

"I only care about things that I am really interested in", he says. And that does not necessarily have to be the next Olympic Games. But here, too, he says that "whenever I do something, I want to be Premier League. I try to perform my best, to go far as I can." And this is his motto – as a rider and as an oral implantologist. ■

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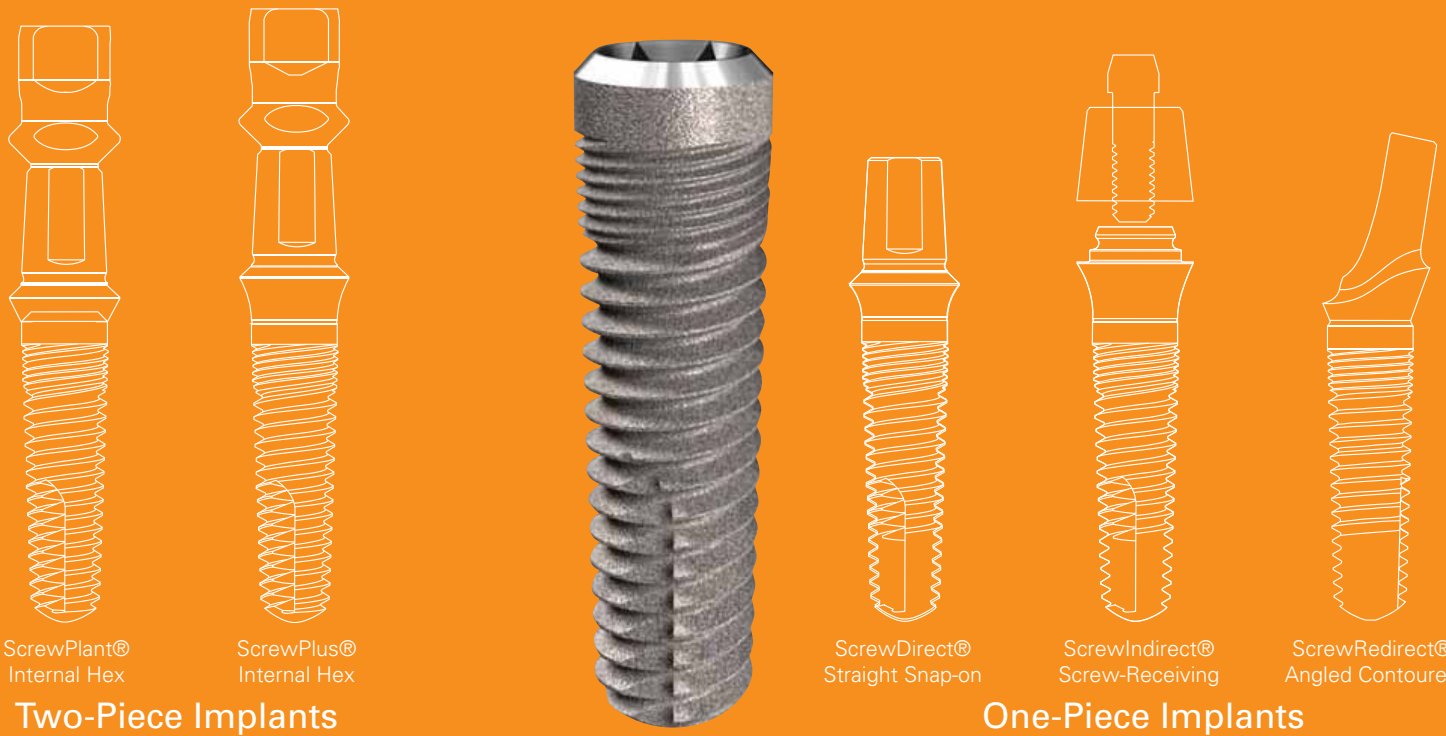

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EAO: 17th Annual Scientific Meeting in Warsaw

A Respected Platform for the Profession

Warsaw – Poland's capital – has shrugged off its dour Eastern Bloc image and is finally showing its true colours between history and business. Visitors are amazed about the exemplary care with which monuments, relics, churches and palaces have been reconstructed. The old town has been rebuilt to perfection. This vivid city was the right place to meet. More than 2,500 people from 65 countries experienced three days of science and education at the stunning Palace of Culture and Science in the centre of Warsaw.

This year the meeting, themed "Clinical Advances and Predictability with Oral Implants", was organized in collaboration with the National Polish Implantology Association (OSIS EDI). Poland, Switzerland, South Korea, Germany, Italy, Sweden, Japan, Turkey, the UK and Denmark recorded the highest attendance with 167, 158, 136, 126, 126, 112, 86, 71, 65 and 61 representatives, respectively.

The scientific programme mainly focussed on topics such as bioactive surfaces; medical impairment, oncology, bisphosphonates, extraoral cases; biomedical imaging, digital planning and transfer to clinical procedures, navigation and guided implant placement; gero-implantology, quality of life; simplified treatment protocols; long-term management; treatment in the aesthetic zone. Ensuring an exciting three days with renowned speakers, the EAO presented recent advances on highly relevant scientific and clinical topics in osseointegration. The Warsaw meeting was meant to let researchers and clinicians obtain state-of-the-art information on the many different aspects of osseointegrated implants in dentistry.

Co-chairs *Dr David Harris* and *Professor Andrzej Wojtowicz* were joined by EAO President *Professor Friedrich Neukam* for the opening ceremony in the ornate main auditorium, which included a lecture by Polish astrophysicist *Alexander Wolszczan*.

Co-chair *David Harris* said that the scientific programme had been designed to address a number of highly practical relevant issues of concern to clinicians.

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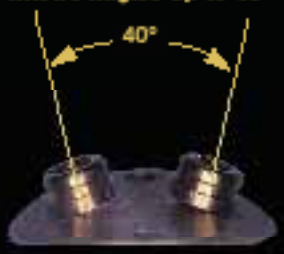

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EAO President Prof Neukam and chairs Wojtowicz and Harris (from left).

Professor Andrzej Wojtowicz and BDIZ EDI president Christian Berger at the BDIZ EDI booth.

The EAO had invited outstanding speakers from many countries, chosen on the basis of their expertise. They contributed to an exciting three-day congress and were providing an authorative and reliable scientific and clinical basis for the treatment of patients, as well as exciting new and developing innovations and research.

There was also a special session organized by the National Polish Implantology Association. Its president *Andrzej Wojtowicz* welcomed the guests, speakers and manufacturer representatives. "Our society has declared the year 2008 the year of Polish Implantology", he said. At a reception of the OSIS EDI held in the tower of the Palace of Culture and Science, *Wojtowicz* presented *Christian Berger*, president of the BDIZ EDI, a close partner of the OSIS EDI.

The congress was complemented by a large trade exhibition. BDIZ EDI featuring the EDI Journal was among the more than 70 exhibitors. Nine companies hosted satellite symposia, and over 30 speakers highlighted the developments being made by different manufacturers. Many hundred delegates registered to attend these very popular events.

EAO 2008 augurs well for the next congress: the 18th EAO Annual Scientific Meeting will be held in Monaco, 1 to 3 October 2009 with pre-conference seminars on 30 September. ■

Correction Notice

In issue 3/2008 of the EDI Journal, the legend for figure 1 on page 32 was inadvertently incorrect. The correct legend for this illustration of *Prof Joachim Zöller's* presentation on Dental implantology: looking back and looking forward must be "Implant placement with incomplete regeneration of the extraction socket with a reduced-diameter implant". We apologize for our mistake.

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EDA Expert in Implantology

Six Successful Graduates

At the time of its annual symposium, BDIZ EDI has traditionally been holding certification exams for EDA Expert in Implantology (European Dental Association). This year, seven young dentists – six men and one woman – took the exam.

The successful graduates at the 12th BDIZ EDI Symposium in Frankfurt were:
- *Dr Alexander Hacker, M.Sc. (Fürth)*
- *Dr Martin Nemec (Rahden)*
- *Dr W. Reiche, M.Sc. (Wolfsburg)*
- *Dr Gregor Behrbohm (Berlin)*
- *Dr Klaas Hansen (Lüneburg)*
- *Dr Marika Halbach-Spielau (Kevelaer)*

The examination itself is organized by the European Dental Association (EDA). The on-site EDA tester was *Per Fossdal* (Kempten). He was supported by BDIZ EDI board members *Dr Renate Tischer-Richter* (Bad Salzungen) and *Dr Heimo Mangelsdorf* (Nürnberg) as well as *Prof Joachim Zöller* (Cologne). Only EDA Experts in Implantology can be testers at an EDA exam.

EDA exam at Frankfurt in the autumn of 2008 with testers Per Fossdal, Dr Renate Tischer-Richter and Dr Heimo Mangelsdorf.

The new EDA Experts in Implantology received their certificates directly after the General Meeting of the BDIZ EDI. The photograph shows the successful graduates with tester Per Fossdal (front right) and BDIZ EDI president Christian Berger (back right).

Admission requirements for the certification exam include: 250 EDA recognized advanced education/training hours in various sub-disciplines of implantology; submission of ten documented, independently performed implantological treatment cases; and at least five years of professional activity primarily in the field of implantology. Specific experience and primary activity in the field of implantology must be documented by at least 400 implants inserted and 150 implants restored within the past five years. ■

Next exam

The next examinations will be held at the 4th BDIZ EDI Expert Symposium in Cologne on Saturday, 21 February 2009. More information and registration documents can be obtained from the BDIZ EDI office (office-bonn@bdizedi.org).

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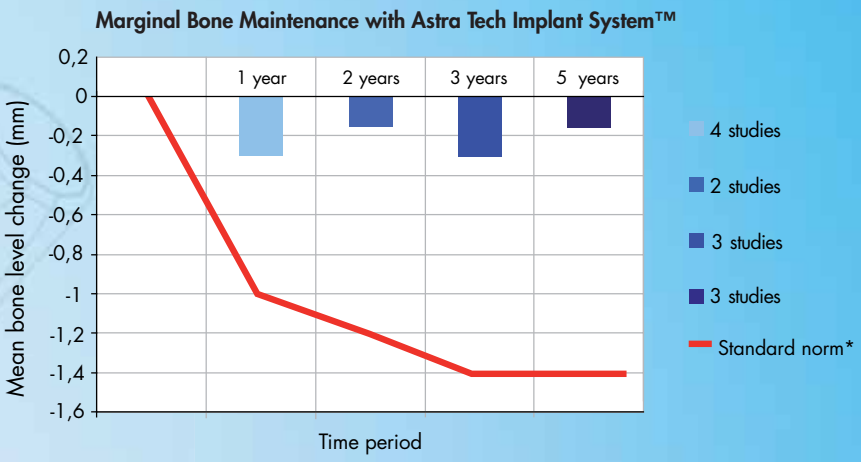

Marginal bone level change reported in prospective studies on Astra Tech implants.

*Standard norm according to:
Albrektsson, T. et al. Int J Oral Maxillofac Implants 1986;1(1):11-25.
Albrektsson, T. and Zarb, G.A. Int J Prosthodont 1993;6(2):95-105.
Roos, J. et al. Int J Oral Maxillofac Implants 1997;12(4):504-514.

5-year studies (1-3), 3-year studies (4-6), 2-year studies (7-8), 1-year studies (9-12)

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BDIZ EDI supports initiative for early recognition of von Willebrand syndrome (vWS)

vWS Network Founded

Eight hundred thousand people in Germany suffer from von Willebrand syndrome (vWS; also called von Willebrand disease, vWD). In this disease – named after Erik Adolf von Willebrand, the Finnish paediatrician who first described the disease in 1926 – a protein that is required for coagulation is present in insufficient quantities or is absent completely. vWS patients may be subject to more extended and more profuse bleeding than other patients following surgical interventions including tooth extractions or the removal of tonsils or polyps.

The vWS Network encourages treatment providers to obtain appropriate anamnestic data in order to identify patients at risk ahead of implantological procedures. Working in cooperation with an expert on blood coagulation, this will help prevent life-threatening intra- and postoperative bleeding. This problem affects not only dental implantology but also various others disciplines, so the vWS Network has an interdisciplinary composition. At the initiative of CSL Behring, the vWS Network includes, in addition to the European Association of Dental Implantologists (BDIZ EDI), the Society for Thrombosis and Hemostasis Research (Gesellschaft für Thrombose- und Hämostaseforschung, GTH), the Professional Association of Gynecologists (Berufsverband der Frauenärzte, BVF), the German Society for Hemophilia (Deutsche Hämophiliegesellschaft, DHG) and others under its roof.

Detailed medical history is important

The cause of vWS is a qualitative or quantitative deficiency of von Willebrand factor (vWF) that impairs platelet adhesion, thus interfering with primary blood clotting. While the syndrome is mostly characterized by relatively harmless symptoms such as frequent nosebleed, easy bruising and other characteristics of extended bleeding, surgical and other interventions may result in life-threatening intra- and postoperative bleeding. In addition to the insertion of a dental implant itself, a previous tooth extraction or even the injection of a local anaesthetic may have serious consequences. This exemplifies the importance of obtaining a detailed medical history prior to dental or implantological procedures, taking potential warning symptoms of vWS into due account.

More information is available at www.netzwerk-vws.de.

Medical history questionnaire for the assessment of bleeding risks

		yes	no
1.	Have you experienced frequent nosebleeds, even without an obvious reason?	☐	☐
2.	Have you experienced easy bruising without impact or small red dots with the skin? If so, have you observed the symptoms on your torso or in other, unusual places?	☐	☐
3.	Have you experienced gum bleeding without an obvious reason?	☐	☐
4.	Do you experience bleeding or bruising more frequently (more than once or twice per week)?	☐	☐
5.	Do you feel that you bleed for a long time when you have bruised or cut yourself (e.g. while shaving)?	☐	☐
6.	Have you ever experienced prolonged or pronounced bleeding during or after operations (e.g. during childbirth or in connection with the removal of your tonsils or appendix)?	☐	☐
7.	Have you ever experienced prolonged or pronounced bleeding during or after a tooth extraction?	☐	☐
8.	Have you ever received blood or blood products during an operation? If so, please indicate the type of operation:	☐	☐
9.	Do or did any members of your family have bleeding/ coagulation problems?	☐	☐
10.	Are you taking any pain or rheumatism medication? If so, which one(s)?	☐	☐
11.	Are you taking any additional medical drugs or vitamin supplements? If so, which one(s)?	☐	☐
	To be answered by women of childbearing age:		
12.	Do you have the impression that your menstrual period lasts too long (more than seven days) and/or is too strong (requiring frequent changes of tampons or sanitary napkins)?	☐	☐

Modified from: Koscielny J. et al. Präoperative Identifikation von Patienten mit primären Hämostasestörungen ("Preoperative identification of patients with disorders of primary haemostasis"), Hämostaseologie 2007;27;177-184.

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Interview with Professor Vitomir S. Konstantinovic

Dental Implantology in Serbia

Oral implantology in Serbia is a specialty on the upswing. Professor Vitomir S. Konstantinovic, DDS, MD, MSc, PhD, a renowned Serbian Specialist of Maxillofacial Surgery and the immediate past Director of Clinic of Maxillofacial Surgery, School of Dentistry at the University of Belgrade, talks about the situation in his country.

How interested in dental implants are patients in your country?

Patients in Serbia are interested in dental implants tailored to their needs and in getting the most efficient treatment they can receive. Our patients are well aware of how excellent an implantological treatment can be. They opt for dental implants even when indications are borderline. They do not hesitate to obtain information or to ask questions on everything related to oral rehabilitation by implantological means.

Are patients well informed about innovative techniques and treatment options?

There is a large numbers of patients with indications for dental implants who are well informed not only about the dental techniques in this field, but also about the patient's role in the maintenance of oral health. There are, of course, patients who need preimplantological treatment and more vigorous postoperative regular check-ups in order to understand every step in this mutual effort for oral rehabilitation that is being made by both the dentist and the patient. Surgeons are well prepared to inform and educate their patients in a realistic way on what they can expect and what surprises to guard against.

How interested in dental implants are dentists in your country?

The spread of knowledge and experience in dental implantology has been accelerating in Serbia over the past years, so dentists follow up this path in increasing numbers. Implantology offers a wide range of technical and surgical advantages, but also challenges, and not least an excellent opportunity for skill-building. It is an awarding field that generates priceless experience and continuously triggers contemplation. Dentists and surgeons are prone to creative and innovative thinking, so they can and do achieve satisfaction from practicing and improving implantology.

How do dentists view dental implantology – as a welcome challenge or as undesirable competition for conventional prosthodontics?

Professor Vitomir S. Konstantinovic

The wording of the question suggests two opposite choices, but in actual fact the answer must be that the challenge has already been fully accepted and is now followed by the implementation of sophisticated implantological methods. As in any medical or dental decision-making situation, the responsibility rests primarily with the dentist, who determines the diagnosis and subsequent treatment indications for each individual case. It is the flexibility and open mind of the professional that yields successful therapeutic outcomes.

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

Dental implantology is introduced in undergraduate curriculum during the fifth year of studies, comprising 15 lectures (45 min) and 15 practical sessions (45 min). There are eight professors in implantology at the School of Dentistry in Belgrade, representing the following specialties: maxillofacial surgery, prosthodontics, oral surgery and periodontology. Continuing education can be obtained through postgraduate specialty studies of implantology, which are offered as a one-year course. Continuing education is obligatory for all professionals, and in implantology, various courses are organized by School of Dentistry in Belgrade throughout the year. Both the university and private dentists are involved in organizing and informing dental professionals on all events of interest.

What is the total number of dentists in your country?

To my knowledge, the total number of dentists is currently between 4000 and 4500.

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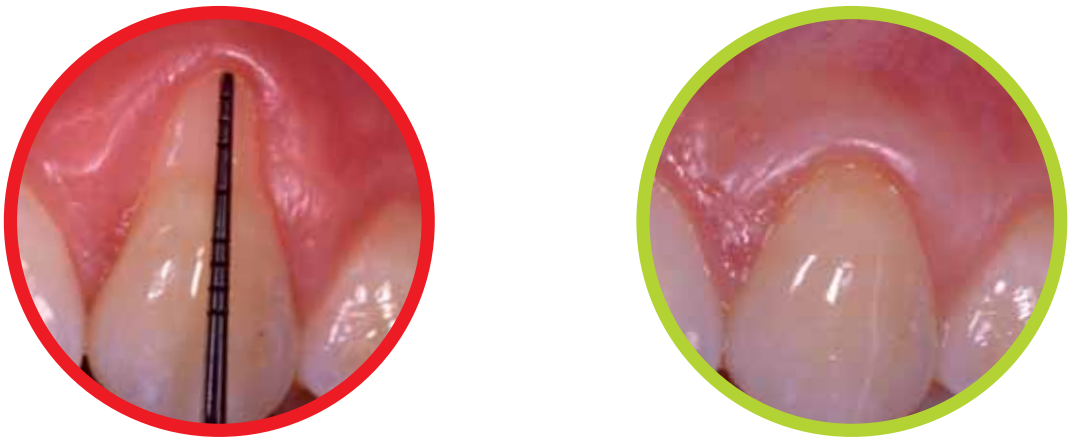
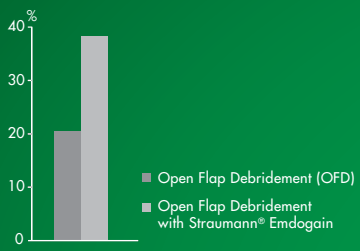


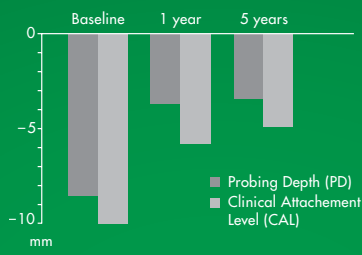
before after

Pictures by courtesy of
Prof. Giovanni Zucchelli, Bologna

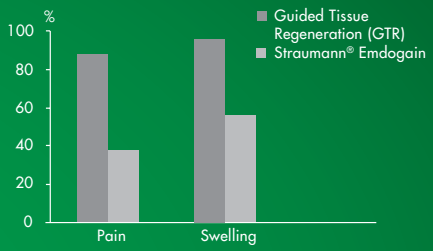
Straumann® Emdogain



Percentage of patients with highly improved CAL gain of >4 mm 1 year post-operative.



Significantly increased CAL and PD following OFD with Straumann® Emdogain, measured over 5 years.



Percentage of patients with pain and swelling 1 week post-operative in furcation treatment with GTR or Straumann® Emdogain.

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FOR DENTAL PROFESSIONALS

What percentage of them do you estimate are active in implantology?

There are about 200 to 300 dental practitioners in implantology, which is about five to eight percent of the total.

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

The answer to this question should reflect our professional honesty. Of course, being a dental implantologist offers advantages in several ways. On the one hand, entirely new options are being made available to dentists and dental surgeons. The ubiquitous challenge of replacing missing teeth by implanting artificial ones is getting its definitive and perfect answer today. Moreover, the procedures applied are detail-oriented and, by employing a range of different solutions, meet the demand for a successful functional recovery. Dentist or surgeon – the implantologist is able to control every situation, relying on scientific evidence and on tools that are developing very quickly. On the other hand, there is also a pecuniary reward associated with the professional practice of implantology. But the real starting point of all implantological thought and planning is our patient sitting in our chair. The opportunity to recover the function of important human organs through meticulous work and an optimized therapy, in order to restore a high quality of life, is our spiritual reward.

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

Specific regulations do not exist for the time being. I hope that with the foundation of the proper Chamber of Dentists, specific regulations similar to those in the EU countries will be established.

Who pays for the implantological treatment, and how?

Patients have to pay for their own oral implantological treatment. Exceptions are patients treated at the Clinic of Maxillofacial Surgery, School of Dentistry in Belgrade, for malignant tumours, severe trauma or congenital or acquired dentofacial deformities that require implantological treatment (extraoral/craniofacial as well as intraoral implants). Their cost should be covered by health insurers.

What percentage of the cost is borne by patients, their (statutory or private) health insurers and/or other institutions or organizations?

In private practice, 100 percent of the costs for intraoral implants are borne by the patients. However, at university clinics, health insurers are obliged to cover the costs for certain indications (cancer, trauma, deformities).

Is dental implantology a prerogative of wealthy patients, or are there ways to let patients with limited financial resources benefit from implant therapy?

Yes, it is. But new technologies should be developed and attempts intensified with the objective of developing cheaper and, consequently, more accessible implantological systems. In that way, implant treatment might be made accessible to a larger population of patients without sacrificing quality.

What are the problems implantologists are facing in your country?

Implantologists in Serbia, predominately those practicing at university clinics, are experienced professionals. Their problems, as well as the problems of colleagues working in private practices, are nevertheless related to the high price of the best, or most well-known implantological systems. Furthermore, there are certain deficits in terms of continuing education; it mainly reflects the individual professional's sense of responsibility and desire for perfection. Educational courses and symposia have to be more organized, and there must be more of them.

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

Dental implantology itself includes many solutions for each individual case. In Serbia, I can see a future for dental implantology as an expanding and growing field, both in terms of knowledge and in terms of practical treatment choices. It will soon arise as a solution that is simpler than traditional prosthodontics.

Given the developments on a European level, what chances and what risks do implantologists in your country anticipate for their own future?

European efforts must assure standardization in education and practice for oral implantologists. This will simplify the exchange of expertise and the spread of knowledge and technologies. On the other hand, the recognition of widely diverging education backgrounds remains a challenge.

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

- Education in implantology, made available on an ongoing basis with consistent quality, covering a broad spectrum of topics.
- Involvement in implantological research.

What are your wishes for dental implantologists in your country?

