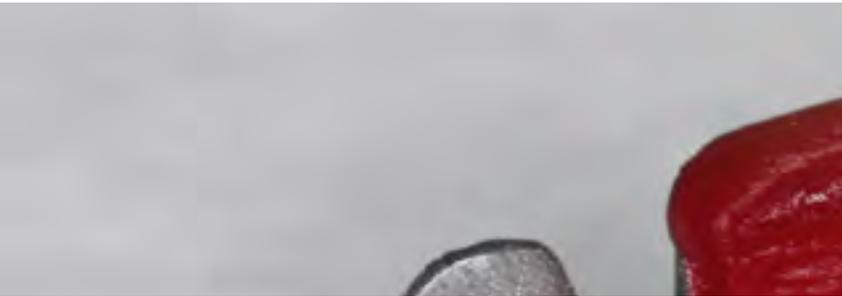


EDI JOURNAL



TOPIC

Digital workflow: from planning to implant- prosthetic restoration



»EDI News: ADI Team Congress 2017 · 12th BDIZ EDI Expert Symposium · The dental world met in Poznań/Poland · Possible consequences of Brexit on the health sector · S3 guideline on dental implants and bone antiresorptives · A portrait of BDIZ EDI
»European Law: Primacy of EU law over national obstinacy »Case Studies: Surgical treatment and defect filling · Rebuilding the pink aesthetics »Product Studies: Peri-implant health and bone stability after immediate implant placement



LOCATOR R-Tx™
REMOVABLE ATTACHMENT SYSTEM

BETTER. SIMPLER. STRONGER.

Introducing the next generation of LOCATOR®, the **LOCATOR R-Tx™ Removable Attachment System** – combining improved design, system simplicity, and **DuraTec™ Coating** toughness.

Experience the next generation LOCATOR R-Tx Removable Attachment System today! Please visit ZESTDENT.COM/RTX, call us at **800.262.2310, or contact your implant manufacturer for more information.**

Available **NOW** for leading implant systems.

*Excluding connections that utilize .048" hex drive mechanism. Please contact your implant company provider for more information.

©2016 Zest Anchors, LLC. All rights reserved.

ZEST and LOCATOR are registered trademarks and DuraTec, LOCATOR R-Tx, R-Tx, and Zest Dental Solutions are trademarks of ZEST IP Holdings, LLC.



DuraTec Titanium Carbon Nitride Coating is aesthetic, harder and more wear resistant.



Dual retentive surfaces for engagement & narrower coronal geometry for easier seating of overdenture.



Industry standard .050"/1.25mm hex drive mechanism.



50% increase in pivoting capability to 60° between implants.



Enhanced geometry to resist movement and anodized pink for improved aesthetics.



Convenient all-in-one packaging.

ZD ZEST DENTAL SOLUTIONS™

ZEST | DANVILLE MATERIALS | PERIOSCOPY



About staying curious

Wasn't it exciting, the year 2016? Well, some of the excitement we could have readily done without. Europe was shaken to the core when UK voters opted for the withdrawal of their country from the EU. The Leave side consisted mainly of protest votes by people who were fed up with an EU seemingly far removed from their everyday problems, people who saw themselves as disadvantaged – and voted with their feet as they became fearful about their jobs, their pensions, their living standards, voted against an EU they felt to be meddling in everything, without any respect for historically established structures. The Remain side, the younger generation, those who were in favour of the EU, “forgot” to take themselves to the polls. But it does not do to simply tap a button on a smartphone display – you will still have to physically walk into a voting booth and tick a box.

The consequences of Brexit for the healthcare sector are strictly a matter of speculation at this point. Today, European requirements significantly influence developments in this sector, even though it nominally continues to be the responsibility of the member states. In the area of drug and medical devices legislation, the EU has been given, and chooses to exercise, extensive powers, a trend that is amplified by increasing patient mobility.

The United States, too, experienced a political landslide. An unforeseen candidate who did not fit into any programme of any established party prevailed in the end: against the establishment, against the pollsters, against the media. This election, too, was driven by protests and by fears of a social downward spiral. For too long, America had closed its eyes to the economic decline of the middle class in car cities like Detroit and to the complete absence of viable perspectives in rural areas.