I would like for my colleagues to maintain open minds and continue thirsting for novelties. I would

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like to see many opportunities for them to improve, not let technical difficulties or irrelevant circumstances influence their decisions. Also, I would like to see a training programme of high quality that would be universally accredited, together with continuing-educational events. At least as importantly, they deserve easier ways of communicating and exchanging ideas with colleagues from all over Europe.

How important do you think it is to link the science of dental implantology with topics of practical relevance, such as accounting issues, liability issues or office management?

Scientific results contributing to everyday practice are highly appreciated. Newly invented systems in implantology might lower the cost of manufacturing and make such systems available for more patients. Additionally, the scientific development of new implants can be expected to result in improvements in insertion techniques and subsequent integration with surrounding tissues.

What would be the significance and the objective of a European professional journal in the field of dental implantology?

The objective should be to spread current knowledge and education and inform on procedures and outcomes of implantological treatments. The significance of the journal will increase as more relevant results are published and shared with implantological professionals.

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

It would be quite interesting to discuss unusual anatomical conditions presenting challenges to implantological treatment. Also, solutions in cases with insufficient bone supply or atrophied bone should certainly be discussed in more detail. Furthermore, immediate loading protocols are of great importance and should be of interest to researchers as well as to practitioners and patients.

Thank you very much for answering our questions, Professor Konstantinovic. ■

Curriculum Vitae

Professor Vitomir S. Konstantinovic, DDS, MD, MSc, PhD, Specialist in Maxillofacial Surgery, immediate past Director of the Clinic of Maxillofacial Surgery, School of Dentistry, University of Belgrade; E-mail: vskvita@sbb.rs

Education: University of Belgrade: 1979–1984, Faculty of Stomatology; 1987–1992, Faculty of Medicine; June 1991, master thesis (MSc): "Condylar Process Fractures, Evaluation of the Different Treatment Methods"; November 1993, Specialist in Maxillofacial Surgery; July 1996, doctoral thesis (PhD): "Orofacial functional disturbances after operative treatment of malignant tumours of the tongue and floor of the mouth".

Teaching and Professional Experience: 1989–1992, Junior lecturer in Maxillofacial Surgery; 1992–1996, Lecturer; 1996–1997, Senior Lecturer; 1997–2001, Associate Professor; 1998–1999, 2000–2001, Chief of the Division, Clinic of Maxillofacial Surgery; 2001, Professor, 2001–2006, Director, Clinic of Maxillofacial Surgery; 2002, Professor in Implantology; 2006–, Associate Member, Serbian Medical Academy; 2006–, Councillor for Serbia, European Association for Cranio-Maxillo-Facial Surgery; 2006–, European AO faculty.

Research Projects: 1991–1995, Evaluation of the effectiveness of reconstructive procedures used in oral and maxillofacial surgery; 1996–2000, Histologic, histochemical and immunohistochemical evaluation of pathogenesis and therapeutics results of tumours and cysts of the orofacial region; 2001–2005, Craniomandibular disorders research in the Republic of Serbia (principal investigator); 2006–, Periodontal treatment concept of active regeneration in periodontology and implantology; 2005–2008, Randomized controlled trial for the comparison of open surgery vs. an endoscope-assisted approach in condylar neck fractures – closed-reduction subgroup; 2006–2007, Biomechanical, histomorphometric and histological examination of healing in irradiated and non-irradiated bone using BOI and screw implants – animal study (principal investigator); 2008–, Saliva test for oral cancer, clinical trial, multicentre academic research, Laboratory of Head and Neck Cancer Research, UCLA, Clinical Centre of Serbia, Clinic for Maxillofacial Surgery, Faculty of Dentistry, Belgrade.

Publications and Presentations: Three textbooks for undergraduate and postgraduate studies; 20 articles in international journals and nine in domestic journals – according to the ISI database, the articles published in ISI publications were cited more than 72 times; more than 100 scientific papers and reports presented; 38 lectures by invitation.

3rd Mediterranean Symposium of BDIZ EDI

3D-Implantology

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Symposium 10-11 April 2009




BDIZ EDI will continue its proven concept to hold certain continuing education courses outside Germany in the year 2009. This concept helps promote the exchange of ideas within Europe. This year's Mediterranean Symposium will be held in Greece – in the vicinity of Athens. If you are looking for high-class continuing education event and at the same time a relaxing environment for the whole family, then this symposium will be right for you.

The symposium with Greek and German renowned speakers will be highlighting the chances, but also the limits of new technologies in terms of usability, indications and contraindications, radiation levels and –especially – interdisciplinary aspects.

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Europe-Ticker

European Commission: Fighting rare diseases

The European Commission estimates that 36 million EU citizens suffer from rare diseases. Many of these patients will face several years of uncertainty before their disease is correctly diagnosed. Now the European Commission is seeking closer collaboration with the EU national governments to press ahead with plans to fight rare diseases through prophylaxis, diagnosis, treatment and research. The EU Commissioner for Health, *Androulla Vassiliou*, gave a presentation outlining a strategy of her agency in Brussels to "lead those affected out of their shadowy existence". This strategy requires member states to develop cross-sector national action plans and to make accessible their expertise (for instance through European reference networks) across the EU. Provisions to this effect are outlined in a proposed directive on the application of patients' rights in cross-border healthcare. The Commission proposes that communication technologies such as telematics should be utilized more extensively to exchange information. Furthermore, the agency will encourage member states to establish a EU-wide coding and classification system. It is also intended to place a stronger focus on the development of drugs to treat rare diseases. *Vassiliou* pointed out that pharmaceutical manufacturers frequently lack incentives to develop therapies for rare diseases. According to her agency, around 45 therapeutic options exist throughout the EU for around 5000 to 8000 rare diseases identified to date.

Source: Various media ■

Alliance of Liberals and Democrats: Web portal for patients' rights

The Alliance of Liberals and Democrats in the European Parliament has launched a website informing patients of their rights within the European Union. The website presents judgments by the European Court of Justice about patient mobility. It also supplies information on the European Charter for Patient's Rights drawn up by citizens' organizations. The website was developed by the Alliance in response to a proposed Commission directive on strengthening patients' rights. It can be accessed at www.patients-rights.eu.

Source: Various media ■

Austrian Medical Association: Health politics being a key issue

The Austrian Medical Association calls upon the coalition negotiators to "consider health politics a key issue on the forthcoming government's political agenda, regardless of the current turmoil in the banking system." According to *Walter Dorner*, the association's president, health-related questions continue to be regarded as a top-priority issue by Austrians despite the financial and economic crisis. He demanded that the forthcoming government should offer to health insurance providers an "immediate and complete elimination of debt". In his words, nobody would sympathize with a government policy that should make "hundreds of billions of euros" available for banks and business "without providing even the funds needed for the Austrian healthcare system to maintain an adequate level of healthcare". In addition to bailing out health insurers, *Dorner* called for sustainable measures of structural consolidation by "disencumbering providers of services that are alien to panel and functional services". He stated that responsibility for the current debt of 1.2 billion euros rested with the federal government, since it was the government who forced insurers to assume these tasks.

Source: Der Standard ■

Contract dentists in Germany: Age limit for treatment providers abolished

The German parliament has passed legislation to promote organizational structures in statutory health insurance. This new law abolishes an existing age limit of 68 years for panel physicians and dentists, as provided in the German Social Security Code

(SGB) V. The new ruling takes effect retroactively as per 1 October 2008. From now on, German dentists can work as panel dentists even past the age of 68 years. The German Federal Association of Contract Dentists (KZBV) reports that dentists whose licences expired on account of the former age limit and whose offices have been taken over by other practitioners can file an application for their admission to be renewed. *Source: KZVB* ■

Healthcare in Europe: Ranking of 27 EU countries

Health Consumer Powerhouse in Brussels has compiled its annual ranking of European healthcare systems based on 31 European countries (including 27 EU countries, plus Switzerland and Norway as well as accession candidates Croatia and Macedonia). With Austria taking third place and Germany finishing sixth, both countries have scored lower than in previous years. In 2007, Austria had been the winner and Germany had ranked fifth. Both countries have lost ground in the e-health sector. This year's Euro Health Consumer Index 2008 was published in Brussels in mid-November. The winner is the Netherlands, followed by Denmark, Austria, Luxemburg and Sweden. Insufficient utilization of e-health in Austria and Germany (an unpopular topic especially among physicians) is considered one of the reasons why both countries have done less well this year. Switzerland, along with Germany and Luxemburg, is still the top performer when it comes to waiting times for treatment. On the other hand, *Johan Hjertqvist*, the organization's president, criticized the poor mammography coverage in Switzerland, adding that this situation was unparalleled among Western European countries.

Switzerland has fallen from fourth to sixth place in an annually published comparison of 31 European countries. Experts of Health Consumer Powerhouse in Brussels analyzed the conditions of healthcare systems in 24 EU member states. The ranking was based on 34 indicators in six categories, including patients' rights and information, e-health, waiting times for treatment, outcomes, access to healthcare, and pharmaceuticals. The maximum attainable score was 1000 points, with relative weights varying from category to category: outcomes had the greatest impact (maximum score: 250), followed by waiting times for treatment (maximum score: 200).

Source: Various media ■

US health business: White teeth

Americans love bleached teeth. Unlike in Europe, the beautiful illusions associated with a radiant white smile are frequently carried to strange extremes. The American Academy of Cosmetic Dentistry (AACD), for instance, recommends eating strawberries as part of a "White Smile Diet". They also consider raw vegetables to be beneficial and make a special point of recommending baking soda, to be applied twice a month instead of toothpaste on the brush, followed by vigorous brushing and rinsing. The AACD maintains that this will instantly remove any stains on teeth. The fact that a medical association should put so much refinement into dietary recommendations reflects the great importance that Americans will attach to an immaculate smile. In North America, chemical agents for dental bleaching continue to be as popular as ever. In other countries including Germany, by contrast, interest in tooth whiteners has quickly abated following some transient hype. AC Nielsen's market researchers found out that the sales volume of bleaching agents in German pharmacies, discounters and drugstores dropped by 47 percent in 2007 compared to 2006. Sales dropped sharply from 22.6 million euros in 2004 to roughly 6 million euros last year. Instead, there has been a growing demand for professional dental hygiene services and esthetic dental materials such as laminate veneers.

Source: Financial Times ■

UK study: Age and health in Europe

Fit and healthy after middle age? This may be difficult in Germany, as a current study suggests. At 50 years of age, average Germans can only expect another 13 healthy life years ahead of them. Germany does less well in this respect than the EU average (including, for that matter, some Eastern European countries). A current study with these figures was published by The Lancet, a reputable medical journal in the UK. The winner of the European ranking is Denmark with 24 healthy life years at age 50. The second place is surprisingly held by not-so-affluent Malta with over 22 years. Estonia comes in last with less than ten years. The researches were amazed by this "huge difference". Germany is actually the poorest performer of the large and populous EU countries such as France, Britain, Italy and Spain. Overall, the average life expectancy of 50-year-old men and women in 25 EU countries is 67.6 and 69.1 years respectively. *Source: Der Spiegel* ■

Reimbursement for treatment costs at a private hospital

The Stamatelaki Decision of the ECJ

In the *Stamatelaki* case (C-444/05, judgement of 19 April 2007), the European Court of Justice (ECJ) had to answer the question whether a national social security institution may completely exclude reimbursement of treatment costs incurred in a private hospital in a different Member State for patients over 14 years of age or whether this is in violation of the European fundamental freedoms. The court thus continued the general line of its rulings related to healthcare law (from *Kohll*, *Decker*, *Müller-Fauré* and *van Riet* to *Watts*; see also EDI Journal 3/2006, page 40).

The *Stamatelaki* decision was based on the following facts: *Mr Stamatelaki*, a Greek patient, was treated in London Bridge Hospital, a private hospital in the United Kingdom, on an inpatient basis. He paid the sum of £13,600 for his treatment and sought reimbursement of that sum from the Greek social security institution OAEE. Greek national legislation excludes all reimbursement by a Greek social security institution of the costs occasioned by treatment of insured persons above the age of 14 in private hospitals in another Member State. The court of first instance therefore refused *Mr Stamatelaki's* claim. A Greek higher court subsequently referred the question to the ECJ as to whether this national rule is compatible with European fundamental freedoms, and specifically the principle of freedom to provide services within the Community. This question was answered in the negative by the ECJ.

This decision was based on Art. 49 et seq. of the EC Treaty, where the principle of freedom to provide services within the Community is enshrined. In addition, the ECJ referred back to the principles developed in earlier rulings (*Müller-Fauré* and *van Riet*, C-385/99; and *Watts*, C-372/04). In paragraph 23, the court argues as follows: "Whilst it is settled case-law that Community law does not detract from the power of the Member States to organise their social security systems and that, in the absence of harmonization at Community level, it is for the legislation of each Member State to determine the conditions in which social security benefits are granted, when exercising that power Member States must comply with Community law, in particular the provisions on the freedom to provide services. Those provisions prohibit the Member States from introducing or maintaining unjustified restrictions on the exercise of that freedom in the healthcare sector" (see, in particular: Case *Smits* and *Peerbooms,* C-157/99; *Watts*, C-372/04).

The ECJ considers the cited Greek legislation to be such an unjustified restriction on the exercise of the freedom to provide services. Such legislation deters, or even prevents, persons with Greek social security coverage from seeking treatment from providers of hospital services who are established in Member States other than Greece. It therefore constitutes, both for the insured and for service providers in other Member States, a restriction on the freedom to provide services.

Restrictions of the freedom to provide services in the healthcare sector may be objective justified. The ECJ holds that the following may justify such restrictions:

- The risk of seriously undermining the financial balance of the social security system;
- the objective to maintain a balanced hospital and medical service open to all;
- the maintenance of treatment capacity or a specific level of medical competence on national territory as essential for public health, or even the survival of the population.

However, the ECJ does not see any justification for the absolute terms of the prohibition laid down by the Greek legislation that treatment costs are reimbursed in the case of children under 14 years of age but not in the case of elder patients, not even in exceptional cases where treatment is an urgent necessity. Measures which are less restrictive and more in keeping with the freedom to provide services could be adopted. The ECJ explicitly mentioned the system of prior authorization as long as the procedure meets the requirements of Community law (by this the ECJ refers to its own criteria developed in the *Müller-Fauré* and *van Riet* decisions).

The ECJ therefore ruled that Article 49 of the EC treaty (freedom to provide services) precludes legislation that excludes all reimbursement by a national social security institution of the costs occasioned by treatment of persons insured with it in private hospitals in another Member State, except those relating to treatment provided to children under 14 years of age.

The ECJ, in its rulings such as the one in the *Stamatelaki* case, has repeatedly pointed out that whilst it is settled case-law that Community law does not detract from the power of the Member States to organise their social security systems and whilst, in the absence of harmonization at Community level, it is for the legislation of each Member State to determine the conditions in which social security benefits are granted, the ECJ decisions on reimbursement for inpatient or outpatient treatment nevertheless result in a far-reaching harmonization.

The Member States have no right to require prior authorization for subsequent reimbursement for outpatient treatment; rather, Community citizens are free to choose their physician or dentist in any Member State. Inpatient treatment in another Member State than that in which the patient has social security coverage cannot be precluded completely but can at most be made contingent on prior authorization, which authorization may be refused only under certain conditions defined by the ECJ. The Member States are therefore left with only little leeway for shaping their own social security systems. The national legislation in the Member Countries will gradually converge. The ECJ therefore uses the European fundamental freedoms as an instrument to force harmonization in an area in which the EU is not competent to work for harmonization today and will not be assigned this competence by the Treaty of Lisbon, either. This position of the ECJ is beneficial for the protagonists of the healthcare system, especially outpatient treatment providers such as dentists, because it enlarges their potential range of activities. ■

Solicitor Dr Berit Jaeger
Ratajczak & Partners
Berlin · Cologne · Essen · Freiburg · Meissen · Munich · Sindelfingen
Posener Straße 1
71065 Sindelfingen · Germany
jaeger@rpmed.de

Can advertising for cosmetic medical treatments be prohibited?

The Dermoestética Decision of the ECJ

In the Dermoestética case (C-500/06), the European Court of Justice (ECJ) addressed the compatibility of Italian legislation restricting advertising for medical and surgical treatments of a cosmetic nature with the European fundamental freedoms. On 17 July 2008, the court decided that legislation, in so far as it prohibits the broadcasting of advertisements for medical and surgical treatments provided by private health care establishments on national television networks while at the same time permitting such advertisements, subject to certain conditions, on local television networks, violates the freedom of establishment and the freedom to provide services.

The decision was based on the following facts: In October 2005, the Spanish company Dermoestética entered into a contract with the Italian company To Me Group, entrusting it with carrying out an advertising campaign for cosmetic medical treatment services to be broadcast on the national Italian television channel Canale 5. Having received a payment on account, To Me Group informed Dermoestética that it would not be possible to broadcast the television advertisements envisaged on the Italian national television network due to specific Italian legislation. To Me Group stated, however, that it was prepared to try to secure advertising slots on local stations. Since To Me Group refused to refund the payment on account, Dermoestética brought proceedings for termination of the contested contract as a result of To Me Group's non-performance of the contract. Consequently, the payment on account would have to be refunded as well.

To Me Group refuted these claims with reference to the Italian law prohibiting the advertisements to be broadcast on national television. The competent Italian court referred the following question to the ECJ for a preliminary ruling: Is it incompatible with the European fundamental freedoms for national legislation to prohibit the broadcasting on national television networks of advertisements for medical and surgical treatments carried out in private health care establishments duly authorized for that purpose, even though that same advertising is permitted on local television networks?

The rulings of the ECJ have consistently held that the European fundamental freedoms protect not only medical and dental professional activities but also advertising for these medical and dental professional activities. Minimum requirements for such advertising are set up by Directive 89/552/EEC, which has been implemented in national law by the Member States. According to Article 3 Paragraph 1 of Directive 89/552/EEC, Member States can set more detailed or stricter rules for television advertising, provided they respect the fundamental freedoms guaranteed by the EC treaty. The Italian legislation in question is such a stricter rule and therefore requires special justification.

For the ECJ to accept such stricter measures, four conditions must be fulfilled:

- They must be applied in a non-discriminatory manner;
- they must be justified by overriding reasons based on the general interest;
- they must be suitable for securing the attainment of the objective which they pursue; and
- they must not go beyond what is necessary in order to attain that objective.

The Italian legislation is applied in a non-discriminatory manner because it applies to all companies within the EU. The protection of public health is one of the overriding reasons based on the general interest that can justify restrictions on the freedom of establishment and the freedom to provide services. However, the Italian legislation does not meet the third condition according to which it must be suitable for securing the attainment of the objective (protection of public health) which it pursues. By making it possible to broadcast such advertisements on local television networks while prohibiting it only on national television networks, the legislation cannot properly attain its public health objective. Opening local television networks is inconsistent with the declared objective. Therefore, the Italian advertisement legislation as a whole cannot properly attain its public health objective. In the absence of any other justification, the legislation therefore violates the freedom of establishment and the freedom to provide services.

For the case on hand, the result will be that To Me Group can no longer point to the national legislation but will, after three years, finally be able to fulfill its contract with Dermoestética and conduct an advertising campaign for cosmetic medical treatment services on the national Italian television channel Canale 5. However, there is nothing to prevent the Italian legislating bodies from amending its legislation related to television advertisement in accordance with the ECJ rulings and the four conditions listed above and prohibit the broadcasting of an advertising campaign for cosmetic medical treatment services on local as well as national television networks. Whether such a measure is admissible would again depend on whether it is suitable for securing the attainment of the objective (protection of public health) and whether it does not constitute an undue restriction on the fundamental freedoms of the service providers in the field – such as physicians, dentists or hospitals. If the regulations for other media take a more liberal view, the Italian legislative bodies will be hard-put to justify such a prohibition in a manner that is consistent with European law. ■

Solicitor Dr Berit Jaeger
Ratajczak & Partners
Berlin · Cologne · Essen · Freiburg · Meissen · Munich · Sindelfingen
Posener Straße 1
71065 Sindelfingen · Germany
jaeger@rpmed.de

BDIZ EDI Q&R Committee

Accuracy of Manual Torque-limiting Devices for Use in Oral Implantology

Dr Jörg Neugebauer, Dr Thea Lingohr, Dr Viktor E. Karapetian, Raid Shihadeh, Prof Joachim E. Zöller

As a part of the activities of the Qualification and Registration Committee – Scientific Research of the BDIZ EDI, several commercial manual ratchets for inserting screw implants and for attaching abutments were examined.

Introduction

Inserting and tightening implantological components is not always easy, especially not in the posterior region. Starting in the early days of modern oral implantology, various ratchet techniques have become established to facilitate the insertion of implants and secondary structures at appropriate torque levels [1]. Today, the various implant systems use ratchets for inserting the implant and for tightening secondary elements such as retaining screws, healing abutments or other components [2, 3].

Clinicians evaluate the ratchets used for implant insertion based on their haptic experience and on subjective criteria for implant stability within the respective bony implant bed. For a more objective assessment of the torque applied, it is recommended to utilize controlled-torque ratchets to determine and document the effective torque during implant insertion and to assess whether the torque is sufficient for immediate loading or immediate restoration [4, 5]. In the event of excessive torque, clinicians then have the option to interrupt the implant insertion procedure and return to preparing the implant bed, to safely prevent unphysiological compression of the bone bed by excessive torque [6].

During the prosthetic phase, the ratchet allows the clinician to apply a uniform torque when connecting abutments to implants. Torque control helps avoid excessive torque that might result in thread failure [7]. Torque control also ensures that abutments are connected appropriately, creating a sufficient level of pre-tension for functional loads on the prosthetic components [8].

It is therefore important that the ratchets operate with reproducible precision to eliminate, to the largest extent possible, errors and complications both during the surgical and during the prosthetic phase.

Fig. 1 Ratchet with 14 Ncm bit for hex screws (Dentsply Friadent, Mannheim).

Fig. 2 Ratchets for 20 and 30 Ncm with screwdriver bits (Zimmer, Freiburg).

Fig. 3
Angled handpiece with three different torque bits (Biomet 3i, Karlsruhe).

Fig. 4 Ratchet with coil spring and bending mechanism with option for various screwdriver bits (bredent Medical, Senden).

Fig. 5 Ratchet with coil spring and bending mechanism to accommodate instruments with ISO angled shaft (Medentis, Dernau).

Fig. 6 Ratchet with spring rod that accommodates different bits and offers a reversing option at the end of the handle (Nobel Biocare, Cologne).

Fig. 7 Titanium spring rod ratchet, laser-manufactured in one piece (Thommen Medical, Weil am Rhein).

Materials and methods

A number of implant manufacturers was selected based on their market penetration at the time of the study to obtain a set of torque ratchets to be examined for the accuracy of the torque delivered.

Different torque ratchet designs are available on the market today. Most ratchets are based either on a spring mechanism or on a deformable elastic metal component.

Internal spring ratchet systems may use individual torque bits with encased springs for different torque levels, or the adjustable spring of a single instrument can be set for various torque levels within a defined range. Ratchet systems with torque bits are characterized by a ratchet mechanism that is actuated at the pre-loaded torque, causing the ratchet to disengage (Figs. 1 and 2). One manufacturer offers an angled handpiece where the micromotor is replaced by a ratchet spring cassette to facilitate the application of a specific torque (Fig. 3).

Coil spring ratchets feature a bending mechanism that indicates when the set torque is reached. These systems are often very similar in design but differ in their capacity to accommodate standardized or system-specific bits (Figs. 4 and 5). Ratchet systems with spring rods transfer the torque directly from the ratchet handle to the screw, and the torque can be controlled via the corresponding elastic rod with markings on the measuring post that indicates the torque applied (Figs. 6 and 7).