The CETA trade agreement with Canada, the refugee crisis that overwhelmed Europe, the armed conflict in Syria, the fear of IS suicide attacks in Europe, disturbing reports from Turkey, earthquakes in Italy – all this news leaves us puzzled and exasperated as we look back on 2016.

But now we will take a deep breath, because there is also some good news, some forward-looking developments to report. The dental profession in Europe is closing ranks. The Council of European Dentists (CED) in Brussels has worked out a post-Brexit scenario with the British Dental Association (BDA). Both organizations are looking for a way to ensure continued participation of British dentists in the future work of the umbrella organization. Membership of the CED, with its 27 European member associations within Europe representing more than 350,000 dentists, is contingent on the country of the member association being a member of the EU. This is quite in keeping with the news that the partner organizations BDIZ EDI and the British Association of Dental Implantology (ADI UK), ignoring Brexit, will be cooperation partners at the ADI Team Day in London in early March next year. The Team Day targets junior dentists with a special programme, aiming to lead the way toward oral implantology. Certainly of great interest to those who are interested in the possibilities that this field has to offer.

BDIZ EDI has its iCampus programme designed to provide the young newcomers with a pathway to implant dentistry. In 2017 there will once again be some incentives for continuing professional development and an exchange of ideas across national borders. The highlight in 2017 is likely to be the 11th European Symposium of BDIZ EDI in Dubrovnik, held in cooperation with the Croatian Dental Chamber and the Bavarian Dental Chamber in May. After Montenegro, Greece, Turkey, Portugal, Croatia and Spain, this will be another event that demonstrates that dentists can learn from each other if they talk and listen to one another. The editors of EDI Journal will help to fire up this exchange: through papers by authors from around the world, with the view of the situation of active implant dentists in different countries and with background information of what is happening in Brussels and in Strasbourg.

*Sincerely,
Anita Wuttke
Editor-in-Chief*

Original. Proven. Life changing.



The All-on-4[®] treatment concept

Four implants. A fixed full-arch provisional prosthesis. Same day.*

Since it was first introduced in 1998, the All-on-4[®] treatment concept has changed the lives of hundreds of thousands of patients. Today, the concept is established as the best in its class of solutions, but only when Nobel Biocare products are combined.

Now supported by 34 clinical studies featuring 2400 patients, many have tried to mirror this groundbreaking concept, but only Nobel Biocare has the scientifically documented success to back it up.

Offer your patient life-changing treatment you can both rely on.

*Provided stability criteria for immediate loading are fulfilled.



**New All-on-4[®] treatment concept
online course**

**Register at
nobelbiocare.com/all-on-4course**





Coronally advanced flap and primary soft-tissue closure.



Implant drilling after extraction of tooth 13.

EDI News

- 12 ADI Team Congress 2017
in cooperation with BDIZ EDI
- 16 25th EAO Annual Scientific Congress
- 19 EAO Junior Committee elects new members
- 20 Heads of CED and CPME exchange views
- 22 German Dental Congress 2016
- 26 12th BDIZ EDI Expert Symposium 2017
- 28 FDI Annual World Dental Congress 2016
- 32 Oral implantology at the IDS 2017
- 36 Possible consequences of Brexit
on the health sector
- 42 New S3 guideline: dental implants
in patients treated with bone antiresorptives
- 44 BDIZ EDI: the association behind EDI Journal
- 48 Personalized antibiotic treatment
with a new biosensor system
- 50 Europe Ticker

European Law

- 54 The Austrian Law on Pharmacies:
primacy of EU law over national obstinacy
- 56 European Court of Justice rules on fixed prices
for prescription-only medicinal products

Case Studies

- 58 Surgical treatment and defect filling:
a case report
- 62 Rebuilding the pink aesthetics

Product Studies

- 66 Digital workflow: from planning
to implant-prosthetic restoration
- 74 Peri-implant health and peri-implant
bone stability after immediate
implant placement