Manufacturer	Internal spring	Coil spring	Spring rod
Biomet 3i, Karlsruhe, DE (Cat B)	10, 20, 32 Ncm		
Biomet 3i, Karlsruhe, DE (rti)	10 Ncm		
bredent Medical, Senden, DE		10, 20, 30 Ncm	
Camlog, Wimsheim, DE		10, 20, 30 Ncm	
Dentsply Friadent, Mannheim, DE	14, 24 Ncm		
Hader, La Chaux-de-Fonds, CH		20, 35, 45, (75) Ncm	
Medentis, Dernau, DE		10, 20, 30 Ncm	
Nobel Biocare, Cologne, DE			15, 35 Ncm
Straumann, Freiburg, DE			15, 35 Ncm
Thommen, Weil am Rhein, DE			10, 15, 20, 25, 30, 35 Ncm
Z-Systems, Konstanz, DE		15, 20, 25, 30, 35 Ncm	
Zimmer, Freiburg, DE	20, 30 Ncm		

Tab. 1 Evaluated set torques for the various manufacturers and design principles.

The ratchets examined for the present study were classified as either internal-spring ratchets, coil spring ratchets or spring rod ratchets, as shown in Table 1. Obviously, internal spring ratchets require a separate instrument or at least a separate bit for each set torque level. The range of available torque levels varies depending on manufacturer and ratchet type. Torque levels of between 10 and 75 Ncm were evaluated. However, the ratchets are mainly used at torque levels of between 10 and 45 Ncm.

The AFTI measuring device (Halmtec, Switzerland) with a MT-Th 50 manual torque sensor was used for the measurements in this study. Its measuring sensor is based on deformation measurements via strain gauges. The standard accuracy class of the device is 0.5 percent of the maximum scale value for torque levels of 5 Ncm and above.

Each manual ratchet was fitted with a matching chuck for the prosthetic instrument used to ensure direct application of the torque, similar to what is happening during implantological treatment.

Because neither the patient nor the clinician is in a fixed position during the procedure, no workbench was used, unlike in the case of purely mechanical technical testing. Rather, the operator held the measuring device in one hand and a ratchet in the other. In this way, the accuracy of the maximum torque actually applied for a given set torque level was documented. To obtain statistically reproducible results, each torque was measured 30 times for each ratchet, compensating for the individual variance caused by the free experimental set-up by increasing the number of samples.

Statistical evaluation was performed for the total of all values obtained and by classified evaluation comparing measurements by clinically relevant torque ranges and design principles. As not all units could be set to the same selection of values, the relative deviation was calculated as a percentage of the respective set value. The range of variation of the data was illustrated by Tukey box plots, while dependencies were examined using univariate ANOVA and the Bonferroni post-hoc test.

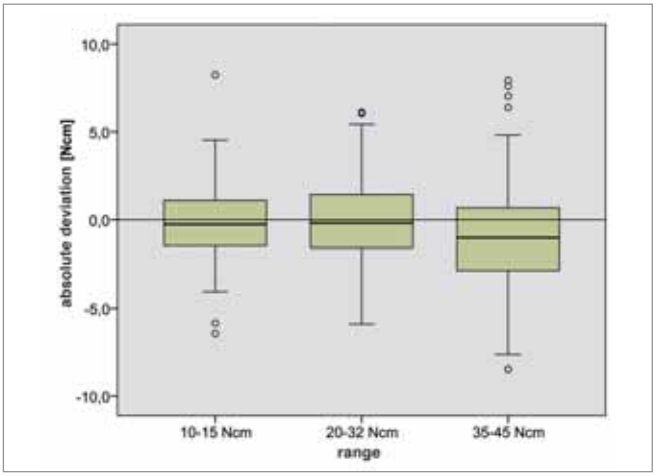

Fig. 8 Box plot of absolute deviations from the set torque by torque range, in Ncm.

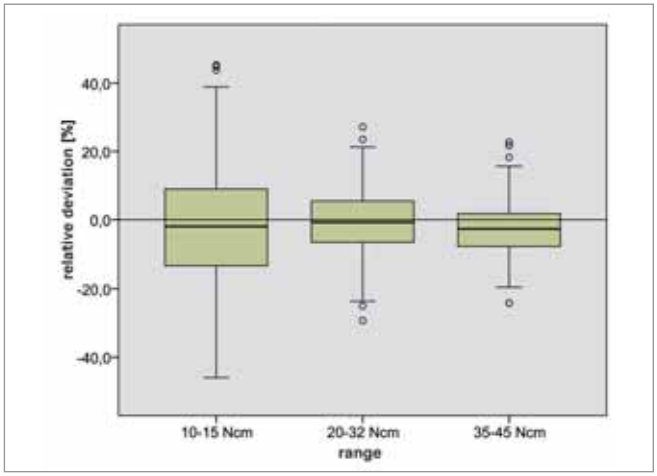

Fig. 9 Box plot of the relative deviations from the set torque by torque range, in percent.

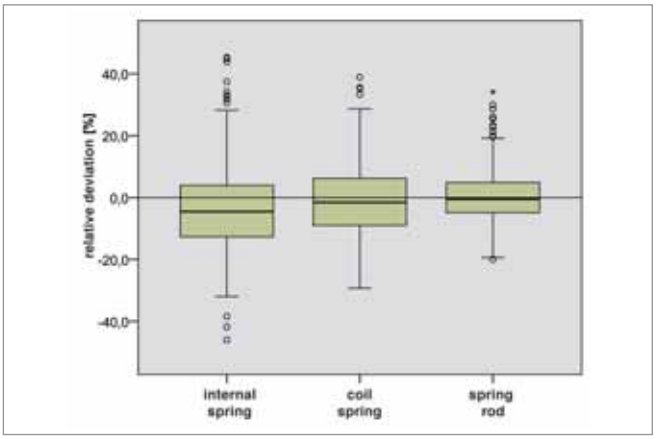

Fig. 10 Box plot of the relative deviations from the set torque by design, in percent.

Results

A total of 12 different ratchet systems from 11 manufacturers with a range of selectable torque levels between 10 and 45 Ncm were examined. All in all, 1080 torque measurements were made. The evaluation of the absolute deviations measured in Ncm across all manufacturers and ratchet types shows only minor deviations with a median of -0.3 Ncm relative to the set value. The greatest positive deviation was 8.2 Ncm, while the greatest negative deviation was 8.4 Ncm. Calculated as a percentage, the median deviation was -1.5% of the set value. The greatest positive deviation was 82.5%, while the greatest negative deviation was 46%. It should be noted, however, that the upper limit of the 95% interquartile range showed a minimum of only 1.83% and a maximum of only -0.39%. The maximums should therefore be considered rarely occurring extremes. To improve the clarity of the following box plot illustrations, one extreme value and two outliers that deviated by 50% were excluded.

To specify the deviations, measurements were assigned to one of three classes. Due to the set torque values of the Zimmer ratchet with 20 and 30 Ncm, this data were assigned in the group 10–15 Ncm for the 20 Ncm and 20–30 Ncm for the 30 Ncm ratchet. In the 10–15 Ncm range, a median negative deviation of -0.26 Ncm or -1.9% was found. In the 20–32 Ncm range, the median deviation was 0.18 Ncm or -0.7%. In the 35–45 Ncm range, the median deviation was 1.0 Ncm or -2.7% (Figs. 8 and 9). The univariate ANOVA thus yielded a highly significant difference in absolute torque accuracy for the 35–45 Ncm range compared to the other two groups (p=0.000). When the deviation was calculated as a percentage, significant differences were found only between the 20–32 Ncm and the 35–45 Ncm ranges, while all other combinations exhibited no significant differences.

Comparison of instrument designs yielded median deviations for internal spring ratchets of -0.9 Ncm or -4.5%, compared to coil spring ratchets at -0.3 Ncm or -1.5% and spring rod ratchets at -0.1 Ncm or -0.5% (Fig. 10). The univariate ANOVA did not show any significant differences for absolute measurements between the various instrument designs. When the deviation was calculated as a percentage, significant differences were found only between the spring rod and internal spring designs.

Comparison between the systems across all measurements shows only minor variations with median ranging from -7.8% to 1.2% (Fig. 11). Looking at the measurements for the systems as classified by torque ranges, the medians show greater variations ranging from -5.3% to 14.1 % (Fig. 12).

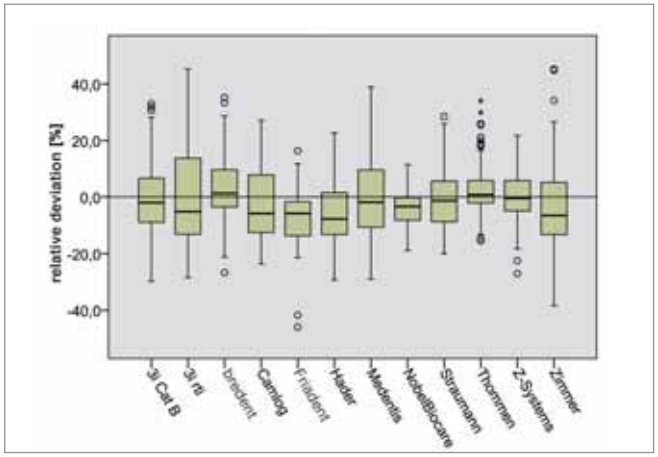

Fig. 11 Box plot of the relative deviations from the set torque by system, in percent.

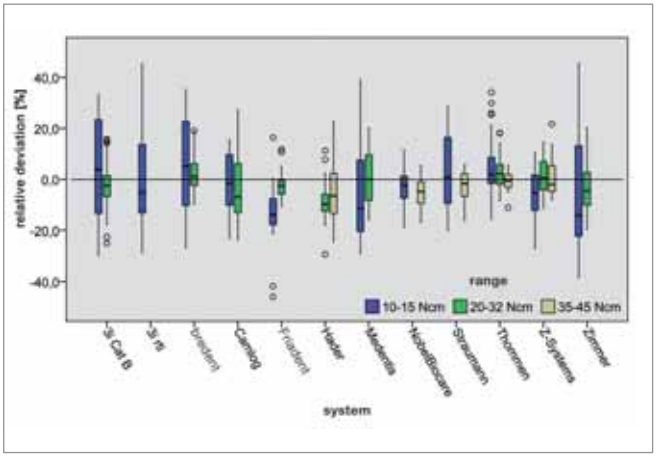

Fig. 12 Box plot of the relative deviations from the set torque by system, in percent, grouped by torque range. The values for Zimmer with 20 and 30 Ncm are displayed in the box of the group 10–15 Ncm for the 20 Ncm and 20–30 Ncm for the 30 Ncm device.

Discussion

The present study shows that the variations for each system are relatively small overall, staying close to the set values. A previously published study on the accuracy of the torque control of electrically/electronically controlled surgical units showed considerable variation with significant differences in the torques applied as a function of the set values for the respective systems [10]. Actual values tend to fall short off, rather than exceed, the set values.

The deviation from the set value in percent is relevant to the relative risk of applying an inadequate torque for the respective torque range. Despite the large number of measurements (n = 1080), there were only three cases of relative deviations exceeding 50% of the set value. This indicates that the ratchets available on the market today have become much more reliable than those in previous studies, where deviations of 165% were found [11]. When it comes to everyday clinical application, it should be noted that deviations of up to more than 80%, although rare, may still occur.

However, looking at the group values for measurements in the 10–15 Ncm range, greater quartile values are found than for the 20–32 Ncm and 35–75 Ncm ranges. This is particularly evident when comparing different systems, where the relative variation is particularly large in the lower Ncm ranges for the respective systems.

A comparison of the different design principles has shown that, when tabulating all measurements, the only significant relative difference was found for the spring rod system compared to the internal spring system and that they were no significant differences for the absolute measurements. Hence, none of the three designs offers any significant advantage in terms of torque accuracy.

Summary

Although the variations in absolute terms are higher in the upper torque ranges, variations relative to the respective set torque in percent show only small variations. It should be noted, however, that certain applications may result in relatively high deviations, meaning that verification may be indicated in certain situations. The accuracy of the torque-limiting functions offers clinicians a high-level safety because it gives them a reliable indication of the clinical consequences of the torque applied. ■

A list of references will be supplied by the editorial office on request.

Contact Address

Dr Jörg Neugebauer
Interdisciplinary Outpatient Department
for Oral Surgery and Implantology
Department for Craniomaxillofacial and Plastic Surgery
University to Cologne
Head: Prof Dr Dr Joachim E. Zöller
Kerpener Str. 32 · 50931 Köln · GERMANY
joerg.neugebauer@uk-koeln.de

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What type of abutment for what type of implant-supported restoration?

The Agony of Choice

Eduardo Anitua, MD, DDS, Vitoria/Spain

The development of new components for implant-supported prostheses has raised many questions about their indications. This article aims to shed some light on what types of abutments are ideal in specific situations and how they should be prepared.

Dentists dealing with implant prostheses should address a variety of questions. Typical examples would include the type of connection to be used, implant types, the number and position of implants, or the surgical technique to be selected. However, the principal question that should be asked in each patient would concern the type of prosthesis to be fabricated. Without wishing to write an overly detailed article, I would like to reflect on ceramic prosthesis designs emerging above the gingival level. These designs are the preferred restorative option in our practice.

The decision on whether to fabricate a screw-retained or a cemented prosthesis merits some thought. The majority of ceramic prostheses are attached by cementation. Substantial reasons argue in favor of this approach:

- Improved biomechanics when implants have been placed in strategic positions (possibly not located centrally below the proposed occlusal surfaces).
- Ability to place the implant such that an appropriate emergence profile can be reached (thus improving hygiene) rather than below the center of the proposed occlusal surface.
- Ability to accommodate placement of the implant at the residual ridge, especially in maxillary cases with a certain degree of atrophy (angulations between 10 and 15°).
- Ability to create anatomic emergence profiles and aesthetic colour matching.
- Passive fit (to avoid stresses and plaque accumulation).

The only compelling reason to use screw-retained prostheses is the convenience of removing the superstructure by unscrewing it. On the downside, the screw access channels do present a weak point for porcelain fracture. An exception are anterior cases when the implants have a lingualized position relative to the ideal tooth positions; this is where screw-retained prostheses come into play.

Faced with atrophic ridges or in the presence of class III relations, which we want to restore with anterior guidance, there are the alternatives of either advancing the maxilla or fabricating a prosthesis as shown in Figures 1 to 3.

For immediate loading and treatment provisionals, the indication will be for a screw-retained prosthesis on Multi-IM abutments (BTI Implant System) whenever possible. Multi-IM abutments offer great versatility for installation, removal and try-in (Figs. 4 and 5). The improvement of resolving misangulation problems has proved to be a convincing point; also, it does not interfere with tissue healing.

Fig. 1 These teeth were positioned 4 mm anterior to the residual ridge.

Fig. 2 Pink ceramic allowed us to advance the teeth and to create artificial papillae. The posterior bridges were cemented and included a gingival emergence. Anterior screw-retained bridge on Multi-IM abutments.

Fig. 3 The aesthetic and functional result was very acceptable. Pink ceramic allowed visualizing the papillae, and the teeth maintained an aesthetic anatomy.

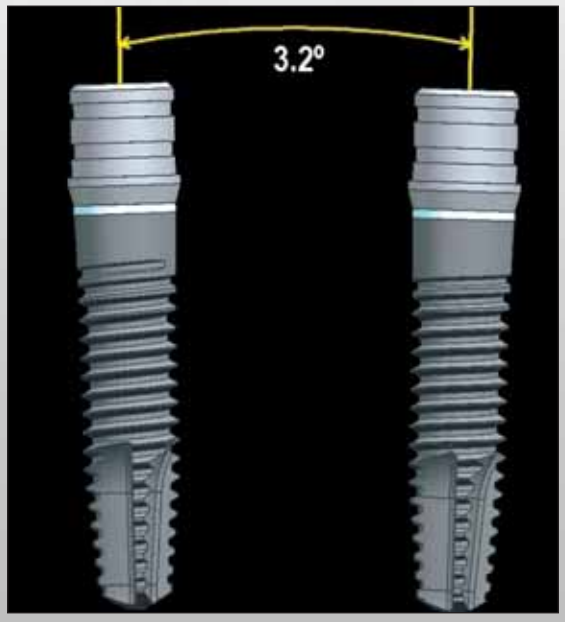

Fig. 4 Rotational UCLA abutments with a screw-retained prosthesis can only achieve a passive fit in the highly unlikely event that the angulation discrepancy is less than 4°.

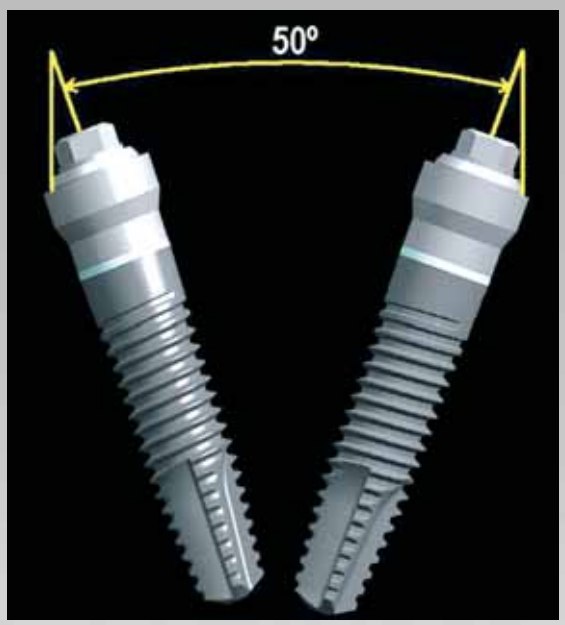

Fig. 5 Placement of Multi-IM abutments will allow the prosthesis to be placed at a juxta- or supragingival level and resolves misangulations of up to 50°.

Fig. 6 49-year-old patient with advanced periodontal disease and mobility of the four lower incisors.

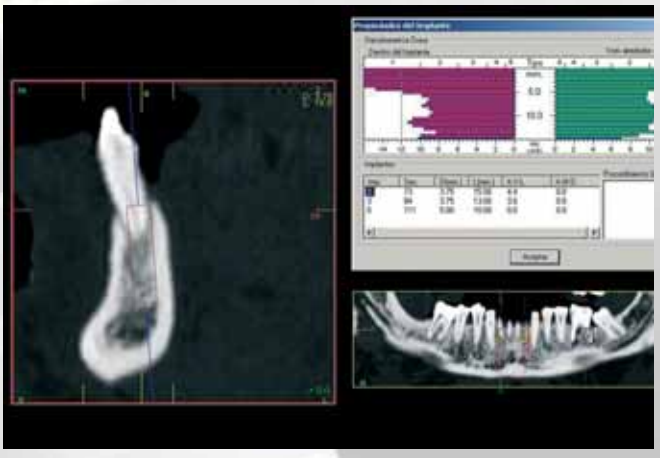

Fig. 7 The CAT scan revealed a large osseous defect, but the residual crest favoured placement of an implant in a closed flap technique immediately upon tooth extraction.

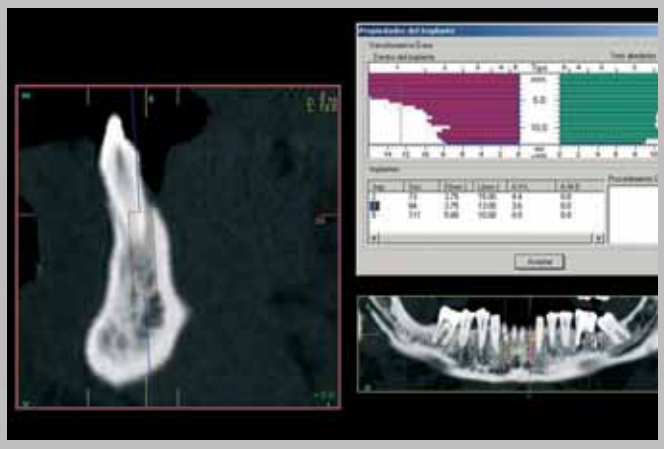

Fig. 8 The other implant was placed contralaterally into the other lateral incisor site using the same technique. Bone density was adequate for immediate placement of both implants.

Fig. 9 Teeth were extracted and implants placed in a closed flap technique. One tooth served as direction indicator and facilitated placement of the surgical guide.

The popular screw-retained prostheses on UCLA abutments are designs from the past decade. The basic reason is improving the passive fit on Multi-IM abutments and being able to adapt to different soft-tissue heights (Figs. 6 to 16).

A variety of parameters should be evaluated to decide what type of final abutment is most appropriate for a given cemented prosthesis: height and thickness of the soft tissue, biomechanical demands imposed by the anatomic situation, angulation problems, and aggressive micromilling of the abutments (weakness of the residual wall). Cost considerations will also play a role.

First of all, the dentist should know which abutment types are available and in what situations they should be used.

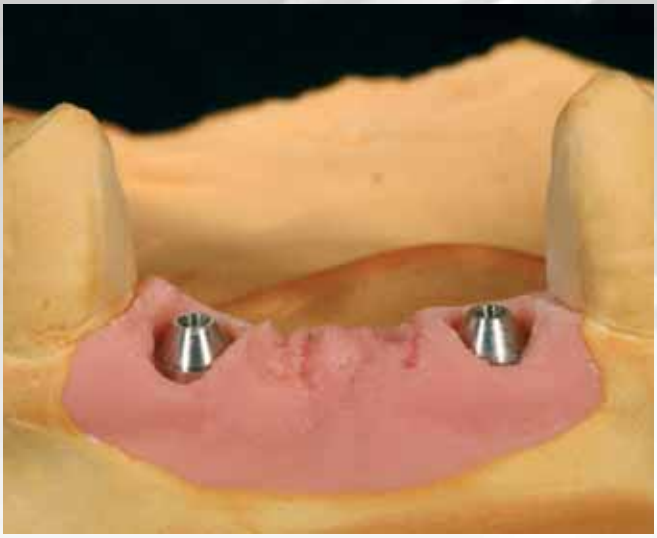

Fig. 10 The provisional prosthesis was made on Multi-IM abutments in the laboratory. These abutments were located at juxta- and supragingival levels.

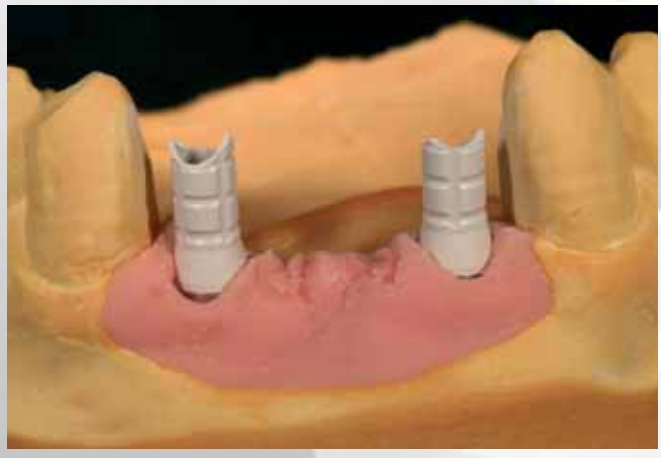

Fig. 11 The provisional prosthesis was made on aesthetic cylinders luted with fibreglass in order to strengthen the prosthesis.

Fig. 12 Diagnostic wax-up before taking a silicone index.

Fig. 13 The provisional prosthesis was made within a few hours in the laboratory.

Fig. 14 The prosthesis was delivered into the patient's mouth two hours after surgery.