Business & Events

- 84 EAO Paris: W&H and Osstell present All-in-one solution
- 86 Modern and safe implant treatment:
Dentsply Sirona at the EAO Congress
- 88 America meets Europe –
11th International Conference of the DGÄZ
- 90 bredent group days in Barcelona
- 92 ACTA Symposium in Amsterdam
- 93 Introducing Zest Dental Solutions
- 94 ITI launches Online Academy University Campus
- 95 Interview with Rainer Berthan and Lars Henrikson
on tradition and changes
- 96 Interview with Peter Malata, Jonas Ehinger and
Professor Neil Meredith on perfect matches
- 97 Excellent results for Thommen Medical implants
- 98 Interview with Paul Note, Geistlich Pharma,
on accomplishments and visions
- 100 Interview with Dr Christian Schmitt, member of the
Expert Council of Osteology Foundation
- 101 1st Mectron Spring Meeting 2017
- 101 Straumann and maxon motor announce partnership
- 102 Nobel Biocare launches free online course
- 103 Studies confirm advantages of UISP technique
- 104 Periodontitis treatment with Curolox technology
- 105 Straumann invests in India

News and Views

- 4 Editorial
- 8 Imprint
- 10 Partner Organizations of BDIZ EDI
- 106 Product Reports
- 111 Product News
- 114 Calendar of Events/Publishers Corner

Introducing Innovative and High-Quality Restorative Solutions



INCLUSIVE®
TAPERED IMPLANT SYSTEM



Industry-standard Internal Hex Connection

NEW!

HAHN™
TAPERED IMPLANT

Industry-standard Conical Connection



INCLUSIVE®
MINI IMPLANT SYSTEM



INCLUSIVE®
PROSTHETIC COMPONENTS



Industry-compatible Prosthetics

For more information

+49 69 50600-5312

glidewelldirect.com | orders@glidewelldental.de

Glidewell Direct is actively seeking distribution channels

GLIDEWELL DIRECT  **EUROPE**
CLINICAL AND LABORATORY PRODUCTS

Scientific Board



Dr Iyad Abou-Rabii,
Coventry



Dr Maher Almasri,
Coventry



Professor Alberico
Benedicenti, Genoa



Dr Marco Degidi,
Bologna



Dr Eric van Dooren,
Antwerp



Professor Rolf Ewers,
Vienna



Professor Antonio
Felino, Porto



Professor Jens Fischer,
Basel



Dr Roland Glauser,
Zurich



Professor Ingrid
Grunert, Innsbruck



Dr Detlef Hildebrand,
Berlin



Dr Axel Kirsch,
Filderstadt



Professor Ulrich
Lotzmann, Marburg



Professor Edward
Lynch, Coventry



Dr Konrad Meyenberg,
Zurich



Professor Georg
Nentwig, Frankfurt



Dr Jörg Neugebauer,
Landsberg a. Lech



Professor Hakan
Ozyuvaci, Istanbul



Professor Georgios
Romanos, Stony Brook



Luc Rutten, MDT,
Tessenderlo



Patrick Rutten, MDT,
Tessenderlo



Dr Henry Salama,
Atlanta



Dr Maurice Salama,
Atlanta



Dr Ashok Sethi,
London



Ralf Suckert,
Fuchstal



Professor Joachim E.
Zöller, Cologne

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

Imprint

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

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

Editor-in-Chief (responsible according to the press law): Anita Wuttke, Phone: +49 89 72069-888, wuttke@bdizedi.org

Managing Editor: Isabel Lamberty, Phone: +49 8243 9692-32, i.lamberty@teamwork-media.de

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

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

Managing Director: Dieter E. Adolph
Owner: Deutscher Ärzteverlag GmbH, Cologne (100%)

Subscription: Kathrin Schlosser, Phone: +49 8243 9692-16, Fax: +49 8243 9692-22, k.schlosser@teamwork-media.de

Translation: Per N. Döhler; Triacom Dental

Layout: Sigrid Eisenlauer; teamwork media GmbH

Printing: Gotteswintter und Aumaier 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, eight 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 three months after date of publication. Current advertising rate list from 1/1/2016. ISSN 1862-2879

Payments: to teamwork media GmbH; Raiffeisenbank Fuchstal-Denklingen eG, IBAN DE03 7336 9854 0000 4236 96, BIC GENODEF1FCH