Fig. 15 The aesthetic outcome, including soft-tissue conditions, was very acceptable four days postoperatively.

Fig. 16 Three months after surgery, the final cement-retained prosthesis was made on Ceramic-On abutments.

Titanium abutments: These designs come in different diameters and heights to customize emergence profiles. Angled titanium abutments also fall into this category but facilitate changing angulation and therefore conserve more material during micro-milling.

Indications: Suitable for any situation, they are especially indicated in posterior regions or when they should be drilled aggressively because they are made of a highly resistant material and allow maintaining thin, 100-µm walls. Aesthetics is their greatest limitation and cost-effectiveness their biggest selling point. Titanium abutments are the most economical and versatile abutments available.

Ceramic-On veneerable gold abutments: These are made of the same warm gold colour (98% gold) , and they permit conventional feldspathic ceramics to be added. They allow customizing the emergence profile with great aesthetic results. The material can be readily processed and veneered. The abutments are drilled 2° to 4° or 6° depending on the retention level and the number of abutments to be splinted.

Indications: Especially indicated in highly aesthetic zones of the upper anterior segment. The price level of these abutments is between titanium and zirconia abutments. The aesthetic result is optimal, being able to select the colour of the ceramic, and they are easy to retouch in the mouth if necessary.

UCLA gold abutment: A variant of these abutments is the rotational design for screw-retained prostheses. These have fallen into disuse. Non-rotational designs are specifically indicated for fabricating customized angled abutments. The concept has today been largely abandoned and replaced by veneerable abutments, as well as by gold and titanium abutments.

Indications: Fabrication of customized angled abutments, casting with type III gold. Castable UCLA abutments continue to be available for cost considerations exclusively. Although they are among our preferred abutments, we do not recommend them because they are more transparent.

Zirconia abutments: These designs are very much in vogue but do have limitations that should not be ignored.

- Aesthetics are acceptable at best because the color range is restricted to a single variety of white.
- Hardness and difficult handling.
- The thickness should not be less 200 µm to avoid fractures related to structural weakness.
- Most expensive type of abutment.

Zirconia abutments are microdrilled to 2° to 4° depending on the retention level. Theoretically, they are less retained by friction than the ones described above.

Indications: Posterior restorations, as a more aesthetic alternative to abutment posts.

Titanium abutments for zirconia: These designs are made from titanium but can be customized with a zirconia filler or cement. They offer good aesthetics by margin and colour customization. Their price level is on a par with titanium abutments. However, since they require more work to be done in the laboratory and for subsequent cementation, the overall cost is similar as for gold veneerable abutments.

Indications: Anterior and posterior restorations in the presence of high aesthetic demands.

Aesthetic provisional cylinders: These abutments are made of an aesthetic plastic material that can remain in the mouth for up to six months; the indication is exclusively for aesthetic cemented prostheses.

The following series of Figures will illustrate the fabrication of a gold veneerable abutment step by step (Figs. 17 to 28).

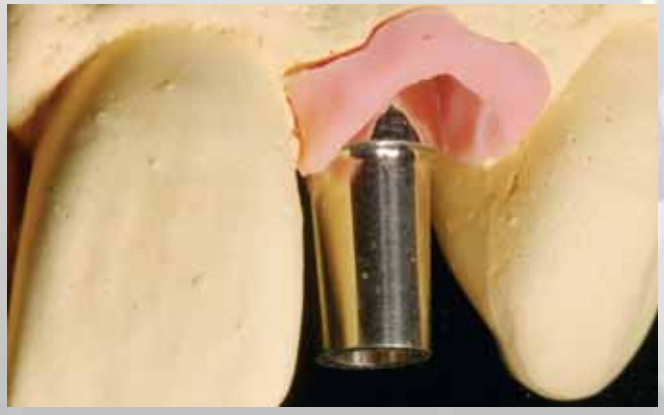

Fig. 17 A Ceramic-On gold abutment was selected in accordance with the individual situation.

Fig. 18 The abutment was microdrilled to create space for the ceramic.

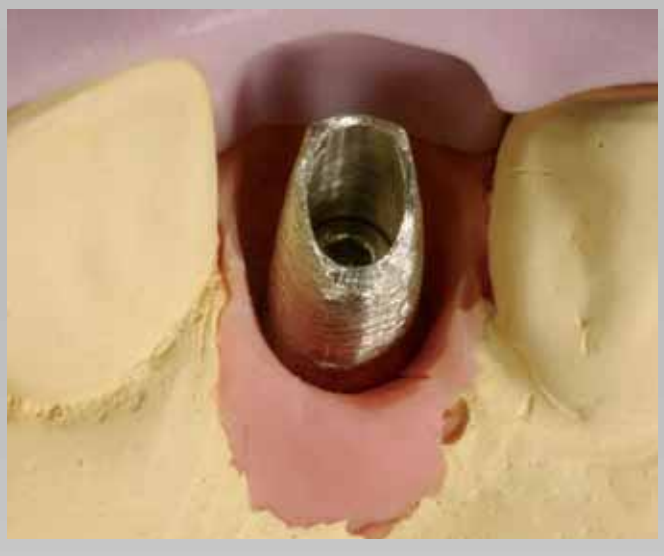

Fig. 19 Lingual view.

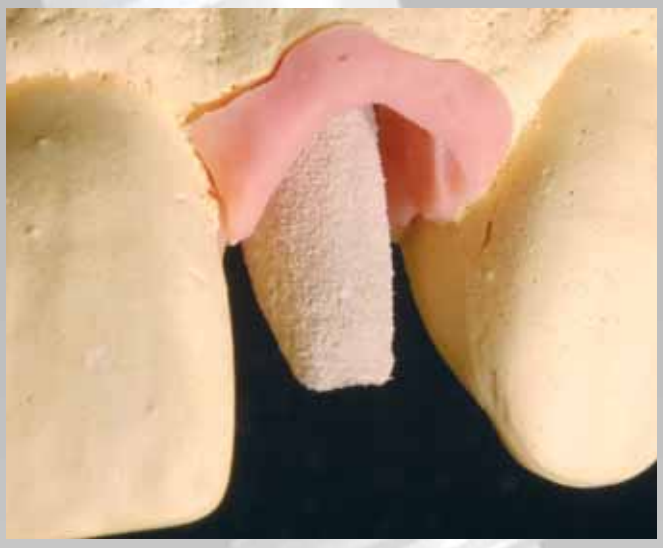

Fig. 20 Opaquer was applied at a slightly more intensely saturated colour than that of the final crown.

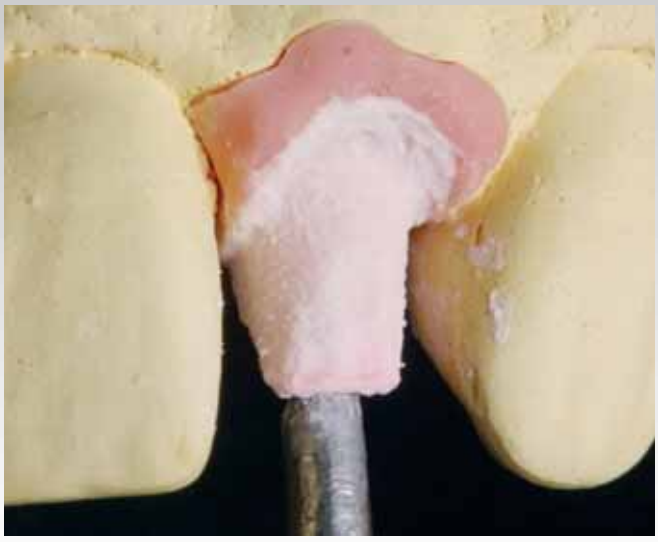

Fig. 21 Application of dentin. Enamel was added to the tooth neck.

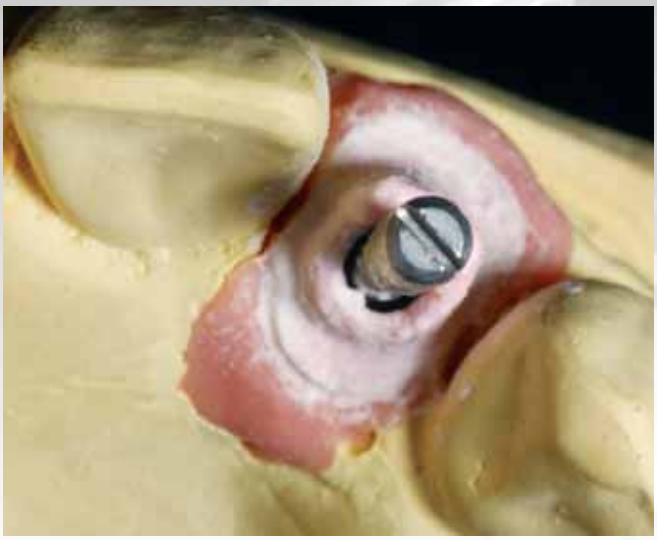

Fig. 22 Lingual view.

Fig. 23 Microdrilling to customize size was performed after removal from the furnace. Angulation: 2° or 4° according to length.

Fig. 24 The finish lines were located at a supragingival level lingually and at the juxtagingival level mesially and distally.

Fig. 25 The buccal margin was located at a juxtagingival or minimally supragingival level.

Fig. 26 Intraoral try-in to verify the finish lines.

Fig. 27 These abutments are easy to retouch intraorally.

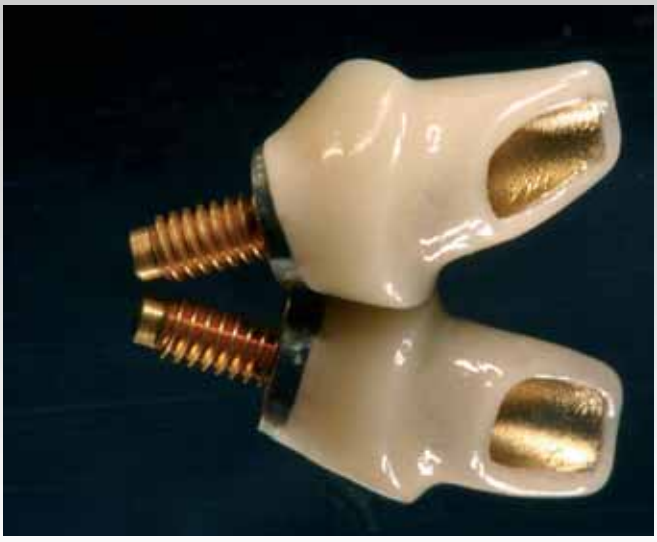

Fig. 28 After polishing, the abutment was tightened with a gold screw to 35 Ncm in the patient's mouth.

Fig. 29 Subgingival placement resulting in cement debris underneath the gum.

Fig. 30 Failure to eliminate the debris will create problems very soon.

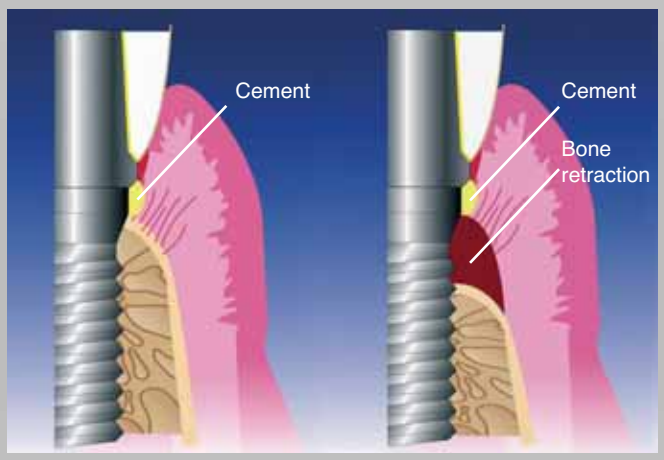

Fig. 31 Cement debris will lead to mucositis within one or two weeks and to peri-implantitis within one or two months.

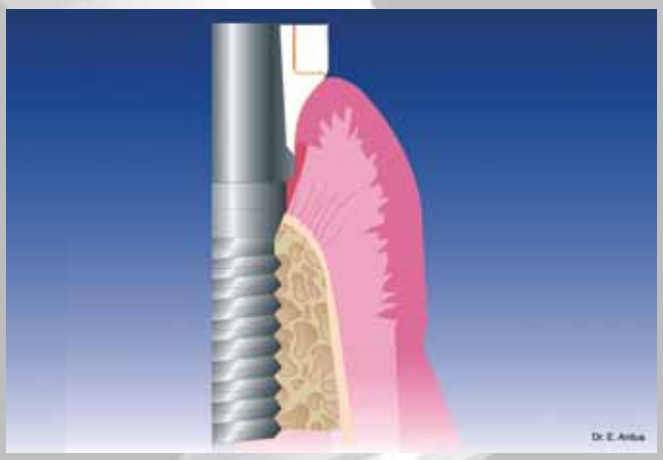

Fig. 32 With a veneerable Ceramic-On abutment, a ceramic emergence can be created such that the aesthetic margin is juxta- or supragingival.

Fig. 33 For aesthetic reasons, titanium abutments are not an ideal choice in the anterior segment.

Fig. 34 Veneerable gold abutments (Ceramic-On) offer excellent light reflection. Moreover, a non-metal porcelain crown can be used (photograph courtesy of August Bruguera).

The use of veneerable and zirconia abutments has solved a large number of problems in our practice. One of the first problems we encountered with implant-supported prostheses concerned the angulation and emergence of the abutments. Another problem inherent in prostheses cemented to implants is the elimination of any subgingival cement. One must accept the risk of uncontrolled cement debris accumulating in the subgingival zone provoking inflammation and vertical bone loss. In some cases, this may trigger an irreversible development that may eventually result in failure (Figs. 29 to 32).

Fig. 35 Micromilled gold abutment.

Fig. 36 Micromilled zirconia abutment.

Fig. 37 Micromilled titanium abutment.

Fig. 38 Micromilled aesthetic provisional abutment.

Fig. 39 Emergence of an aesthetic provisional abutment.

Fig. 40 Aesthetic provisional abutment with a provisional resin crown.

Fig. 41 Emergence profile of the abutment after micromilling and customization of the margin.

Excess cement in the prosthesis cannot possibly be controlled in the presence of a subgingival finish line.

Figure 33 reveals how the supra- or juxtagingival finish lines of a titanium abutment will be rejected on aesthetic grounds by patients and professionals alike.

Since the soft tissue is not always optimally stable, the final abutment will frequently become visible over time. Veneerable abutments are certainly an excellent solution in this situation since they will always display a dentin colour in the event of gingival recession.

Fig. 42 52-year-old patient with a totally edentulous maxilla and removable lower partial denture. The patient wants an upper fixed prosthesis.

Fig. 43 Maxillary rehabilitation on Interna implants (BTI Dental Implant System).

Fig. 44 Ceramic-On abutments are our preferred choice in the anterior segment. In posterior regions, we prefer titanium or zirconia abutments.

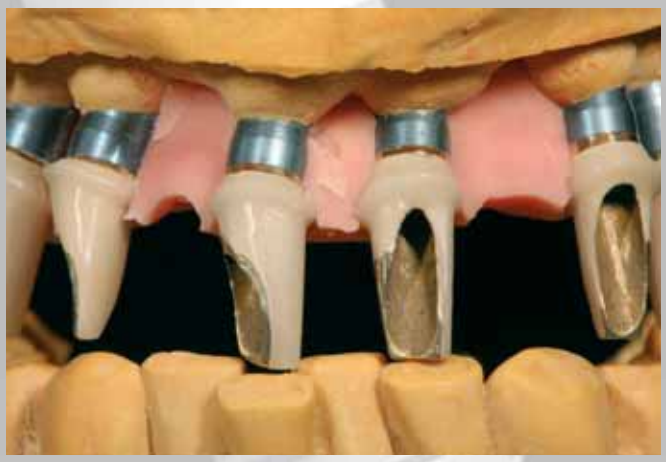

Fig. 45 Detail of microdrillings and the parallelism between abutments.

Figs. 46 and 47 Prosthesis cemented in the mouth.

While standard implants offer unidirectional angulation only, the dentist will normally want bidirectional angles.

The use of veneerable abutments enables us to manipulate the angulation as needed. For example, the angle could be corrected by 7° in a lingual and by 5° in a mesial direction simultaneously while creating a satisfactory emergence profile and respecting the occlusal surface of the wax-up at the same time, creating a customized abutment with modified contour and colour. The emergence of implants is instrumental in achieving integration of the restoration. Not only does the new concept developed by BTI Dental Implant solve the problem of angulation, but it also allows dentists to handle restorative emergence profiles as needed (Figs. 34 to 47). ■

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Contact Address

Dr Eduardo Anitua Aldecoa
San Antonio 15, 3°
01005 Vitoria
SPAIN
eduardoanitua@eduardoanitua.com

Evaluation of survival and success rate

Short Implants Inserted into Fresh Frozen Bone

Maurizio Franco[1], Alessandro Viscioni[1], Leone Rigo[1], Matteo Danza[2], Riccardo Guidi[3] and Francesco Carinci[3]

Implant prostheses are often used to restore partially or completely edentulous patients but limited bone height, especially in the posterior mandible, may restrict the use of dental implants. Short implants (i.e. SIs, length < 13 mm) may be selected in these situations. They have several advantages: restricting the need for sophisticated and expensive surgical procedures like sinus lifting, bone grafting and mandibular nerve transposition, placing short-span dentures and avoiding cantilevers in the posterior sextants. The limited surface area of SIs, conversely, can be a potential disadvantage as it has less resistance to occlusal forces. Due to the above mentioned reasons, several authors have focused on SIs in the last decade, reporting good results over medium/long term periods [1-11]. Although good clinical results have been reported, especially in recent years, there are no studies on SIs inserted into homologue fresh frozen bone (i.e. FFB).

A homograft (or allograft) is a transplant in which transplanted cells, tissues or organs are sourced from a genetically non-identical member of the same species. In contrast, a transplant from another species is called a xenograft. An isograft is a transplanted organ or tissue from a genetically identical donor, i.e. an identical twin. An autograft is a tissue transplanted from one site to another on the same patient. Bone allograft transplantation has been performed in humans for more than one hundred years and is used in ever increasing numbers by orthopedic surgeons [12].

Many forms of banked bone allograft are available to the surgeon. Among the grafts available are fresh-frozen bone (FFB), freeze-dried bone (FDB), and demineralized fresh dried bone (DFDB). Each one of these grafts carries risks and has unique limitations and handling properties. In order to use these materials appropriately, the surgeon must be familiar with the properties of each and must feel confident that the bone bank providing the graft is supplying a safe and sterile graft [13].

Regarding the use of FFB in oral surgery, only two articles can be found in the literature but they not specifically focus on implants [14, 15]. Since both SIs and FFB have increasing numbers of clinical applications and no report is available on SIs inserted into FFB we therefore decided to perform a study on 57 SIs to evaluate their clinical outcome.

Materials and methods

Patients

In the period between December 2003 and December 2006, 81 patients (52 females and 29 males) with a median age of 52 years were operated on at the Civil Hospital, Castelfranco Veneto, Italy. Among them, 26 patients (18 females and 8 males) with a median age of 49 years were treated with SIs. Informed written consent approved by the local Ethics Committee was obtained from patients to use their data for research purpose. The last check-up was performed in November 2007, with a mean follow-up of 21 months.

Homologue FFB grafts were previously inserted into patient's jaws under general anesthesia. Usually the mean post-grafting period was six months before implant surgery and the final prosthetic restoration was delivered after an additional six months.

Subjects were screened according to the following inclusion criteria: controlled oral hygiene, the absence of any lesions in the oral cavity, sufficient residual bone volume (autologous plus FFB graft) to receive implants of at least 3.25 mm in diameter and 7.0 mm

[1] *Dept of Maxillofacial Surgery, Civil Hospital, Castelfranco Veneto, Italy*
[2] *Senior Lecturer, Dental School, University of Chieti, Chieti, Italy*
[3] *Maxillofacial Surgery, University of Ferrara, Ferrara, Italy*

in length; in addition, the patients had to agree to participate in a post-operative check-up program.

Exclusion criteria were as follows: insufficient bone volume, a high degree of bruxism, smoking more than 20 cigarettes/day and excessive consumption of alcohol, localized radiation therapy of the oral cavity, antitumor chemotherapy, liver, blood and kidney diseases, immunosupressed patients, patients taking corticosteroids, pregnant women, inflammatory and autoimmune diseases of the oral cavity, and poor oral hygiene.

Graft material

The FFB – obtained from the Veneto Tissue Bank in Treviso (Italy) – is a mineralized, non-irradiated, only disinfected and frozen homologous bone (Veneto Region Law n. 3948, 15 December 2000). The bone harvesting is obtained from the anterior and posterior iliac crest, in the first twelve hours after donor death. The bone is then disinfected, for at least 72 hours at -4°C, in a polychemotherapeutic solution of vancomycine, polymyxine, glazidine and lincomycine, following that the sample is irrigated with a sterile saline solution. The sample is then subdivided into cortico-medullary blocks, packed in double sterile casing and frozen at -80°C.

The requirements for homologous bone donors are more stringent with respect to those of organ donors. The presence of risk factors such as contagious disease, neoplasm, rheumatical and/or degenerative disease and sepsis necessarily disqualifies the donor. In order to detect infectious agents, the following tests are performed on donor blood samples taken within eight hours of death: anti-HIV-I/II Ab, anti-HCV Ab, HbsAg, anti-HBc Ab, anti-HBs Ab, anti-HTLV-I/II Ab, anti-Ag Treponemal Ab, anti-CMV IgG Ab, anti-CMV IgM Ab, anti-Toxoplasma IgG Ab, anti-Toxoplasma IgM Ab. A culture is also performed to detect aerobic and anaerobic bacteria, mycobacteria and mycotical agents. As a further safety method, a serological follow-up is conducted using Polymerase Chain Reaction techniques to detect any viral RNA or DNA of HIV, HCV and HBV. This method reduces the "diagnostic window period" to seven days for HIV, HCV and HBV.

Data collection

Before surgery, radiographic examinations were done with the use of orthopantomograph and CT scans. In each patient, peri-implant crestal bone levels were evaluated by the calibrated examination of orthopantomograph x-rays. Measurements were recorded before surgery, after surgery and at the end of the follow-up period. The measurements were carried out mesially and distally to each implant, calculating the distance between the edge of the implant and the most coronal point of contact between the bone and the implant. The bone level recorded just after the surgical insertion of the implant was the reference point for the following measurements. The measurement was rounded off to the nearest 0.1 mm. A peak Scale Loupe with a magnifying factor of seven times and a scale graduated in 0.1 mm was used.

Peri-implant probing was not performed because controversy still exists regarding the correlation between probing depth and implant success rates [16,17]. The implant success rate (SCR) was evaluated according to the following criteria:

- absence of persisting pain or dysesthesia,
- absence of peri-implant infection with suppuration,
- absence of mobility, and
- absence of persisting peri-implant bone resorption greater than 1,5 mm during the first year of loading and 0,2 mm/year during the following years [18].

Implants

A total of 57 SIs were inserted into 26 patients: 34 (59.6%) in the mandible and 23 (40.4%) in the maxilla. There were 26 (45.6%) Double etched 3i implants (Biomet Inc., US), five (8.8%) SLA Astra implants (Astra Tech Inc., US), three (5.3%) Grit blasted and acid etched Frialit implants (Dentsply Inc., US), ten (17.5%) Anodic oxidized Nobel Biocare implants (Nobel Biocare Inc., US), nine (15.8%) $CaPo_4$ ceramic-blasted RBM implants (Lifecore Biomedical Inc., US) and four (7.0%) implants of different type: one ITI (Straumann Inc, US), one Pitt-Easy (Sybron Implant Solutions, Bremen, Germany) and two Endopore (Innova Corp, Toronto, Canada). Implant diameters and lengths ranged from 3.25 to 5.0 mm and from 7.0 to 12 mm, respectively. Implants were inserted to replace eight incisors, four cuspids, 19 premolars and 26 molars.

Surgical and prosthetic technique

All patients underwent the same surgical protocol. An antimicrobial prophylaxis was administered with 500 mg Amoxycillin twice daily for five days starting one hour before surgery. Local anesthesia was induced by infiltration with articaine/epinephrine and post-surgical analgesic treatment was performed with 100 mg Nimesulid twice daily for three days. Oral hygiene instructions were provided.

After making a crestal incision a mucoperiosteal flap was elevated. Implants were inserted according to the procedures recommended. The implant platform was positioned at the alveolar crest level. Sutures were removed 14 days after surgery. After 24 weeks from implant insertion, the provisional prosthesis was pro-

vided and the final restoration was usually delivered within an additional eight weeks. The number of prosthetic units (i.e. implant/crown ratio) was about 0.8. All patients were included in a strict hygiene recall.

Statistical analysis

Since only two out of 57 implants were lost (i.e. SVR = 96.5%) and no statistical differences were detected among the studied variables, no or reduced crestal bone resorption was considered an indicator of SCR to evaluate the effect of several host-, implant-, and occlusion-related factors.

The difference between the implant abutment junction and the bone crestal level was defined as the Insertion Abutment Junction (IAJ) and calculated at the time of the operation and during follow-up. The delta IAJ is the difference between the IAJ at the last check-up and the IAJ recorded just after the operation. Delta IAJ medians were stratified according to the variables of interest.

Disease-specific survival curves were calculated according to the product-limit method (Kaplan-Meier algorithm) [19]. Time zero was defined as the date of the insertion of the implant. Implants which were still in place were included in the total number at risk of loss only up to the time of their last follow-up. Therefore, the survival rate only changed when implant loss occurred. The calculated survival rate was the maximum estimate of the true survival curve. Log rank testing was used to compare survival curves, generated by stratifications for a variable of interest.

Cox regression analysis was then applied to determine the single contribution of covariates on the survival rate. Cox regression analysis compares survival data while taking into account the statistical value of independent variables, such as age and sex, on whether or not an event (i.e. an implant loss) is likely to occur. If the associated probability was less then 5 percent ($p<.05$), the difference was considered statistically significant. In the process of doing the regression analysis, odds ratio and 95 percent confidence bounds were calculated. Confidence bounds did not have to include the value «1» [20]. Stepwise Cox analysis allowed us to detect the variables most associated with implant survival and/or success.

Results

Table 1 reports the median delta IAJ according to the studied variables. Two implants were lost in the postoperative period (within three months) and Table 2 describes their characteristics. The Kaplan-Meier algorithm demonstrates that implant type (Log rank test = 44.23, df = 5, p = 0.001) was statistically different.

Table 3 shows that type of implant (i.e. Double etched, SLA, Anodic oxidized) and prosthetic restoration (i.e. removable dentures) correlated with a statistically significant lower delta IAJ (i.e. reduced crestal bone loss) and thus a better clinical outcome (see also Tab. 1). No differences were detected among diameters and lengths. Also graft site and implant site were not statistically significant differences.

Discussion

The identification of guidelines for the long term SVR and SCR (i.e. good clinical, radiological and aesthetic outcome) are the main goals of the recent literature. Several variables can influence the final result, but in general they are grouped as surgery-, host-, implant-, and occlusion-related factors. The surgery-related factors are made up of several variables such as an excess of surgical trauma like thermal injury [21], bone preparation [22], drill sharpness and design [23]. Bone quality and quantity are the most important host-related factors [24-28], while design [29-31], surface coating [25,29,32], diameter and length [28] are the most impor-

Graft site	Implant site	Implant length	Implant diameter	Implant surface	Prosthetic Type
Mandible 34 (1.6)	Incisors 8 (1.4)	Length < 11.5 mm 17 (1.4)	Diameter < 3.75 mm 25 (1.8)	Double etched 26 (1.4)	None 20 (1.6)
Maxilla 23 (1.7)	Cuspids 4 (1.5)	11.5 mm < Length < 13 mm 40 (1.8)	Diameter < 3.75 mm 15 (1.6)	SLA 5 (1.5)	Fixed prosthesis 34 (1.7)
–	Premolars 19 (1.9)	–	Diameter > 3.75 mm 17 (1.6)	Grit blasted and acid etched 3 (3.5)	Removable dentures 3 (1.5)
–	Molars 26 (1.7)	–	–	Anodic oxidized 10 (1.4)	–
–	–	–	–	$CaPo_4$ ceramic-blasted 9 (2.0)	–
–	–	–	–	Others 4 (2.1)	–

Tab. 1
Distribution of series. The number of cases is out of parenthesis whereas the median delta IAJ is in parenthesis.

Implant diameter	Implant length	Graft site	Implant site	Implant type	N° of months post implant insertion	Prosthesis
3.25	10	Mandible	35	Double	3	None
3.25	10	Mandible	36	Double	3	None

Tab. 2 Failed implants.

Variable	B	Significance (P<0.05)	95% Confidence	
			Lower	Upper
Age	0.1143	0.0733	0.9893	1.2706
Gender	-3.3975	0.1079	5.319E-04	2.1044
Graft site	3.7318	0.0775	0.6630	2629.3277
Implant site	0.2829	0.4844	0.5940	2.9999
Implant length	-0.5487	0.1813	0.2584	1.2915
Implant diameter	2.1130	0.1960	0.3362	203.5935
Implant type	0.5193	0.0062	1.1584	2.4386
Type of restoration	-2.0457	0.0361	0.0191	0.8756

Tab. 3 Output of the Cox regression reporting the variables associated statistically with delta IAJ by evaluating delta IAJ (i.e. SCR).

tant implant-related factors. Finally, quality and quantity of force [33, 34] and prosthetic design [35-37] are the variables of interest among the occlusion-related factors. All these variables are a matter of scientific investigation since they may affect the clinical outcome.

SIs (i.e. length <13 mm) are one of the implant-related factors and concerns exist about their outcome as they have a more limited surface area with which to resist occlusal forces.

The present study reports a series of 57 SIs with only two implants lost during a mean follow-up of 21 months (SVR = 96.5%). Since no statistical differences were detected among the studied variables by using the SVR, no or reduced MBL was considered an indicator of SCR to evaluate the effect of host-, surgery-, and implant-related factors.

In general, length, diameter and surface (see Tab. 1) are considered to be relevant implant-related factors. In our series, implant length, diameter and type were not critical points for SVR. Also SCR did not match with length and diameter. Instead implant type was related to a statistically significant lower delta IAJ, and thus to a better clinical result or SCR (i.e. Double etched, SLA, Anodic oxidized).

Bone quality, a host-related factor, is believed to be one of the strongest predictors of outcome. It is well known that the mandible (especially the interforaminal region) has better bone quality than the maxilla, and this fact is probably the reason why several reports are available regarding immediately loaded implants inserted into the mandible with a high SVR [38-40]. Implant immediate loading is an example of critical procedure in implantology. Here, no differences were detected as regards graft and implant site thus demonstrating that FFB is a good material to insert implants.

Among the occlusal-related factors, no differences were detected as regards SVR. However, removable dentures showed a better outcome than fixed restorations do.

In conclusion, FFB is a reliable grating material for the insertion of SIs. SIs inserted into FFB had a high survival and success rate similar to those reported in previous studies of two-stage procedures in non-grafted bone. Short implants inserted into FFB can be considered a reliable technique. The higher marginal bone loss found when certain implant types and fixed prosthetic restorations are used have to be verified on larger series.

Acknowledgment

This work was supported by FAR from the University of Ferrara (F.C.), Ferrara, Italy.

Contact Address

Prof Francesco Carinci, MD
Chair of Maxillofacial Surgery
Arcispedale S. Anna
Corso Giovecca 203
44100 Ferrara · ITALY
Phone/Fax: +39 0532 455582
crc@unife.it · www.carinci.org

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The Flatguide system

A New Approach to Image-guided Surgery

Michele Jacotti, Brescia/Italy

This article describes a new system for image-guided surgery in dental implantology, the Flatguide system. One of the most important characteristics of this system is a "user friendly" instrument for the oral surgeon during computer-assisted implant planning. The dental lab is also involved in the treatment planning process. The system allows the dental technician to exactly reproduce the implant's position on the stone cast to create the surgical stent and, eventually, the provisional prosthesis for immediate loading. Another characteristic of this system is that it permits a consistent reduction of the costs of the surgical stents so they can be applied in standard surgery and not only in particular situations.

Materials and methods

The new software tested in this report is called OneScan 3D (www.3dmed.it) and is used for diagnosis and implant planning based on CT scan data. It is the only program that includes the Flatguide function for surgical stent design.

Once the treatment plan has been agreed upon, the dental technician will create a wax-up that replicates the prosthesis on the cast. The diagnostic stent is created on the basis of these data.

One of the peculiar characteristics of the Flatguide system is that clinicians can use the type of diagnostic stent they prefer: stents with barium-sulphate teeth, stents with teeth coated with amalgam powder or stents without any reference teeth. All that is required is the placement of a Flatguide stent on the custom diagnostic stent (Figs. 1 and 2). The patient then undergoes a CT scan wearing the Flatguide stent. It is very important to check the stent for a perfect fit on the residual dentition (or on the mucosa of the ridge if the patient is completely edentulous).

The CT scan data are saved in DICOM format and reconstructed by the OneScan 3D software, starting with an automatic 3D reconstruction of the jaws (Figs. 3 and 4). If necessary, the acquisition plane can be changed, obtaining an interpolation of axial images in order to correct the virtual maxillary position. This facilitates the second phase, where the reconstruction lines for panoramic and cross-sectional images are drawn.

The virtual implant positioning phase (Fig. 5) is followed by the creation of the surgical stent using the Flatguide feature. The software presents a virtual indexing arch with the same shape as the Flatguide stent, only with pins instead of the lingual holes. The

Fig. 1
Diagnostic stent attached to the Flatguide.

Fig. 2
Silicone bite index above the Flatguide.

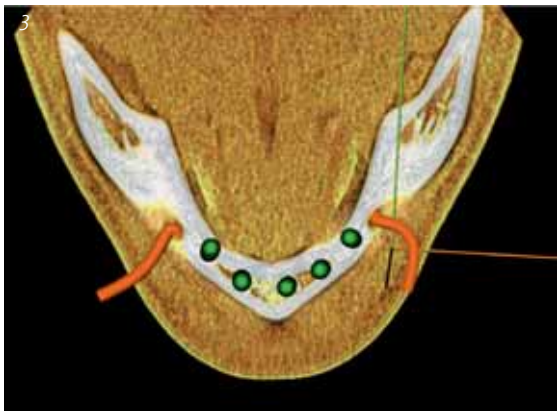

Fig. 3 Mandible split at the mental foramen level with OneScan 3D software.

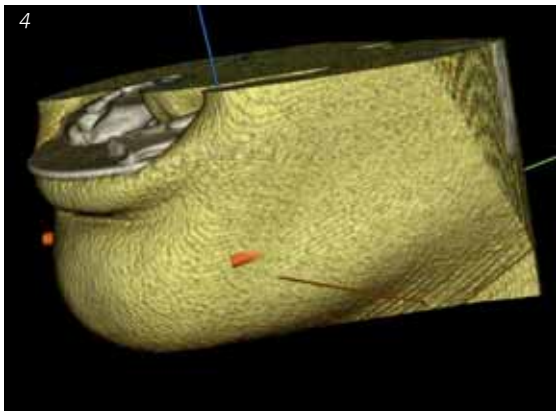

Fig. 4 Soft-tissue reconstruction with OneScan 3D software.

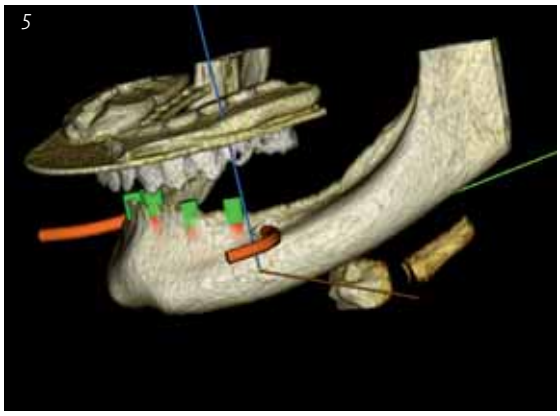

Fig. 5 Virtual implant planning with OneScan 3D software.

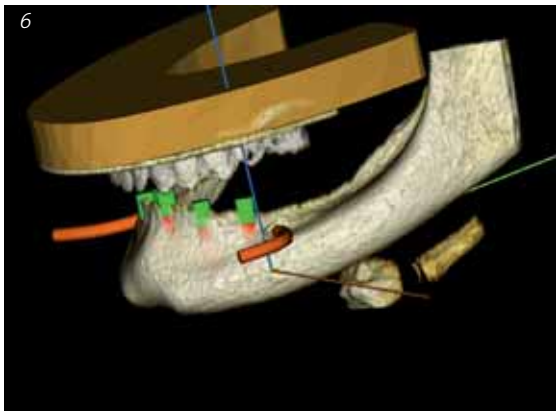

Fig. 6 Virtual indexing arch above the Flatguide.

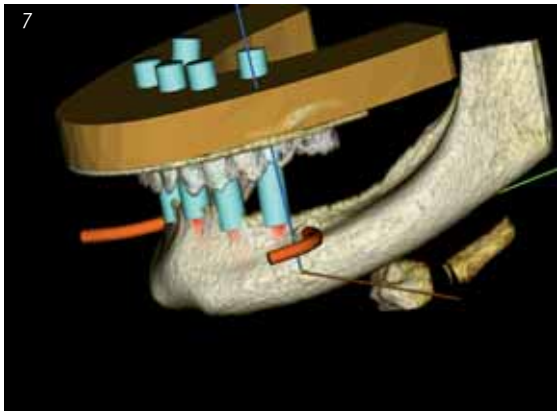

Fig. 7 Implant extensions perforating the virtual indexing arch.

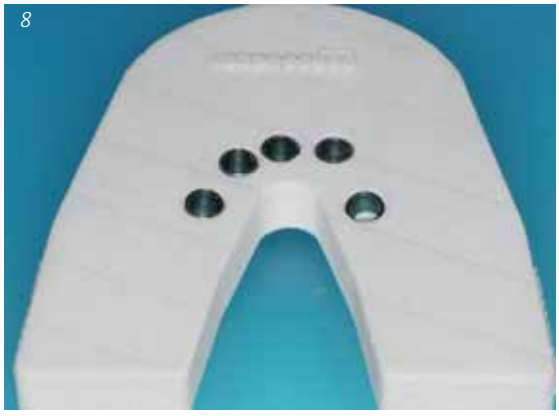

Fig. 8 The physical indexing arch with metal sleeves inserted.

indexing arch will be placed onto the Flatguide, fitting between the holes and pins (Fig. 6). If the indexing arch position on the Flatguide is not perfect, it can be modified by moving the virtual indexing arch until it fits the Flatguide perfectly.

The software then creates the implant extensions perforating the virtual indexing arch (Fig. 7). The distance between the Flatguide and the connection between fixture and abutment is calculated automatically. This measure helps the dental technician to position the implant analogues on the cast at the correct depth. The thickness of the mucosa is reproduced on the model.

The final phase is the export of the virtual indexing arch. All information about the position of the windows inside the virtual indexing arch are gathered on a small (1-2 KB) file, which is e-mailed to the central service provider that will use CAD/CAM technology to create the physical indexing arch in a plastic material, reproducing the implant windows. The windows are lined with metal sleeves, which are helpful for the dental technician in the next phase (Fig. 8).

The technical phase starts with the technician receiving the physical indexing arch, which is paired with the Flatguide attached to the diagnostic stent and positioned on the cast. An appropriate drill is

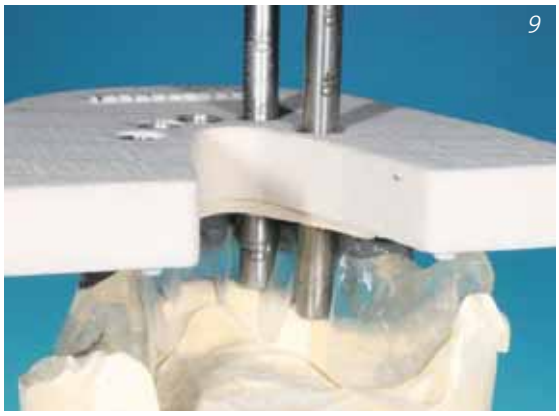

Fig. 9
Transferring the windows to the cast using the physical indexing arch above the Flatguide.

Fig. 10
Implant analogues positioned in the model, some of them already with custom abutments.

Fig. 11
Surgical stent above the implant analogues.

Fig. 12
Surgical stent above the stone model.

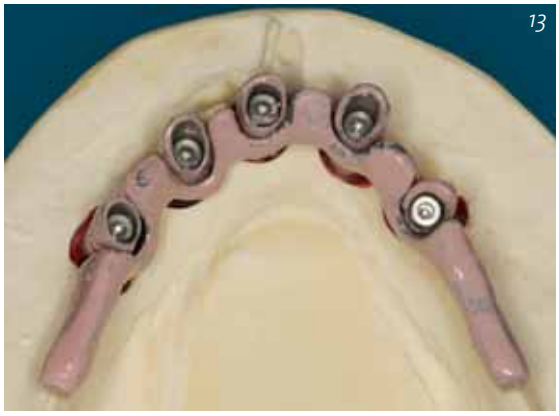

Fig. 13
Metal framework with custom abutments on the Flatguide cast.

Fig. 14
Finished provisional Toronto bridge.

guided through the windows in the physical indexing arch to perforate the Flatguide, the diagnostic stent and the stone model below (Fig. 9). In this way, the implant analogues can be positioned correctly. A graduated rod positions the analogues inside the stone model, reproducing the distance between the Flatguide and the implant head as calculated by the software (Fig. 10).

The dental technician thus obtains a stone model with the implants in the correct position. On this model he can create the surgical stent (Figs. 11 and 12) and, if needed, the provisional prosthesis (Figs. 13 and 14).

Fig. 15
Surgical stent screw-retained in the patient's mouth for the flapless technique.

Fig. 16
Bores created with the flapless technique.

Fig. 17
The implants in place. The flap is reflected after creating the bores for better soft-tissue management.

Fig. 18
Shoulders and custom abutments.

Fig. 19
In order to avoid any strain, the abutments are placed on the provisional Toronto bridge directly in the patient's mouth.

The system is open and uses no adhesives. The dental technician can work with the implantologist to create surgical stents with vertical stops for flapless ("blind") surgery, simple steel or titanium tubes for standard surgery with elevated flaps (Figs. 15 to 17).

The previously created provisional restoration can be inserted the same day the surgery takes place. The provisional restoration is relined directly in the patient's mouth to avoid any strain (Figs. 18 to 21).

Conclusions

The Flatguide system in conjunction with the One-Scan software has shown itself to be very easy to use for general practitioners as well. No calculations are required, as the software is very intuitive. Good teamwork with the lab, however, is essential. The dental technician is consulted as early as during the diagnostic phase and concludes his work with the delivery of the final restoration, participating in each intermediate step.

Fig. 20 Provisional Toronto bridge after relining.

Fig. 21 Immediate loading of the provisional Toronto bridge.

The quality of the images, especially the 3D reconstructions, provides an excellent diagnostic tool for the clinician, as well as an implant planning instrument. Moreover, it is also a great communication and marketing instrument in the implantologist's hands.

Another very important thing is the low price of the physical indexing arch. With the physical indexing arch, the dental technician can create the appropriate precision stone casts for designing stents and the provisional restorations. ■

Contact Address

Michele Jacotti
Via Solferino 55
25121 Brescia
ITALY
Phone: +39 030 3756880
Fax: +39 030 45650
michele@jacotti.it

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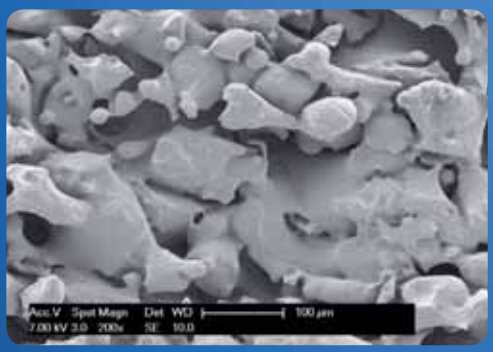
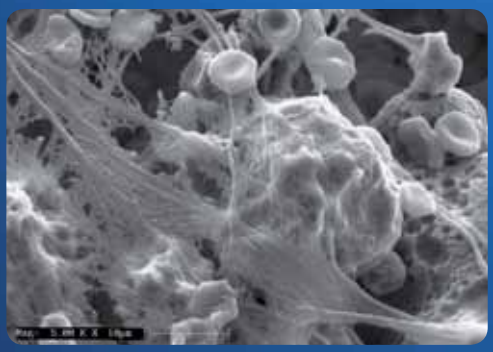
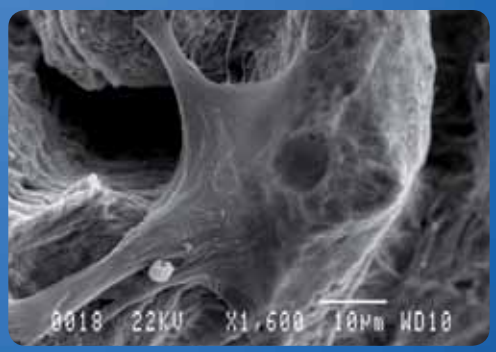


Immediate 3D organization of fibrin network

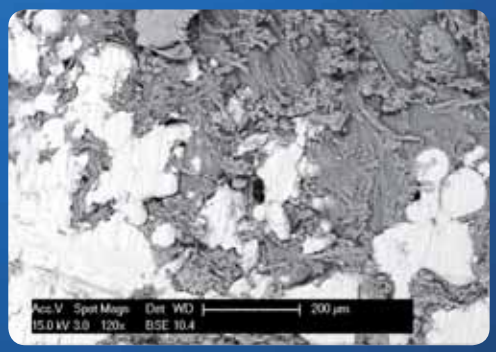


High adherence and cells activity



High porosity of surface

Fast bone growth (dark) inside cavities and pores of sintered titanium surface (clear)



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Astra Tech at EAO 2008

Putting Science and Biology First

The European Association for Osseointegration kicked off the 17th Annual Scientific Congress on September 18 in Warsaw and Astra Tech was very excited to be part of the first EAO meeting to be organized in Eastern Europe. In addition to the European launch of Atlantis, US market leader in cement-retained, patient-specific abutments, Astra Tech presented exciting scientific and product news to the dental community, including new results in marginal bone maintenance and two OsseoSpeed implants to meet the challenges of limited bone and narrow spaces.

Setting a new standard

Maintenance of the marginal bone level is a prerequisite for long-term esthetics and the successful function of the implant. After evaluating thousands of Astra Tech implants radiographically over a period of one to seven years, Astra Tech presented exceptional results in marginal bone level reduction of only 0.3 mm. This groundbreaking result is at least four times superior to the current industry standard, which shows a mean bone level reduction of about 1.5 mm after five years (standard norm according to *Albrektsson, T. et al.* Int J. Oral Maxillofac Implants 1986;1(1):11-25, *Albrektsson, T.* and *Zarb, G.A.* Int J Prosthodont 1993;6(2):95-105 and *Roos, J. et al.* Int J Oral Maxillofac Implants 1997;12(4):504-514.).