Copyright and Publishing Rights: All rights reserved. The magazine and all articles and illustrations therein are protected by copyright. Any utilization without the prior consent of editor and publisher is inadmissible and liable to prosecution. No part of this publication may be produced or transmitted in any form or by any means, electronic or mechanical including by photocopy, recording, or information storage and retrieval system without permission in writing from the publisher. With acceptance of manuscripts the publisher has the right to publish, translate, permit reproduction, electronically store in databases, produce reprints, photocopies and microcopies. No responsibility shall be taken for unsolicited books and manuscripts. Articles bearing symbols other than of the editorial department or which are distinguished by the name of the authors represent the opinion of the afore-mentioned, and do not have to comply with the views of BDIZ EDI or teamwork media GmbH. Responsibility for such articles shall be borne by the author. All information, results etc. contained in this publication are produced by the authors with best intentions and are carefully checked by the authors and the publisher. All cases of liability arising from inaccurate or faulty information are excluded. Responsibility for advertisements and other specially labeled items shall not be borne by the editorial department.

Copyright: teamwork media GmbH · Place of jurisdiction: Munich



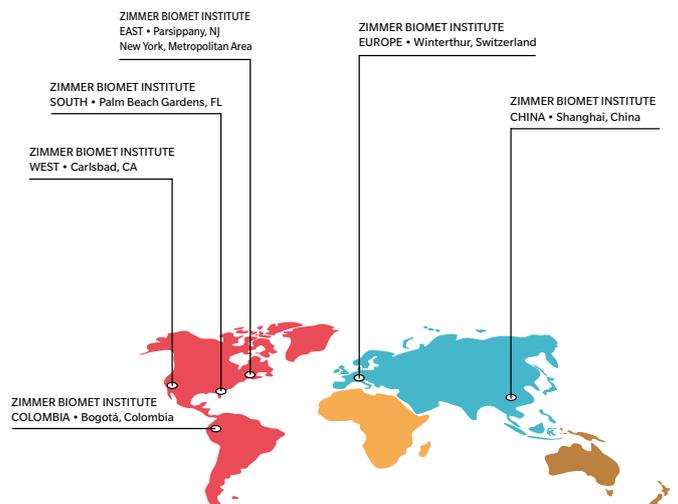
Accelerate your progress through innovative education.

Powered by knowledge.

With a robust curriculum developed and taught by top innovators in dentistry, the Zimmer Biomet Institute is focused on bringing current and emerging dental procedures to you, your patients and your practice. From our Simulated Patient Training Laboratory and specialty courses in implant and reconstructive dentistry to didactic seminars and hands-on training, the Zimmer Biomet Institute continues to transform modern dentistry.

Call +41 (0) 58 854 84 75 to Learn. Do. Excel.®

To accelerate your progress, please schedule your next course at zimmerbiometdental.com/education



All trademarks herein are the property of Zimmer Biomet or its affiliates unless otherwise indicated. Due to regulatory requirements, Zimmer Biomet's dental division will continue to manufacture products under Zimmer Dental Inc. and Biomet 3i, LLC respectively until further notice. AD072 Rev. A 05/16. ©2016 Zimmer Biomet. All rights reserved.

Partner Organizations of BDIZ EDI



Association of Dental Implantology UK (ADI UK)

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



Ogólnopolskie Stowarzyszenie Implantologii Stomatologicznej (OSIS EDI)

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



Sociedad Espanola de Implantes (SEI)

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



Sociedade Portuguesa de Cirurgia Oral (SPCO)

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



Udruženje Stomatologa Implantologa Srbije-EDI (USSI EDI)

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



Lab. Od. Lazetera Antonio - Savona (IT)

Leading in immediate restoration

The SKY® fast & fixed - Therapy

In 10 years – more than 30.000 patients restored

The SKY® fast & fixed immediate therapy was developed in cooperation with implantologists, prosthodontists and dental technicians.
Easy to use. Esthetic results. Increased profit.

- **Fast** | In one session the implants are placed and restored.
- **Reproducible** | Standardized protocol. A single supplier for surgery and prosthetics.
- **Affordable** | Restoring your patients' joy of life at a fair price.

Make your practice more profitable with the versatile and proven SKY fast & fixed therapy.
Call (+49) 0 73 09 / 8 72-4 41



SKY 
IMPLANT SYSTEM



40 YEARS DENTAL INNOVATIONS
1 9 7 4
2 0 1 4

bredent group

Save the date: 2-4 March 2017 at ExCeL London, Great Britain

Pave your way towards implantology

The Students' Programme at the ADI Team Congress 2017 in London is an event for all dental students to look forward to in early March 2017. ADI is pleased to provide BDIZ EDI iCAM-PUS members with the opportunity to attend the Students' Programme at a reduced rate – for booking information email the EDI BDIZ office at office-bonn@bdizedi.org.



For dental students learning their craft, it's important to know where to go for the most up-to-date information and training. With the significant growth of dental implants over recent years, building a foundation of knowledge in implantology has become necessary for all dentists joining the profession. What's more, especially when starting out, the chance to develop a professional network for support and guidance can prove invaluable for students.

The ADI Team Congress 2017 will be entitled "Dental Implantology: A Global Perspective – Inspi-

ration from Around the World". As part of the programme catering to every member of the dental team, a full day's programme of lecture and workshops has been designed specifically for dental students in full-time education or training.

Share a wealth of expertise

With sessions to inspire and delight, the programme is hoped to encourage those entering the profession to become more involved in dental implants. It will take delegates on a journey through the basics of implantology, providing a wealth of information on the best training courses available, implant placement, bone ridge assessment, impressions and implant restoration.

During the day, four key professionals will share a wealth of expertise, offering advice and guidance relevant for student delegates. *Aly Virani* will discuss "How did we get here and why do we keep going?", exploring the history of dental implants and the role of research and development in the change of implant design.

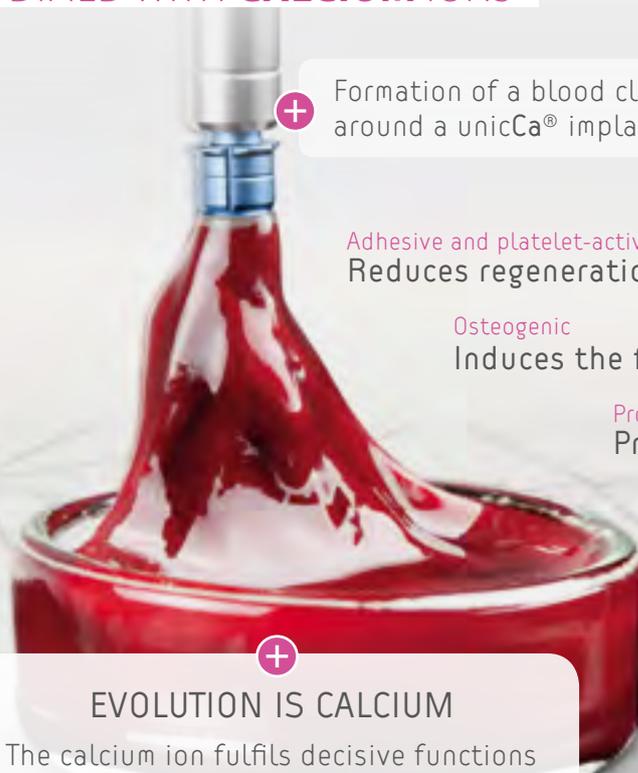
Helping students find the right further training for them once qualified, *George Pyandath* will consider "Dental Implant Training: Where, How, Diploma/MSc, Mentoring and the GDC", commenting: "With so much training now available, each with different aims and objectives, I think it can be very difficult for newly qualified dentists to select the right one for them. The aim of my lecture will be to demonstrate the key elements that delegates should look for in dental implantology training courses." >>



Dr Peter Fairbairn

EVOLUTION IS UNICCA®

THE SURFACE OF THE NEW RANGE OF UNICCA® IMPLANTS BY BTI ARE CHEMICALLY MODIFIED WITH **CALCIUM IONS**



Formation of a blood clot around a unicCa® implant

Adhesive and platelet-activating
Reduces regeneration times

Osteogenic
Induces the formation of bone tissue

Procoagulant
Provides instant stability

Antibacterial
Significantly minimises the risk of peri-implantitis

Electropositive, clean and active
Maintains the superhydrophilic properties

Triple roughness
Optimises adaptation to the different tissues and improves osseointegration