Tomas Albrektsson, Professor of Biomaterial Research at The Sahlgrenska Academy, University of Gothenburg, Sweden, says, "The limited marginal bone resorption being documented on Astra Tech implants indicates that it is time to reconsider our old 'standard' from 1986. The new standard should perhaps only allow 50 percent or less of the bone resorption currently accepted as a successful result."

European launch of Atlantis

Astra Tech also launched Atlantis, the US market leader in cement-retained, patient-specific abutments. Atlantis is a patented method for digitally producing abutments, offering an optimal functional and esthetic solution for dental professionals.

Using the latest CAD/CAM technology, individually adapted abutments are produced for each patient. As opposed to standard abutments, Atlantis' technology is built around a unique method that is based on the appearance of the final tooth. The end result is optimized individual esthetics and long-term reliability. In addition, Atlantis offers platform independence, making it possible to fabricate individual abutments for most of the major implant systems on the market. The technology also allows for increased efficiency and profitability for the dental laboratory.

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Inspirational Center

The Inspirational Center and exhibition booth featured a variety of product news, scientific data, workshops, and live demonstrations at Speakers' Corner. Two new OsseoSpeed implants were introduced, designed to meet the challenges of limited bone and narrow spaces. The short 6 mm implant – OsseoSpeed 4.0 S - 6 mm – is ideal where vertical bone height is limited, while the OsseoSpeed 3.0 S is indicated in situations with limited horizontal space around the implant.

A scientific team was on hand to answer any questions that attendees had about scientific documentation. The Inspirational Center also exhibited the large amount of scientific data behind the success of Astra Tech Implant System and the long-term data that have led to the Astra Tech standard for marginal level bone reduction of only 0.3 mm.

The EAO meeting was chosen as the stage for the European launch of Atlantis patient-specific abutments, so of course there was a true expert here to answer questions. At Speakers' Corner attendees could meet *Dr Julian Osorio*, one of the inventors of Atlantis, and hear his presentations on how this technology provides outstanding function and esthetics using simple procedures.

A Good Evening with Astra Tech

The theme of the satellite symposium was "Digital dentistry – yet the toothbrush saves the day" and featured renowned speakers *Professor Jan Lindhe*, *Professor Clark Stanford* and *Professor Stefan Haßfeld*.

All 450 seats were taken, leaving the audience with standing room only, when *Professor Haßfeld* took the stage to present how digital technology is being incorporated into every stage of implant dentistry, from the initial planning stage through follow-up treatment.

Hands-on workshop.

Professor Clark Stanford assessed the advantages and disadvantages of digital technology within dentistry, highlighting the Atlantis solution as providing precision and flexibility in the creation of customized abutments. Finally, *Professor Jan Lindhe* presented three studies showing the effectiveness of Astra Tech implants in cases of treated periodontitis, and where implants were placed in fresh extraction sockets.

In summary – this was nothing but another successful EAO meeting with inspiring scientific data and product news. ■

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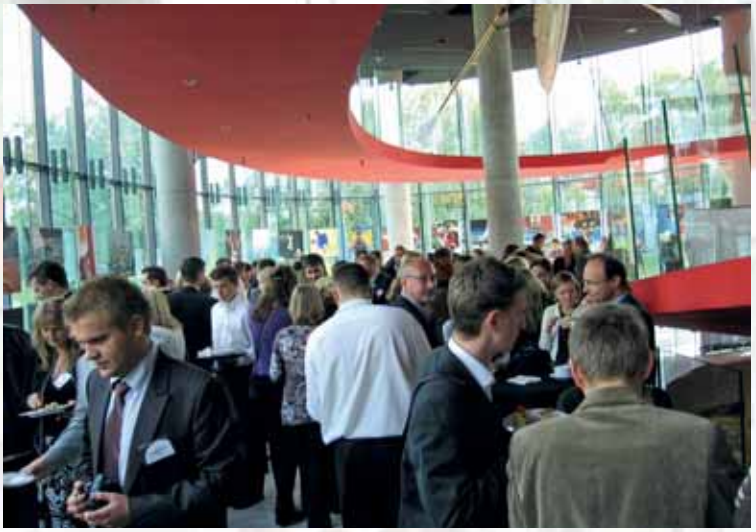
Dental implants made by Bego are an incarnation of top-notch German technology. Products by Bego combine longevity, aesthetics and reliability. In 2006, Poland joined the list of countries where Bego Implant products are available. Denon Dental is the Polish representative of Bego Implant Systems and organized the first Bego Implantology Congress in the Warsaw Olympic Centre. The purpose of this meeting was to offer Polish users, whose number is rapidly growing, an opportunity to exchange views with colleagues. The congress took place under the auspices of the Polish Stomatological Association (PSI) in Warsaw prior to the EAO 2008. The symposium was presided over by Prof Tadeusz Cieslik (Poland), Prof Celal Artunç (Turkey), Prof Matthias Flach (Germany) and Dr Mariusz Duda (Poland).



Discussions during coffee break.

Over 100 dental professionals attended. The meeting was opened by *Wieslaw Królikowski*, president of Denon Poland, and *Walter Esinger*, executive director of Bego Implant Systems GmbH. Six lectures were presented to the attendants. The presentations held a very high standard and conveyed a wealth of current knowledge about dental implantology in Poland, Germany and Turkey.

Dr Mariusz Duda (Poland) made an impressive case for sinus floor elevation as the only way to reach aesthetic outcomes in many situations. He stated that these procedures reached success rates similar to those obtained by standard surgical procedures. Looking at the smokers among his patients, however, this success rate was markedly reduced. Finally, *Dr Duda* presented a number of impressive pictures illustrating ways in which outstanding clinical results can be achieved by implant treatment. The all-ceramic restorations he presented were very impressive. His bone augmentation relies both on BioOss by Geistlich and on various synthetic materials.

Dr Stefan Ries (Germany) explained the importance of timing in implant treatment. Bone resorption is unavoidable after tooth loss but is most pronounced during the first year. *Dr Ries* made a case for immediate implant placement. He maintained that this approach should be taken whenever possible to avoid early peri-implantitis. The audience showed great interest in the ensuing discussion, which focused on ways for modern implant therapy to prevent unnecessary destruction of existing bone structures. In situations with missing or destroyed bone structure, bone augmentation is the only viable (and yet second-best) option in the dentist's quest for perfect aesthetic outcomes. Essential aesthetic considerations in the anterior segment include biological width and correct implant positioning relative to the adjacent teeth. Distance matters not only in the mesiodistal plane but, even more importantly, relative to the buccal lamella. Implants placed in an overly buccal position will promote buccal bone resorption. *Dr Ries* then proceeded to explain the difference between immediate placement and delayed placement. Immediate placement through a flapless approach may be the "sexiest" protocol, but the risk of losing the restoration is markedly increased. Traditional protocols, by contrast, are associated with more sessions. Patients must show a greater willingness to spend enough time for treatment. However, extremely high success rates of up to 98 percent are reached.

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Group photo:
Mrs and Mr Królikowski,
Denon Poland, the lecturers and
the organizing team.

Prof Matthias Flach explained the biomechanical aspects and clinical relevance of different implant-abutment connections.

Prof Tadeusz Cieslik (Poland) presented a number of impressive clinical cases treated by Semados S implants, which were allowed to heal for three to six months using a submerged protocol before delivering the restorations. He laid out the clinical procedures and measures required for bone preservation in the implant area.

Prof Matthias Flach (Germany) explained the biomechanical aspects and clinical relevance of different implant-abutment connections. Based on impressive examples taken from nature, he explained the requirements that any good implant system needs to satisfy. He demonstrated how the engineers at Bego integrated bionic principles into their implant designs. This is especially true of the newer implant designs (Bego Semados RI and Mini). *Prof Flach* presented an "implant model" enabling investigators to calculate dynamic states of loading in implants by finite element analysis. With this model, operators can simulate the long-term effects of stresses acting both on the implant and on the surrounding bone. This method is currently being used extensively by Bego in an effort to make implants even safer. *Prof Flach* presented a comparison of simulation results obtained with different implant-abutment connections. Judging from the results of this comparison, there is realistic chance that high stress in crestal bone will increase the rate of bone resorption in steep (13 to 15 degrees) cone connections. Based on current knowledge, cone connections of around 45 degrees strike an optimum balance between stress levels acting on the bone and the requirement to prevent micromovements at the implant-abutment interface. Traditional flat connection designs (Brånemark system) involve the largest degree of micromovements. Accordingly, the risk of bone resorption at the implant is especially high. *Prof Flach* concluded that implants developed and manufactured in accordance with bionic principles offer significant advantages in terms of longevity.

Dr Roland Streckbein (Germany) explained the clinical implications of *Prof Flach's* biomechanical discussion. Any thinking of implant-abutment connections in static terms is inherently flawed. Gaps cannot be avoided by high-precision fabrication techniques if gap formation occurs under dynamic conditions of cyclic loading. Not infrequently, the resultant "dynamic problem" will lead to early loss of implant-supported restorations. Also not infrequently, the "pump effect" promoted by gap formation will lay the groundwork for peri-implantitis with the possible consequence of early implant loss. Impressive clinical cases were presented to illustrate this. *Dr Streckbein* discussed Bego's novel Semados Mini implants. He used this example to demonstrate how designs in line with bionic principles can increase the dynamic load resistance of implants. In this respect, the 2.9-mm mini-implants of the Semados Mini line are on a par with conventional 3.8-mm implants.

Dr Tomasz Pietka and *Dr Jan Przybysz* (Poland) focused on concepts for implant-supported restorations. They outlined the restorative advantages offered by the Bego restorative system. Both speakers indicated that Bego is currently the only manufacturer to offer prefabricated precision components made of Wirobond 280 high-performance alloy, milled from bead-free Wirobond MI alloy blanks.

Prof Celal Artunç, *Dr Mehmet Ali Güngör* and *Dr Ugur Tekin* (Turkey) reported on their clinical experience with Bego's Semados S implant system. More than 250 implants were placed, and only five of them were lost. The performance of the Semados system was solidly documented in ten representative clinical case reports. Both speakers emphasized the special restorative advantages of laser weldability as offered by Wirobond MI precision components.

The symposium ended with a reception in the Warsaw Olympic Centre, including fantastic music and a German-Polish buffet. The next Bego-Denon implantology congress is scheduled for 11 to 13 September 2009. ■

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PP08/03-ING

Seventh Annual International Symposium on Oral Implantology in Bilbao

Moving Forward on the Right Track

More than 1,800 implantological specialists from 20 countries had convened on 12 and 13 September at the Seventh Annual Symposium on Oral Implantology, held by the BTI Biotechnology Institute at the Euskalduna Palace in Bilbao (Basque Country, Spain). The symposium was dominated by scientific and technological advances in oral implantology and regenerative therapy at the dawn of the 21st century, and specifically the achievements of the BTI Biotechnology Institute in the field. This major scientific event drew a large number of participants, offering an extraordinary opportunity for experts to compare notes and exchange information.

Renowned speakers from different countries explored scientific hypotheses, reported on solutions for complicated clinical cases and explained the conclusions of various research projects in their particular specialties. All presentations were followed by intense and valuable debates.

Under the motto of "Progress with reason", the scientific program visited upon several fields of interest, including the treatment of atrophic jawbones, the role of oral implantology in the treatment of post-traumatic defects following traffic accidents, the regeneration of gingival recession using PRGF, the predictability and prognosis of oral implants from a clinical as well as from an aesthetic point of view and finally the publication of a protocol for maxillary sinus transplants, which has been the result of the scientific consensus of Vitoria in 2008.

Each block of presentations was highlighted by a discussion round that served as an interdisciplinary forum, moderated by the conference organizers, and illuminated the topics presented by the speakers from different vantage points. Some of the great names in oral implantology and regenerative therapy also made valuable points in these discussions. This critical analysis of the information presented was greatly appreciated by the participants of the symposium, which was held in four languages – Spanish, English, Portuguese and Italian.

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Renowned speakers from different countries reported on solutions for complicated clinical cases and explained the conclusions of various research projects.

In addition to a comprehensive scientific program for dentists, the symposium offered a complete parallel program for laboratory technicians that included topics such as the possibilities offered by provisional dentures as an alternative to immediate loading (presented by *Giuseppe Daniele Rondini*) or the treatment of degenerative diseases of the joint using PRGF (where *Dr Mikel Sánchez*, one of the great international specialists in this field, offered information directly from the horse's mouth). *Eduardo Anitua*, the scientific director of the BTI, reported on BTI research guidelines with regard to new protocols for the biomechanics of immediate loading, expected knowledge regarding surface characteristics, new research guidelines etc.

The latest technological innovations – including implants and prosthodontic components – were presented at various exhibition booths. BTI, the symposium's reference laboratory and owner of 25 international patents, displayed products derived from its most recent research activities: an ultra sonic scalpel, 3D software, implant designs and new applications of PRGF.

But at the core of the two symposium days were the efforts of a large cohort of experts presenting the most recent advances in their fields. The first presentation was that of *Dr Steven S. Wallace*, who spoke on maxillary sinus surgery. Experts *Gerd Körner*, *Terrence Griffin* and *Eduardo Anitua* added substance to this first round of presentations, touching upon new concepts in periodontology and dental technology, recommending surgical principles for improving implant aesthetics and discussing the proper choice of treatment for atrophic jawbones.

Lorenzo Ravera, *Andrés Valdés*, *Joan Birbe*, *César Colmenero*, *August Burguera*, *Giuseppe Daniele Rondoni*, *Juan Blanco Carrión*, *Lutz Ritter*, *Leopoldo Bozzi*, *Paul Fugazzotto*, *Xabier Balmes* and *Daniel Carmona* reported on the most recent trends in oral implantology.

Parallel to the oral presentations, poster presentations of clinical cases were shown that had previously been selected in a poster competition, with the first prize awarded to the poster by *Dr Bernardo de Mira Correa* entitled "The importance of an interdisciplinary treatment plan in implantology".

But despite a full program of scientific presentations, posters and highly intense and critical discussions, there was still room at the symposium for a bit of relaxation. The social program for participants and their accompanying spouses included a presentation of La danza y el canto ("dance and song"), a first-rate play with the participation of *Igor Yebra*, *Oxana Kucheruk*, *Svetla Krasteva*, *Luis Dámaso* and the Leioa Orchestra. The convention culminated in a gala night at the Guggenheim Museum on Saturday, 13 September, where attendants were allowed to figuratively drop anchor at a quiet port. ■

The social program at the symposium included a presentation of "La danza y el canto".

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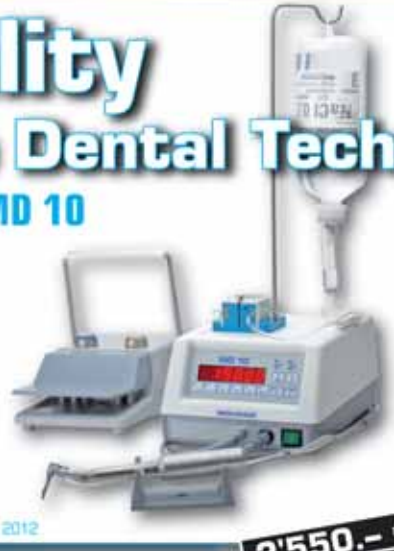

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Rübeling Dental Laboratory celebrates its 50th anniversary

Writing Business History with Self-developed Patents

Rübeling Dental Laboratory based in Bremerhaven, Germany, celebrated its 50th anniversary on 1 November 2008. The company rightly takes pride in its successful business history. And the success story will continue – thanks to its innovative ideas, advanced technologies and a strong commitment to quality and environmental protection. The guest speaker was Professor Heiner Weber, Medical Director of the Department of Prosthodontics, School of Dentistry and Oromaxillofacial Surgery in Tübingen, Germany. Professor Weber did honour to those celebrating by holding a presentation on the groundbreaking development of dental spark erosion (SAE system). This technology has become firmly established in advanced and quality-driven sectors of dentistry and oromaxillofacial surgery. It is used to fabricate combined prosthetic structures and highly aesthetic dental restorations supported by implants with tension-free seating of mesostructures and superstructures.

Rübeling Dental Laboratory was established in 1958 and has fabricated high-quality dental restorations ever since. Its founder, *Günter Rübeling*, earned himself a reputation in the industry, most notably for developing technologies and patents. Today the company is a well-known supplier of restorations characterized by high-quality designs and aesthetics, thanks to the use of novel technologies and continuing education of its 230 staff members at both locations in Bremerhaven and Berlin. Recently, the company underwent ISO 9001 certification, meaning that the laboratory meets international standards of quality assurance and quality management in the crafts sector.

It was *Günter Rübeling* who first introduced spark erosion to prosthodontics, adopting the technology from its original application in the metal industries. In 1982, he made available SAE technology for use in dental laboratories. This accomplishment won him great recognition both at home and abroad. Ever since that time, qualified dental technicians have used spark erosion in the fabrication of various connective elements. Spark erosion is a method of adjusting the shape of electrically conductive metals by subtractive means. Its principle is to apply short-circuit pulses from a working electrode to the workpiece in a controlled fashion. As the electrode approaches the workpiece, a shower of sparks is launched that will reduce the surface of the workpiece in line with the figuration of the electrode. Conventional milling systems do not offer a similar degree of precision. Spark erosion is used as a basis for processing implant systems in Secotec technology. This approach results in implant-supported restorations characterized by tension-free seating and perfect accuracy of fit.

The team of Rübeling Dental Laboratory.

Company founder Günter Rübeling with his son Frank Rübeling.

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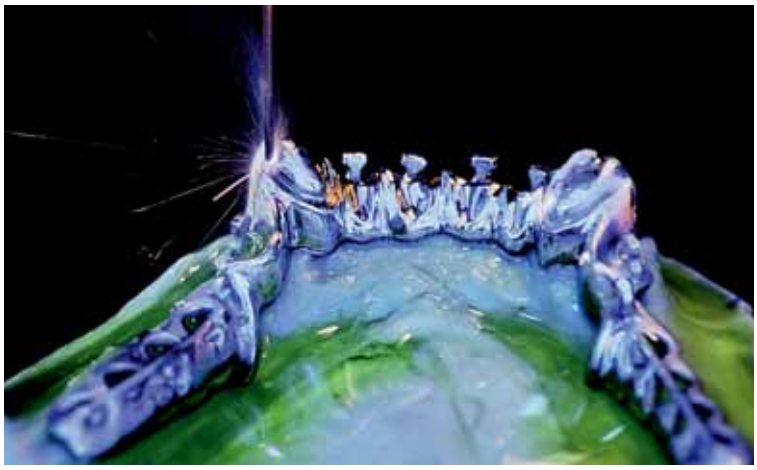
Meanwhile, *Frank Rübeling* is active in the company as its second-generation manager. Rübeling Dental Laboratory by no means rests on its laurels. The in-house development of innovative dental technologies and patents continues in collaboration with the company's Berlin subsidiary and two other organizations (Klar Dentallabor GmbH and SAE Dental-Vertriebs GmbH).

However, Rübeling Dental Laboratory is setting standards not only in quality but also in the environmental field. According to *Günter Rübeling,* the Berlin subsidiary was the second dental laboratory to establish an environmental management system in Germany. Established in 1997, this system requires all of the acquisition, processing and disposal of materials to be handled in accordance with environmental criteria. Drawing from its extensive commitment to environmental standards, the company became one of the founding members of the "environment-business partnership" in the Bremen area.



The spark erosion technique: Electrode producing sparks.

The anniversary celebration ended in a pleasant get-together around a great buffet. The air was filled with discussions and recounting of experiences between colleagues and guests, which will influence the development of the laboratory in the future. ■

bredent SKY meeting in Rome

Changing Realities in Implantology

"Changing realities" was the motto of the SKY meeting in Rome on 3 to 5 October 2008. The meeting included internationally renowned speakers from seven countries. Their presentations included new approaches, but also traditional approaches with updated techniques. President of the congress was Professor Massimo De Luca (University La Sapienza). He stressed its role as a multidisciplinary event, covering knowledge and experience from practice, research and teaching.

Dr. Michael Weiss is the founder and director of the Opus DC dental clinic in Ulm, Germany. This eloquent and likeable implantologist hosted the clinical forum on the first day of the meeting. His impressive lectures later in the congress contributed greatly to the success of this high-calibre event.

Professor (NY) Manfred Lang is director of the International Centre of Continuing Education in Dental Implantology (FZI) in Nürnberg, Germany. His introductory speech emphasized the importance of specialized postgraduate training with an appropriate spectrum of courses, doing justice to the requirements of clinical practice.

Professor Gianna Maria Nardi (Italy) spoke about the importance of preventing peri-implant disease in a consistent fashion. Specific risk assessments suggest a useful role of innovative adjuvant treatments such as antimicrobial photodynamic therapy.

The clinical forum focused on the topic of immediate loading with the SKY fast & fixed treatment con-

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Vivid discussions: (right to left) Prof Heiner Weber (University of Tübingen) engaged in debate with Prof Chien-Ho Lin (University of Beijing) and Peter Brehm (bredent).

Dr Georg Bayer of Landsberg (left) talking to Dr Michael Weiss of OPUS DC Klinik in Ulm who hosted the clinical forum.

cept. A detailed presentation was given by a dental team including *Dr Georg Bayer, Dr Frank Kistler* and *Stephan Adler* (master dental technician) from Landsberg, Germany. A discussion with the attendants ensued. In support of the surgical protocol, *Dr. Jörg Neugebauer* from the University of Cologne discussed findings from his scientific investigations into the stability of angulated implants.

O. Făgăraș (Romania), *J. Shu* (Taiwan) and *A. Gresskowski* (Germany) discussed practical examples of prosthetic restorations supported by SKY implants. *Bernd Siewert* (Spain) is an expert in applying whiteSKY zirconia implants by bredent medical. He showed how the range of treatment options can be expanded in implantological practice by using this innovative one-piece implant system as an alternative approach in patients with multiple allergies.

Peter Brehm, owner of the bredent group, addressed a well-filled lecture room on Saturday morning. He pointed out the tradition and obligation of his company to promote collaboration and progress in the "dental community". Integration, symbiosis and partnership are the key features of the corporate philosophy of bredent medical. Knowledge and experience must be consistently utilized to initiate synergies between surgery, prosthodontics and dental technology. There is a need to capitalize on these synergies with a view to promoting efficiency and quality of treatment.

Professor De Luca emphasized the importance of integrating science and teaching on a continuous basis. Meeting this essential requirement in clinical reality will ensure that trends and challenges can be integrated in a timely and knowledge-based fashion. Universities, manufacturers and practitioners are called upon to make this happen. Events like the SKY meeting have an important role in this quest by offering critical stimulation and by questioning existing solutions.

Professor Heiner Weber (University of Tübingen, Germany), in his keynote lecture, discussed the potential of today's advanced treatment modalities.

Lively discussions rounded off the clinical program and introduced a get-together party in Villa Miani, towering loftily over the city of Rome. An exquisite buffet, dancing and magnificent fireworks added a classy quality to the event.

Sunday morning was dedicated entirely to an innovation forum. The presentations focused on product innovations associated with the SKY implant system. Also presented were a number of alternative treatment concepts. These presentations included a focus on titanium vs zirconia implants. Another discussion was devoted to the potential of systemic diagnosis and treatment planning, including advanced systems such as Skyplan X for three-dimensional data planning and laboratory-based fabrication of drilling templates.