EVOLUTION IS CALCIUM

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

Scientific references

Tejero R, Rossbach P, Keller B, Anitua E, Reviakine I. Time-of-flight secondary ion mass spectrometry with principal component analysis of titania-blood plasma interfaces. *Langmuir* 2013;29:902–12. // · Anitua E, Prado R, Orive G, Tejero R. Effects of calcium-modified titanium implant surfaces on platelet activation, clot formation, and osseointegration. *J Biomed Mater Res A* 2014;20072018:1–12. // · Sánchez-Illáduya MB, Trouche E, Tejero R, Orive G, Reviakine I, Anitua E. Time-dependent release of growth factors from implant surfaces treated with plasma rich in growth factors. *J Biomed Mater Res A* 2012:1–11. // · Anitua E, Tejero R, Zalduendo MM, Orive G. Plasma Rich in Growth Factors (PRGF-Endoret) Promotes Bone Tissue Regeneration by Stimulating Proliferation, Migration and Autocrine Secretion on Primary Human Osteoblasts. *J Periodontol* 2013;84:1180–90.



SAVE THE DAY: www.btiday.com



BTI APP



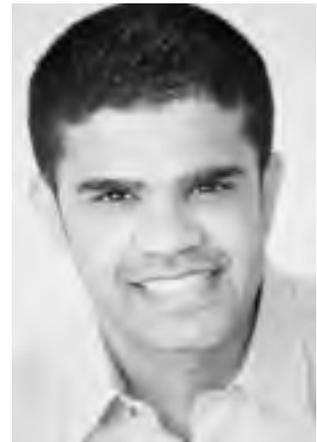
Dr Aly Virani



Dr George Pynadath



Dr Samantha Pugh



Dr Nilesh Pamar

Understand more than the fundamentals

Samantha Pugh will later provide “An overview of implant planning: Consultation to placement”, giving delegates a step-by-step guide to ensure accurate and comprehensive planning protocols for predictable and effective treatment. Last but certainly not least, *Nilesh Parmar* will speak about “Impressions and implant restoration” to cover every angle of the implant process. He says: “I believe implant dentistry is one of the most under-provided procedures in dentistry. I think there is an opportunity for GDPs to become much more involved with implant therapy for their patients. My session has been designed to help young dentists, with little or no experience in implants, to understand the fundamentals and basic principles of impression taking for dental implants.”

One of the highly esteemed professionals organizing the lecture programme is *Peter Fairbairn*,

ADI Director of Education and Chair of the 2017 Congress Sub-committee. With more than 26 years’ experience with dental implants and over a decade spent as a renowned global lecturer, *Peter Fairbairn* is ideally placed to ensure the programme is tailored to help students pave the way for a highly successful career.

“We have some fantastic speakers presenting this programme,” *Peter Fairbairn* says, “including an array of young dentists who have become highly acclaimed so early in their careers. We are pleased to therefore deliver an exciting learning experience for young dentists, by young dentists.”

“What’s more, the hands-on session in the afternoon will offer something truly unique. We hope to welcome around 160 delegates to take advantage of the practical experience and advice available from our forward-thinking young speakers.”

There will be two workshop streams available for delegates to attend:

- “Optimizing the post-extraction site through atraumatic tooth extraction and socket crafting/ridge preservation”, with sessions run by *Aly Virani* and *George Pyandath*;
- “Implant placement and impression taking for the young dentist”, with sessions led by *Samantha Pugh* and *Nilesh Parmar*.

Running alongside the impressive educational programme, delegates will have the perfect opportunity to find out more about the latest and greatest products, materials and technologies in the field. A trade exhibition of more than 60 implant product suppliers and manufacturers will be on hand, representing all the options in dental implantology from a completely unbiased and all-inclusive platform.

Dr Peter Fairbairn ■



Register now

ADI Team Congress

2 – 4 March 2017, ExCeL London. For more information, please visit www.adi.org.uk/congress17

iCAMPUS members: for booking information, email the EDI BDIZ office at office-bonn@bdizedi.org



Die Zukunft der
digitalen
Implantologie.