Standing ovations by the more than 600 attendants marked the end of the First International SKY Meeting on Sunday noon. *Peter Brehm* took leave from his guests, inviting them to come back for the next SKY meeting in May 2010. This second congress will be combined with a cruise of the Mediterranean Sea. Its venue will be the AIDAvita, chartered exclusively by the bredent group for the occasion. ■

ITI Appoints New Executive Director

The International Team for Implantology (ITI), an academic organization dedicated to the promotion of evidence-based research and education in the field of implant dentistry, announced the appointment of Dr Friedrich Buck to the position of Executive Director of the ITI. He will be joining the organization on February 1, 2009.

Dr Buck comes to the ITI from Ivoclar Vivadent AG, an international manufacturer of dental materials and equipment headquartered in Schaan, Liechtenstein. With a graduate degree and doctorate in dentistry from the University of Ulm, Germany, *Dr Buck* began his career in general practice in 1991. He then joined Ivoclar Vivadent in 1993, where he rose to the position of Marketing Director Worldwide for clinical products in 2001.

In his new position as Executive Director of the ITI, *Dr Buck's* main task will be to assure the smooth organization and administration of all ITI activities in order to support the implementation of the objectives, philosophy, policy and procedures of the ITI. He will also oversee the management of the ITI Center, the administrative headquarters of the ITI in Basel, Switzerland.

"During the last few years, the ITI has evolved to become a leading academic authority in the field of implant dentistry with its more than 6,000 members from over 90 countries," said *Professor Dieter Weingart*, President of the ITI. "As a dentist by education, who brings a wealth of experience in marketing and business administration in a globally operating enterprise, *Dr Buck* is an ideal choice for the position of Executive Director of the ITI. Additionally, his deep understanding of the field of dentistry and his excellent relationship to the scientific community will be very valuable for the future growth and success of our organization."

Dr Buck takes over from *Rolf Hafner*, who oversaw the ITI's administration for the past six years and left the organization at the end of August 2008. *Professor Weingart* commented: "On behalf of the ITI Board of Directors, I would like to thank *Rolf Hafner* for his vision, ideas and contribution which were instrumental in making the ITI what it is today. We wish him every success in his future endeavors." ■

More Information

ITI International Team for Implantology
ITI Center
Peter Merian-Weg 10
CH-4052 Basel · SWITZERLAND
Phone: +41 61 2708383
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www.iti.org

New company building

Commitment to Germany's Manufacturing Base

With the new building at Lake Constance, which should be occupied in summer 2009, Kohler Medizintechnik once again demonstrates its commitment to Germany's manufacturing base and to its clear innovation and growth strategy.

The symbolic first sod was turned on 22 September to mark the start of a significant extension of production area which will allow expansion of the already successful range of instruments for dental implantology and oral surgery, as well as the development of new product families. In the future, Kohler will also place even more emphasis on cooperation with reputable users and universities and the expansion of the training program in the new company building. The location where the three countries Germany, Switzerland and Austria meet is predestined for the new company domicile. ■

More Information

Kohler Medizintechnik GmbH & Co. KG
Danningen 9 · 78579 Neuhausen · GERMANY
Phone: +49 7777 9395-30
info@kohler-medizintechnik.de
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Bego runners enter Bremen Marathon for the second time

Go for Gold!

Shortly after the Olympic Games in Beijing, where Bego again co-sponsored the German Olympic team, members of the Bego and client staffs wanted to get active themselves. On 28 September 2008, they entered the 4th swb Bremen Marathon running event, both for the challenge itself and to raise funds for their charity (Bremer Klinikclowns e.V.). All ran the half marathon (21 km) or the 10-km run. Many supporters along the course drove them on and motivated them to beat their personal records. The weather was also remarkably cooperative. For some of the runners it was the first run over a longer distance. All participants were happy and proud of their achievements. They will definitely be part of the action again next year! ■

More Information

Bego Implant Systems GmbH & Co. KG
Technologiepark Universität
Wilhelm-Herbst-Straße 1
28359 Bremen · GERMANY
www.bego-implantology.com

Malo Clinic Ceramics and Heraeus Kulzer sign partnership agreement

Working Together for Innovation

Malo Clinic Ceramics, Malo Group's laboratory offering a wide range of solutions in dental medicine, has recently signed a partnership agreement with Heraeus Kulzer, a global company specializing in dentistry and dental technology with subsidiaries throughout Europe, Asia, the U.S., Latin America and Australia.

This agreement has already given rise to joint training and close practical collaboration in finding new solutions for improving dental and technical expertise. Malo Clinic has been partnering with Heraeus Kulzer in the field of dental products, helping to develop high-quality acrylic solutions and equipment for the manufacture of high-end dental prostheses.

Dr Paulo Malo, CEO and founder of the Malo Group, is happy about this collaboration: "It is a great asset for our clinics and Heraeus Kulzer to be associated for the production of more innovative products for the dental market."

Through this ongoing collaboration, each team will come into contact with all existing products, taking advantage of the expertise of Malo Clinic's ceramics professionals when it comes to the production of high-quality implants and fixed prosthetic solutions to replicate a natural set of teeth perfectly. Heraeus Kulzer will contribute with advanced laboratory products such as Palaxpress denture-base acrylic, Signum composite, Albabond alloy, Premium and Mondial teeth, as well as laboratory equipment, including the HiLite power and HiLite pre light-curing units, Hera-Cast casting machines, Hera-pulse laser welders and the Palajet and Palamat Elite acrylic injection and curing units. ■

More Information

Malo Clinic
Avenida dos Combatentes, 43
1600-042 Lisboa · PORTUGAL
Phone: +351 21 7228100
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Implantology in Poland: Second Mozo Grau Updating Course in Implantology in Warsaw

Current Advances in Dental Implantology

Having successfully organized a number of other successful scientific courses, for the second year in a row, Mozo Grau organized an Updating Course in Implantology for Polish dentists in Warsaw at the Novotel Hotel on 19 September 2008.

Over 50 dentists from all over Poland and from other countries registered to participate in this course, and last-minute applicants could not be admitted. Of the many professionals attending the 17th Annual Scientific Meeting of the European Association for Osseointegration in Warsaw, several dentists from other countries also seized the opportunity to participate. The purpose of the course was to provide a practical and scientific view of current advances in the field of dental implantology.

Despite the limited time available – the course lasted only one day – the program included a broad range of topics covering current aspects in implantology, offering something for everyone. Presentations were grouped in three segments of current interest: immediate loading, including surgical planning and considerations; advanced implantological surgery, including sinus lift procedures and how to avoid complications; and implant-supported superstructures, with special attention to emergence profiles and the prosthetic complications.

Presentations were held by *Dr Caubet Biayna*, *Dr Hueto Madrid* and *Dr Nùñez Fernández* who tried to pass on their experience and knowledge to their Polish colleagues. Interesting discussion groups and round-table discussions concluded each session. Particularly appreciated was the outstanding opening presentation by *Prof Janusz Piekarczyk*, head of the Department of Cranio- and Maxillofacial Surgery of the Medical University of Warsaw. Other academic speakers from the Medical University of Warsaw also attended the sessions.

In addition to the scientific presentations, one company presentation was held for assistants, introducing the new products Mozo Grau will still be launching during 2008, including the MG Inhex implant with internal connector. Participants wishing to take a closer look at Mozo Grau products had the opportunity to do so in the commercial lounge outside the conference room.

Dr Caubet answering questions from the audience.

Dr Hueto in open discussion with the participants.

Mozo Grau is strongly committed to organizing more events of this kind to help promote and develop the interchange of knowledge and information between professionals in the field of dental implantology from different countries. ■

More Information

Mozo Grau
San Felipe Neri 2
47002 Valladolid
SPAIN
Phone: +34 983 211-312
sales@mozo-grau.com
www.mozo-grau.com

Geistlich Pharma AG is setting up new subsidiaries

Geistlich Heads for France and China

Geistlich Pharma AG has recently formed two new subsidiaries, one in France and one in China. Distribution in South America will similarly soon be handled directly by Geistlich.

Geistlich Pharma AG had previously had a representative office in China. Since June 2008, operations have been run by a subsidiary, Geistlich Trading Co., Ltd., based in Beijing. The company's Managing Director is *Wang Qiu*. The new subsidiary was founded at an ideal time for Geistlich, as the company received official product approval for Geistlich Bio-Oss and Geistlich Bio-Gide early in June 2008.

France and South America

Geistlich Pharma AG's new French subsidiary has its headquarters near Charles de Gaulle Airport, just outside Paris. The Managing Director is *Philippe Corbasson*. As a next step, Geistlich wants to organise its own distribution in South America.

The launch of the new subsidiaries is based upon the strong growth of Geistlich Pharma AG in these countries. As subsidiaries of the world market leader in regenerative dentistry, they will intensify local market presence and contribute to anchoring the Geistlich brand more firmly in these rapidly growing countries and regions.

Geistlich Symposium in Beijing

In conjunction with its presence at the Olympic Games in Beijing, Geistlich held an exclusive symposium for its key customers in China. Two world-renowned and esteemed speakers, *Professor Daniel Buser* of the University of Berne and *Professor Christoph Hämmerle* from the University of Zurich, spoke at the symposium. The program was rounded off by *Professors Lin* and *Li Dehua* from Peking, experts who are well known in China. The symposium was held in collaboration with the University of Beijing. Participants of the symposium were entitled to gain state training points, thus further increasing the attractiveness of the program topics, which are of great interest to China. ■

More Information

Geistlich Pharma AG
Business Unit Biomaterials
Bahnhofstrasse 40
CH-6110 Wolhusen
SWITZERLAND
Phone: +41 41 4925630
biomaterials@geistlich.ch
www.geistlich.com

Spanish and South American dental societies recognize the contribution of the Portuguese dentist to the field of oral rehabilitation

Paulo Malo Distinguished with Unprecedented Prize in Spain

Paulo Malo, the Portuguese dentist, president and CEO of Malo Clinic Health & Wellness, was awarded the Santiago Prize 2008 at the SECIB Congress in Santiago de Compostela for his contribution to Oral Rehabilitation. The Sociedad Española de Cirugía Bucal (SECIB) and the Sociedad Argentina de Cirugía y Traumatología Bucomaxilofacial joint forces the first time in presenting this award. Malo has so far been the only person not a member of these associations to receive the prize.

The two associations are the most noteworthy in the field of oral surgery in their regions – Spain and South America, respectively – with membership of approximately 20,000 professionals. *Paulo Malo's* contribution to work processes and techniques has been considered a great contribution to this specialty, which is why he was chosen to be the sole recipient of this prize.

José María Suárez Quintanilla, president-elect of the SECIB, summarized *Paulo Malo's* work as follows: "Within only ten or 15 years, *Paulo Malo* has convinced us and demonstrated that his techniques bring excellent results to patients."

The associations also intend the Santiago Prize to encourage younger dentists that are following his procedures and to demonstrate that it is possible to achieve high quality and innovation just like this Portuguese professional beacon.

The techniques *Paulo Malo* developed together with his medical team, which have resulted in 14 registered patents to date, are a major contribution to the visibility and notoriety of Malo Clinic as a worldwide reference institution in the field of oral rehabilitation. The major key to success was the All-on-4 technique, a surgical procedure for implants that was a major breakthrough in implant dentistry, providing immediate fixed implant-supported bridges in less than an hour for edentulous patients, even those with severely atrophied jawbones that would require bone transplants for the commonly used treatment modes available today. ■

Paulo Malo received the Santiago Prize 2008.

More Information

Malo Clinic
Avenida dos Combatentes, 43
1600-042 Lisboa · PORTUGAL
Phone: +351 21 7228100
lisbon@maloclinics.com
www.maloclinics.com

Dentistry Inspired by the Third Dimension

The 2009 SimPlant Academy World Conference will be held at the Monterey Marriott in Monterey, CA on 25-27 June 2009. The conference's mission is to provide a comprehensive understanding of the use of 3D Digital Dentistry in order to improve implant treatment planning services. Clinicians who have limited knowledge about SimPlant and SurgiGuide are especially encouraged to join. During this three-day event, participants will be invited to attend intensive hands-on SimPlant software training workshops for all levels, high-quality lectures by renowned speakers in the field, and hands-on laboratory sessions where participants will for example learn how to use SurgiGuide drill guides.

The conference will begin on Thursday June 25th with limited attendance hands-on SimPlant software training; everyone is invited to join, also participants who have no prior knowledge of the SimPlant software and SurgiGuide drill guides. Participants will have the opportunity to sign up for this session and receive an in-depth hands-on training in an intimate setting. They are also encouraged to bring their own cases for review.

Friday will open with morning lectures stemming from the theme Dentistry Inspired by the Third Dimension, followed by SimPlant hands-on software training. During Friday afternoon rotating labs will be set up so that each participant can learn the ins and outs of how to appropriately incorporate a dental laboratory, (CB) CT technology, SurgiGuide drill guides, and treatment planning management into their practice from industry leaders and conference patrons. Saturday closes with a full day of hands-on clinical case workshops and lectures with clinicians from all walks of life. ■

More Information and Registration

Materialise Dental, Inc. · Phone: +1 888 327-8202
simplant@materialise.com · www.simplantacademy.org

New material designed to enhance the strength and healing properties of dental implants

Straumann Presents Roxolid

At the 17th Annual Scientific Meeting of the European Association for Osseointegration (EAO) in Warsaw, Poland, Straumann presented a new material that could make dental implants smaller and stronger. The new material, which is called Roxolid, is an alloy of titanium and zirconium and is the first material to be designed specifically for dental implants.

Roxolid is 50 percent stronger than pure titanium [1], the current material of choice for implants. Exciting preclinical study results presented in Warsaw showed that Roxolid integrated with bone better than pure titanium [2]. The combination of enhanced strength and osseointegration could open the door for a new generation of smaller, safer implants, which would be particularly advantageous in situations where there is limited space between teeth. A further potential advantage could be the use in thin bone (narrow bone ridge), where wider implants would necessitate bone augmentation/grafting procedures.

Engineered and developed by Straumann, Roxolid is currently undergoing clinical trials in six countries. Preliminary (six to twelve months) observations from the first clinical trial were also presented at the EAO [3] showing very promising survival rates.

Pending regulatory approvals and further positive findings from the broad clinical program, Roxolid implants are expected to become available in initial markets in the course of 2009.

The quest for high performance materials

Pure titanium is well known for its biological compatibility with the human body and its resistance to corrosion. The discovery that bone integrates with titanium (osseointegration) opened the way for its use in orthopaedic surgery and subsequently in implant dentistry, where its physical properties were also important in order to bear the very strong forces of chewing. However, the mechanical properties are limited in the case of small diameter implants or parts, which are needed for narrow spaces. This prompted the use of alternative materials, such as titanium alloys. However, additional strength came at the price of osseointegration due to inferior biocompatibility and surface characteristics [4, 5].

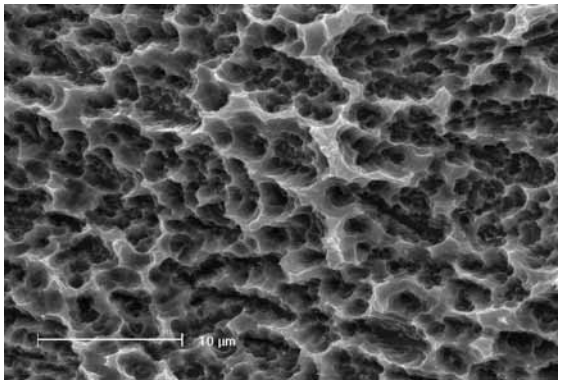
According to published research [4], titanium and zirconium are the only two metals commonly used in implantology that do not inhibit the growth of osteoblasts, the bone forming cells that are essential for osseointegration. In addition to this attribute, Roxolid can be combined with Straumann's third-generation SLActive surface technology, unlike other alloys such as TAV, which cannot accommodate the sophisticated mircostructuring processes required.

SLActive outperforms main competitor

In addition to material, surface is a key factor in successful implant therapy. In 2005, Straumann introduced its third generation implant surface technology SLActive, which cut implant healing times in half to three to four weeks [6].

In a preclinical head-to-head study presented at the EAO, the osseointegration of titanium-SLActive was compared to a leading competitor surface (Ti-Unite [7]) at three time points (ten days, three and six weeks) after implant placement [2]. At each time, SLActive demonstrated higher mean shear strength values (indicative of surface osseointegration), which were statistically significant at both three and six weeks. The investigators concluded that SLActive was more effective in enhancing interfacial shear strength. This adds to the large body of data and experience supporting SLActive on titanium implants as the benchmark.

A 3.3 mm dental implant with Straumann's new Bone Level design, made from Roxolid.



Scanning electron microscope photograph of the porous surface of a Roxolid implant.

A new level of osseointegration indicated

One of the most remarkable findings presented at the EAO was the observation that Roxolid enhanced osseointegration beyond the current SLActive gold standard. In a preclinical study, titanium-SLActive implants were compared with Roxolid-SLActive equivalents at four weeks after placement. Histomorphometry revealed significantly more bone growth around the Roxolid implant. The removal torque values for the new material were significantly higher, leading to the conclusion that Roxolid improved osseointegration performance [2].

Initial results from large clinical program

In a prospective pilot clinical trial, which is still ongoing, small diameter (3.3 mm) Roxolid implants were placed in 22 patients. Preliminary data (six to twelve months) were presented at the EAO showing promising survival rates. This is the first of a number of clinical studies evaluating the new material. A multicenter double-blind randomized study is underway in eight European centers with 88 patients and the planning phase of a non-interventional study involving more than 300 patients in Europe and North America has been completed.

In the future, safe, high strength, small diameter implants with enhanced osseointegration properties are expected to offer a number of advantages to dental professionals and patients. These include: enhanced esthetics, shorter healing times and the possibility of avoiding bone graft/augmentation procedures in patients with narrow bone ridges, which in turn will translate into simpler and less traumatic treatments and reduced chair time. ■

[1] Based on internal specifications and ASTM F67.

[2] Gottlow J et al. Preclinical data presented at the 23rd Annual meeting of the Academy of Osseointegration (AO), Boston, February 2008, and at the 17th Annual Scientific Meeting of the European Association for Osseointegration (EAO), Warsaw, September 2008.

[3] Barter S et al. Clinical data presented at the 17th Annual Scientific Meeting of the European Association for Osseointegration (EAO), Warsaw, September 2008.

[4] Steinemann S. Peridontol 2000 1998;17:7-21.

[5] Wong M. et al. J. Biomed Mater Res 1995;29:1567-1575.

[6] Oates TW et al. Int J Oral Maxillofax Implants 2007;22:755-760.

[7] Registered trademark of Nobel Biocare.

More Information

Institut Straumann AG
Peter Merian-Weg 12
CH-4052 Basel · SWITZERLAND
Phone: +41 61 9651111
info@straumann.com · www.straumann.com

Zimmer Zimmer One-Piece Implant

The renowned Zimmer One-Piece Implant by Zimmer Dental Inc. is a cool and convenient solution for helping clinicians get into a tight spot without the heat

and vibration of extensive prepping in the mouth. The implant continues to be a stellar member of the Tapered Screw-Vent Implant family – providing 3.0 mm, 3.7 mm, and 4.7 mm diameter solutions. The 3.0 mm Zimmer One-Piece Implant, available in straight and angled designs, is a solution for implant placement in the tight interdental spacing of the maxillary laterals, and mandibular central and lateral incisors. Another benefit is that the pre-contoured margins require minimal or no intra-oral preparation, which shortens chair time for the patient and eliminates the excessive heat and vibration.

The Zimmer One-Piece Implant combines the design features of the renowned Tapered Screw-Vent Implant with the prepared margins of the Hex-Lock Contour Abutment – offering a one-piece solution for immediate restoration. Corresponding caps and copings further simplify the restoration process for the clinician and patient, and add to the system's flexibility and convenience.

Zimmer One-Piece Implants are part of the Tapered Screw-Vent Implant System – an integrated family of implants, abutments, and copings. The system's breadth of offerings enables the clinician to confidently choose the right products and procedures for each individual patient. ■

Product:
Zimmer One-Piece Implant

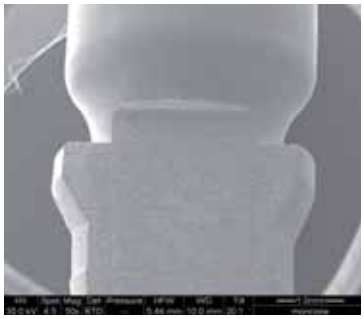
Indication:
Dental implant for tight spaces

Distribution:
Zimmer Dental Inc.
Phone Germany: +49 761 15647-0
Phone Spain: +34 93 84605-43
Phone France: +33 1 451235-66
Phone Italy: +39 043 85555-73
Phone Israel: +972 3 612-4242
www.zimmerdental.com

Leone Exacone Implant System

Durable peri-implant bone maintenance represents a key-factor for the long-term success of implant treatments. It is well-known that micro-movements between fixture and abutment induce resorption of peri-implant crestal bone. Gaps between implant and abutment cause bacterial leakage and determine an inflammatory reaction of peri-implant tissues, with subsequent bone loss. Only a hermetic connection may prevent such a body response; the absence of inflammatory infiltrated tissue leads to healthy peri-implant tissue, thus significantly improving gingival aesthetics of prosthetic rehabilitations.

The Morse taper connection of the Exacone implant system ensures maximum tissue stability free of micro-movements. Moreover, its interfacial gap with average values lower than 1 µm prevents microbial infiltration, forming a real barrier against fluids and bacteria penetration. In addition, the system has a "Platform Switching" design, that results in a greater amount of the soft tissues surrounding the implant. At the same time, it allows these tissues to seal perfectly. This also facilitates the tissues' defensive action against bacterial attack. All these features work together to guarantee a good peri-implant bone maintenance in the long run; they further allow, in case of clinical necessity, to place the implant below the bone ridge margin. ■



Product:
Exacone implant system

Indication:
Dental implant system with a self-locking conical connection for a durable tissue maintenance

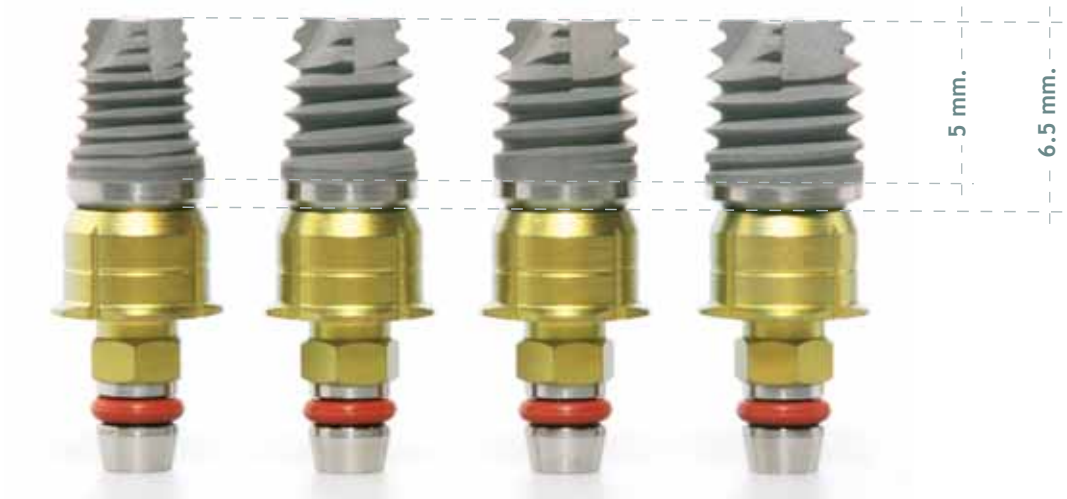
Distribution:
Leone S.p.A.
Via P. a Quaracchi, 50
50019 Sesto Fiorentino (Fi)
ITALY
Phone: +39 055 3044-620
info@leone.it
www.leone.it

Biotechnology Institute
Dental Implant System

BTI Implants Range

Predictability and biosafety of BTI Dental Implants.
Retrospective study with 5787 BTI Dentals Implants in 1060 patients (99,2 % of success).

Short Implants



5-year retrospective study of inmediately loaded BTI Dental Implants (99,3 % of success).

www.bti-implant.com / www.prgf.org

Biotechnology Institute
San Antonio 15 - 5º
01005 Vitoria-Gasteiz
(ALAVA) SPAIN
Tel.: (34) 945 149 202
Fax: (34) 945 154 909
bti.export@bti-implant.es

BTI of North America
526 Township Line Road
Suite 100
Blue Bell, PA 19422-1802 USA
Tel: (1) 215 646-4067
Fax: (1) 215 646-4066
info@bti-implant.us

BTI Deutschland GmbH.
Mannheimer Str. 17
75179 Pforzheim
GERMANY
Tel: (49) 7231 428060
Fax: (49) 7231 4280615
info@bti-implant.de

BTI Biotecnology Institute Italia
Piazzale Piola n.1
20131 Milan
ITALY
Tel.: (39) 02 70605067
Fax: (39) 02 70639876
bti.italia@bti-implant.it

BTI de México
ope de Vega 117, 701-702
11570 Col. Chapultepec Morales
México DF • MEXICO
Tel.: (52) 55 52502964
Fax: (52) 55 55319327
bti.mexico@bti-implant.com

BTI Portugal
R. Pedro Homem de Melo
55 S/6.03
4150-000 Porto • PORTUGAL
Tel: (351) 22 618 97 91
Fax: (351) 22 610 59 21
bti.portugal@sapo.pt

Aseptico AEU-7000E-70V

The AEU-7000 family of implant motors has just been enhanced with the addition of the AEU-7000E-70V. This unit features all of the powerful benefits of the AEU-7000-70V implant motor systems – plus the added benefit of a full endodontic module. The features of the new implant/endo hybrid motor system include:

- With the touch of a button, switch between implant and endo modes;
- Advanced dynamometer handpiece calibration automatically detects the actual reduction ratio of the endo or implant contra angle and ensures the accuracy of the speed and torque settings at the time of treatment;
- Compatible with 8:1 (AHP-88MN or AHP-88MNP) and 16:1 (AHP-62MN or AHP-88MNP) endo reduction contra angles. Use a 1:5 increaser contra angle (AHP-71TI) as a highspeed handpiece to efficiently access the canal space or use in place of an air turbine for restorative applications. In implant mode, a single 20:1 reduction handpiece (AHP-85MB or AHP-85MB-C) may be used for drilling and placement techniques for any brand of implant;
- Endo Mode: Auto-stop reverse (automatic or manual); Torque is indicated in gram-centimeters;
- Implant Mode: Auto-stop at desired torque setting; Adjustable torque up to 60 Ncm (at 20:1) indicated in Newton centimeters;
- Endo Mode: Internal library of popular endo file series;
- Six fully programmable preset buttons for each application mode: In endo mode, each preset is factory programmed with a complete file series. Users may reprogram these buttons with other series or single files from the library or customize the speed, torque, and display names according to brand, technique, or individual preferences. The same applies to implant mode;
- The AE-70V Variable Speed Foot Control provides convenient, hands-free access to many important functions;
- Upgradeable software ensures a longer return on investment. Customers who have already purchased the AEU-7000-70V implant motor systems may easily upgrade to include the endo module, if desired. ■

Product:
AEU-7000E-70V

Indication:
Implant/Endo hybrid motor system

Distribution:
Aseptico
P.O. Box 1548
Woodinville, WA 98072
USA
Phone: +1 425 487-3157
int@aseptico.com
www.aseptico.com

Omnia Surgical Aspiration System

The surgical aspiration system by Omnia is designed to be used in a broad range of medical disciplines, especially in oral surgery. The special ergonomic shape of the tip makes aspiration simple and accurate, even in presence of draft material. The lightweight medical-grade PVC pipe assures mobility and comfort during lengthy procedures.

The surgical aspirator can be fitted with an Osteotrap bone filter, which collects autologous bone otherwise lost during preparation of the implant bed by filtering the aspirate. This allows the surgeon to collect a bone quantity equal to the volume of the implant itself. Osteotrap is a high-quality medical device designed for use during oral surgery and implantological and maxillofacial procedures. ■

Products:
Ref. 32.F5051
Surgical aspirator tubing
Ref. 32.F7072
OsteoTrap bone-collector filter

Indication:
Oral surgery, implantology and maxillofacial surgery

Distribution:
Omnia S.p.A
Via F. Delnevo 190
43036 Fidenza (PR) · ITALY
Phone: +39 0524 527453
info@omniasrl.com
www.omniasrl.com

Biomet *3i* Encode Complete Abutments

Product:
Encode Complete Abutments

Indication:
Abutments

Distribution:
Biomet *3i* Europe
Phone: +34 93 47055-00
www.biomet3i.com

Starting March 1, 2009, Biomet *3i* will make the Encode Complete Abutments in titanium and zirconia available for orders in Europe. This new solution meets the request for high aesthetic demands, increasing productivity and maximizing of chair time. The Encode Complete Restorative System utilizes Robocast Technology to eliminate implant-level impressions and the need to keep additional components in inventory. The process delivers a patient specific abutment and a master cast ready for the final restoration fabrication.

The clinician simply needs to make a supragingival impression of the Encode Healing Abutment. Codes embedded on the occlusal surface of the Healing Abutment communicate the implant depth, hex-orientation, and platform diameter and interface (Certain Internal Connection or External Connection). This information allows Biomet *3i* Architech PSR Dental Technicians to create an anatomic patient specific abutment with appropriate margin height and natural emergence contours while a robot places the implant analogs to create a master cast.

Since there is no need to remove a healing abutment and to seat an impression coping for an implant level impression, soft tissue is spared from the unnecessary trauma of traditional techniques. As a result, the soft tissue levels may be preserved and bone remodeling is potentially minimized.

The Encode Complete System process result is an anatomically designed final abutment created to individual specifications with consideration given of the surrounding gingival architecture and dental structures. ■

ziterion zit Implant System

The zit Implant System – developed and manufactured by the ziterion GmbH – is the only dental implant system made of two materials, considering the special material properties of zirconia. The dentist carrying out the implantation may choose between identically designed implant types made either of the proved material titanium, or of the promising ceramic material zirconia for high aesthetic demands.

Besides the advantages of having the choice between two reliable implant materials, the system guarantees perfect variability, simplicity and lucidity. Depending on the situation, the user of ziterion Implants is able to react flexibly during the treatment and can choose between one-piece and two-piece implants of titanium or ceramics without requiring an additional set of instruments. For all implants only one seating tool is needed. Even part of the laboratory components of the system can be applied for one-piece or two-piece implants in the same flexible way. The special zit thread design HSD (high stability design) with its micro-roughened surface guarantees a high primary and secondary stability for all zit Implants of both materials.

The ziterion set of instruments containing drills made of steel or ceramics according to your choice is restricted to the essentials, at the same time setting new standards with regard to design and user orientation, as well as to cost efficiency and utility. ■

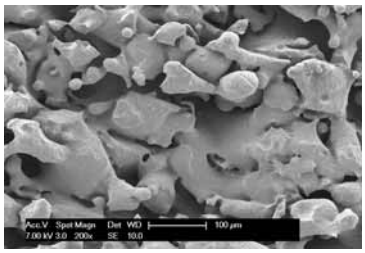
Product:
zit Implant System

Indication:
Dental implant system

Distribution:
ziterion GmbH
Bahnhofstr. 3
97215 Uffenheim
GERMANY
Phone: +49 9842 9369-0
info@ziterion.com
www.ziterion.com

Leader Italia TiXos

After four years of research, as well as in vitro and in vivo studies, Leader Italia is proud to present the new implant line named TiXos. The innovative fabrication process (DLMS direct laser metal sintering), an exclusive patent by Leader Italia, is a new manufacturing technique that enables the production of models with precisely defined structure and proportions. The desired model is produced by sintering metal powder nano-particles in a focused laser beam and the resulting surface is characterized by intercommunicating cavities that interlock with the host bone; this allows bone penetration deep inside the implant body, creating pits and pores that are colonized by bone cells. In vitro studies, researches and clinical-histological trials carried out by several universities have demonstrated the capability of these implants to accelerate bone healing.



Thanks to innovative technologies that allow to achieve particular mechanical and biological features, the new TiXos implant line is a pioneer in the new age of implant manufacturing. ■

Product:
TiXos

Indication:
Dental implant

Distribution:
Leader Italia S.r.l.
Via Aquileja, 49
20092 Cinisello Balsamo MI
ITALY
Phone: +39 02 618651
export@leaderitalia.it
www.leaderitalia.it

Planmeca **Identify with Colour!**

Product:
Identify with colour!

Indication:
Colour schemes for dental units

Distribution:
Planmeca Oy
Asentajankatu 6
00880 Helsinki
FINLAND
Phone: +358 20 7795-500
www.planmeca.com

Planmeca expands the dental unit's colour selection from patient chair upholstery to cuspidor. Identify with colour! introduces four colour schemes – Topaz, Sapphire, Jade and Crystal – to create a matching unit and upholstery colour world in the dental clinic. Planmeca's new colour schemes present a variety of elegantly cooling, naturally warm and freshly exciting colour combinations.

Together, unit and upholstery colourings provide a wide selection of colour combinations, which create a welcoming treatment environment. Colours can alter the mood and ambience of the whole clinic creating a feeling of individuality. In addition, all people like colours, especially children, and soothing colours help the patient feel more relaxed.

The new unit colouring is available for Planmeca Compact i, Planmeca Compact s and Planmeca Compact c dental units. The customer can create a unique look by selecting the unit colouring from four different options, or traditional white, and combining it with two different upholstery styles, traditional Standard or Ultra with viscoelastic filling, with 28 upholstery colours. ■

Dyna Dental **Implaclean**

Implaclean is a novel toothpaste for patients with dental implants. It is based on Ardox-X active oxygen technology in combination with lactoferrine. In addition, the toothpaste contains low levels of fluoride and a "natural" pH value.

The new Ardox-X technology is based on the oxygen-donating complex, an active complex (active oxygen) known to penetrate deeply into the oral tissues. Periodontal and peri-implant pockets will thus remain clean and free of bacteria. Active oxygen assures that the teeth will stay white and that no discrepancies in colour will develop over time between the natural teeth and the implant-supported restorations.

Active oxygen is not present in the radical form known from hydrogen peroxide, but is present in safe anionic form. The active oxygen is released when brushing the teeth; it eliminates free radicals, infectious bacteria, viruses, parasites and microbes.

Lactoferrine is a protein that is present in saliva, tears, mucosa and breast milk. It has antibacterial, antiparasitary and antiviral effects.

Research has confirmed that titanium is attacked and can be damaged by high concentrations of fluoride. Almost all toothpastes contain high fluoride concentrations (>1200 ppm F–). Implaclean, by contrast, contains low fluoride levels (200 ppm F–) and has a neutral pH. Furthermore, Implaclean toothpaste is non-abrasive, so the implants are not damaged by brushing.

Implaclean has been developed by Ardoz Research BV, by a team of specialists under the supervision of oral and maxillofacial surgeon *Dr Peter Blijdorp*. Implaclean 100 ml retail units will be distributed by dental professionals.

Dyna Dental welcomes enquiries from potential distributors throughout Europe. ■

Product:
Implaclean

Indication:
Toothpaste for people with dental implants

Distribution:
Dyna Dental Engineering b.v.
Postbus 70
4600 AB Bergen op Zoom
THE NETHERLANDS
Phone: +31 164 258980
dyna@dynadental.com
www.dynadental.com

Kohler Medizintechnik **Root Elevator**

The new Kohler-Form root elevators fulfil high ergonomic requirements. The special handle design offers maximum holding comfort, precise hand guidance but at the same time a relaxed, non-tiring working position. The elevators are produced with the most popular tips (Bein, Seldin, Pott, Flohr, Cryer) for various applications. ■

Product:
Kohler-Form root elevator

Indication:
Root elevation

Distribution:
Kohler Medizintechnik GmbH & Co. KG
Danningen 9 · 78579 Neuhausen
GERMANY
Phone: +49 7777 9395-30
info@kohler-medizintechnik.de
www.kohler-medizintechnik.de

Aseptico **HandiDam**

HandiDam is said to be ideal for when isolating a single tooth or quadrant is required. It features a built-on, flexible plastic frame that saves time by eliminating the need to remove the rubber dam from a traditional metal frame. The innovative shape is designed for patient comfort and remains open during the procedure. As pictured, the convenient handle allows the doctor or staff to move HandiDam to the side for suction or X-ray, and then back into place.

HandiDam is available in Latex and a new, highly durable Latex-Free material and is packaged in boxes of 20 or 100 pieces. ■

Product:
HandiDam

Indication:
Isolation of a single tooth or quadrant

Distribution:
Aseptico
P.O. Box 1548
Woodinville, WA 98072
USA
Phone: +1 425 487-3157
int@aseptico.com
www.aseptico.com

Zimmer CopiOs Pericardium Membrane

Zimmer Dental Inc. announced the availability of the CopiOs Pericardium Membrane (formerly branded as the Tutodent Pericardium Membrane) in Europe and Asia. Sourced from bovine pericardial tissue, the membrane provides the characteristics of natural tissue, coupled with the ease-of-manipulation, conformability, and strength required to meet high clinical expectations and facilitate successful surgical outcomes.

The CopiOs Pericardium Membrane offers tissue compatibility, and is suitable for Guided Bone Regeneration procedures such as block graft coverage and large ridge augmentation where a malleable, drapeable, and durable barrier is desired. Quality is preserved with the Tutoplast process, which thoroughly removes unwanted impurities while maintaining natural tissue qualities and biomechanical stability.

CopiOs Pericardium Membrane is designed to work seamlessly with Zimmer Dental's Puros family of bone grafting products. As a member of Zimmer Dental's broad portfolio of complementary regenerative membranes, CopiOs Pericardium Membrane is ideal when conformability is needed, whereas BioMend and BioMend Extend Membranes are good choices in procedures requiring space maintenance.

Under the brand name Tutodent, more than 50,000 of these bovine pericardial membranes have been implanted in patients throughout Europe and Asia since 2000. Zimmer Dental is proud to carry on this tradition with the CopiOs Pericardium Membrane. ■

Product:
CopiOs Pericardium Membrane

Indication:
Pericardial membrane

Distribution:
Zimmer Dental Inc.
USA
Phone Germany: +49 761 15647-0
Phone Spain: +34 93 84605-43
Phone France: +33 1 451235-66
Phone Italy: +39 043 85555-73
Phone Israel: +972 3 612-4242
www.zimmerdental.com

Mozo Grau Improved New Products

Mozo Grau has launched a range of improved new products. These latest releases include a new MG Osseous 5 x 6 mm implant, improved sandblasted drills and a gold-based UCLA abutment.

The new MG Osseous 5 x 6 mm implant has been designed for mandibular posterior segments where vertical dimension is critical and excessive leverage must be avoided. The new implants can be placed in the far posterior area to support prosthetic superstructures and to avoid cantilever designs.

The sandblasted drills with the new surface treatment enhance drilling capacity and offer more clearly visible depth marks, placing these drills among the best available in the market in terms of durability and depth mark visibility, with a matte surface finish that prevents reflections and, consequently, visual errors.

The gold-based UCLA abutment for MG Osseous and MG Inhex implants offers a perfect abutment-to-implant connection with a cast-to option without loss of precision. Available for all platforms for internal and external connection with a hexagonal gold base, they ensure perfect adjustment and stress distribution in all cases. ■

Products:
Improved new implant, abutment and drills

Indication:
Dental implantology

Distribution:
Mozo Grau
San Felipe Neri 2
47002 Valladolid
SPAIN
Phone: +34 983 211-312
sales@mozo-grau.com
www.mozo-grau.com

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

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

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

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

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CALENDAR OF EVENTS

2009	Event	Location	Date	Details/Registration
January	8th Simposio Ibérico	Madrid, Spain	January 15–17, 2009	Biomet *3i* www.3i-online.com
	60 Years of Quintessence	Berlin, Germany	January 22–24, 2009	Quintessenz Verlags-GmbH Phone: +49 30 76180-624, -630 www.quintessenz.de
	Forum Dental Mediterraneo	Barcelona, Spain	January 29–31, 2009	Puntex Phone: +34 934 462820 www.puntex.es/fdm/index.php
February	AO Annual Meeting	San Diego, USA	February 26–28, 2009	Academy of Osseointegration www.osseo.org
	Chicago Dental Society Midwinter Meeting	Chicago, USA	February 26 – March 1, 2009	Chicago Dental Society (CDS) Phone: +1 312 836-7300 www.cds.org
March	Krakdent	Cracow, Poland	March 5–7, 2009	Targi W Krakowie Sp.z.o.o. www.krakdent.pl
	Scandefa 2009	Copenhagen, Denmark	March 5–7, 2009	Bella Center Phone: +45 32 528811 www.scandefa.dk
	ITI Congress Iberia 2009	Madrid, Spain	March 13–14, 2009	ITI www.iti.org/congreso-iberico
	33rd International Dental Show (IDS) 2009	Cologne, Germany	March 24–28, 2009	Koelnmesse GmbH Phone: +49 180 577-3577 www.ids-cologne.de
May	AAO Annual Session	Boston, USA	May 1–5, 2009	American Association of Orthodontists www.aaomembers.org/mtgs/annual/2009/index.cfm
June	Europerio 6	Stockholm, Sweden	June 4–6, 2009	European Federation of Periodontology www.europerio6.net

EDI – Information for Authors

EDI – 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:

· Case studies
· Original scientific research
· Overviews

Manuscript Submission

Submissions should include the following:

· two hard copies of the manuscript
· a disk copy of the manuscript,
· a complete set of illustrations

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

Manuscripts

Pages should be numbered consecutively, starting with the cover page. The cover page should include the title of the manuscript and the name and degree for all authors. Also included should be the full postal address, telephone number, fax number, and electronic mail address of the contact author. The second page should contain an abstract that summarizes the article in approximately 100 words.

Manuscripts can be organized in a manner that best fits the specific goals of the article, but should always include an introductory section, the body of the article and a conclusion.

Figures and Tables

Each article should contain a minimum of 20 and a maximum of 50 original color slides (35 mm) or digital photos, except in unusual circumstances. The slides will be returned to the author after publication. Slides should be numbered on the mount in the sequential numerical order in which they appear in the text (Fig. 1, Fig. 2, etc.).

Radiographs, charts, graphs, and drawn figures are also accepted.

Figure legends should be brief one or two-line descriptions of each figure, typed on a separate sheet following the references. Legends should be numbered in the same numerical order as the figures.

Tables should be typed on separate sheets and numbered consecutively, according to citation in the text. The title of the table and its caption should be on the same sheet as the table itself.

References

Each article should contain a minimum of 10 and a maximum of 30 references, except in unusual circumstances. Citations in the body of the text should be made in numerical order. The reference list should be typed on a separate sheet and should provide complete bibliographical information in the format exemplified below:

[1] Albrektsson, T.: A multicenter report on osseointegrated oral implants. J Prosthet Dent 1988; 60, 75-82.

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

[3] Johanson, B., Lucas, L., Lemons, J.: Corrosion of copper, nickel and gold dental alloys: an in vitro and in vivo study. J Biomed Mater Res 23, 349, (1989)

Review Process

Manuscripts will be reviewed by three members of the editorial board. Authors are not informed of the identity of the reviewers and reviewers are not provided with the identity of the author. The review cycle will be completed within 60 days. Publication is expected within 9 months.

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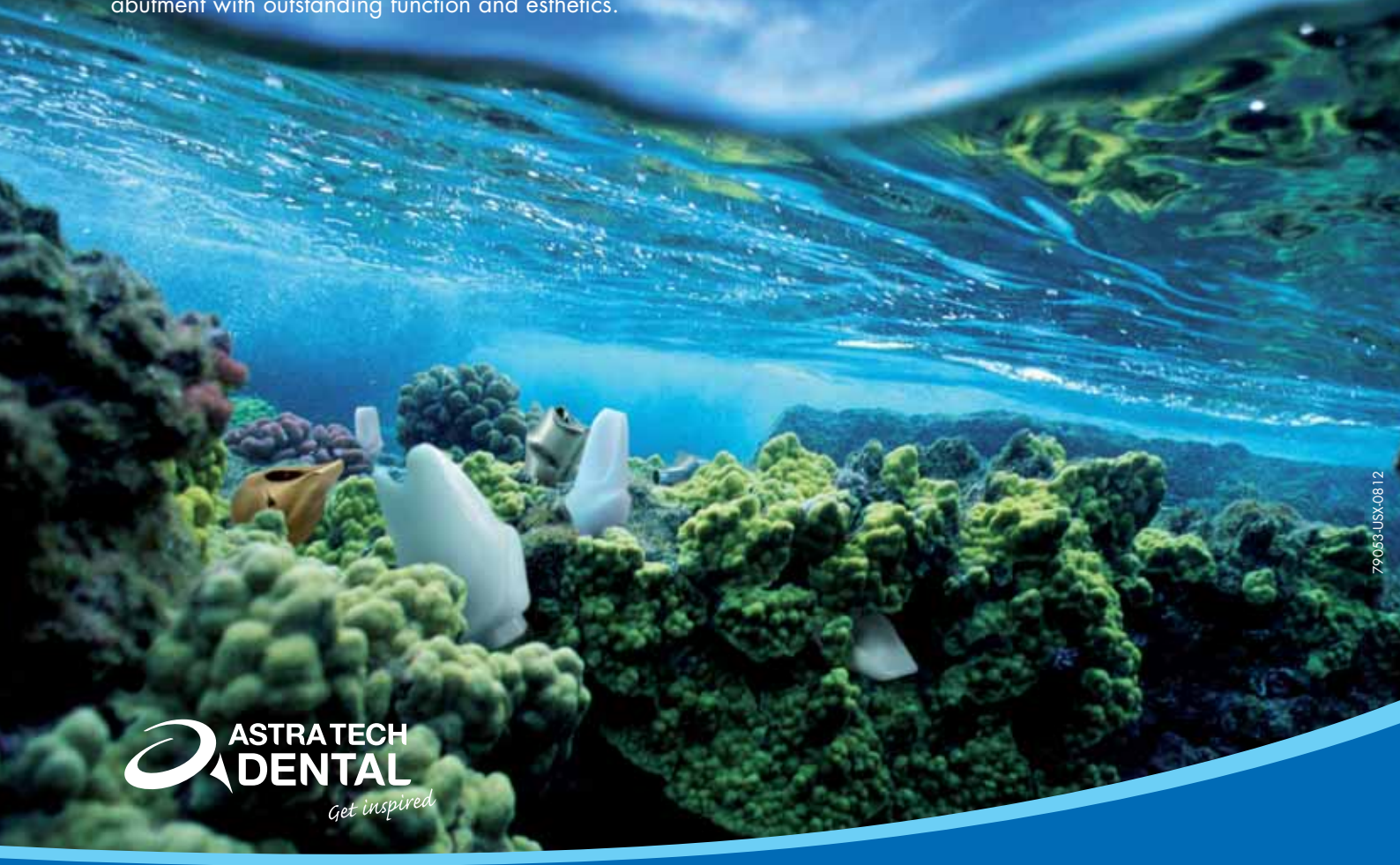

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