ICX-IMPERIAL[®]

ICX-MAGELLAN + 4-ON-ICX + ICX-SMILE BRIDGE
(PROVISORIUM)



ICX Das FAIRE Premium
Implantat-System

Fragen & Infos zu ICX-IMPERIAL:

Service-Tel.: +49 (0)2643 902000-0 · www.medentis.de

25th Annual Scientific Congress of the European Association for Osseointegration (EAO)

Big in Paris

The European Association for Osseointegration (EAO) held its annual meeting at the Palais des Congrès de Paris, France, between 29 September and 1 October. The meeting was attended by over 2,600 delegates and industry representatives from countries as far afield as Japan and Canada. Japan was the guest country of this year's congress.

The teams Hürzeler/Zuhr and Mankoo/Frost discussed multidisciplinary and interdisciplinary approaches in complex cases in the anterior maxilla.



The two Chairmen of the Scientific Committee of the EAO Congress, *Dr David Nisand* and *Dr Franck Renouard*, and outgoing EAO-President *Professor Björn Klinge* delivered an outstanding programme in the huge congress centre at the outskirts of Paris. During the three days of the meeting, the

participants could choose between three different “arenas” where the key questions of treatment planning and treatment decisions were answered. Figures of the event: twelve sessions; one session for the Japanese guests and the French hosts respectively; 16 industry symposiums and workshops; as well as huge industry and poster exhibitions presenting about 650 posters.

Many prizes awarded

Professor Ralf Kohal, Germany, received the European Prize for Basic Research in Implant Dentistry for his study on the “Evaluation of a new long lasting zirconia-based composite for oral implant fabrication: an experiment in the rat”. The European Prize for Clinical Research: Surgery was awarded to *Dr Pietro Felice*, Italy, for his work on “Posterior jaws rehabilitated with partial prostheses supported by 4x4mm or by longer implants: a 1-year post-loading randomized controlled trial”. *Dr Charlotte Jensen*, Netherlands, was awarded the European Prize for Clinical Research: Prosthetics for her work on “Implant-supported mandibular removable partial dentures; patient-based outcome measures in relation to implant position”. The European Prize for Clinical Research: Peri-implant biology went to *Dr Stefano Pieralli*, Germany, for his conference paper titled “Outcomes of zirconia implants in prospective clinical trials: a systematic review and meta-analysis”. *Dr Alice Cheng*, USA, won the poster competition with her poster on “Osseointegration of additively manufactured 3D Ti-6Al-4V implants with trabecular porosity in cortical and trabecular bone”.

Five candidates were also presented with the EAO's Certificate in Implant-based Therapy during the ceremony. This is the only Europe-wide standardized assessment of skills and expertise within the field of implant-based therapy. Each candidate



The certificate winners of the EAO's Certificate in Implant-based Therapy: *Dr Sawako Yokoyama*, *Dr José Pinheiro Torres*, *Dr Edith Groenendijk*, *Dr Weihua Yang* and *Dr Emmanouil Symeonidis*.

a perfect fit™

camlog

THE NEW COMFORT CLASS.

The COMFOUR™ Abutment System for occlusal screw-retained restorations is an ideal addition to the CAMLOG® and the CONELOG® Implant System. With the COMFOUR™ System, you can offer your edentulous patients the option of an immediate, comfortable and permanent denture on four or six implants – and thus a considerable gain in quality of life. www.camlog.com

CAMLOG®
SYSTEM

CONELOG®
SYSTEM



Aligning tool



Scanning cap



Titanium cap



Flexible handle

COMFOUR™ offers you a range of options to overcome the challenges you face in your implant practice, making them easier while saving time.

had to submit six clinical cases, sit a multiple choice examination and be interviewed about their cases. This year's winners were: *Dr Edith Groenendijk*, Netherlands; *Dr José Pinheiro Torres*, Portugal; *Dr Emmanouil Symeonidis*, Greece; *Dr Weihua Yang*, China; and *Dr Sawako Yokoyama*, Japan.

Professor Niklaus P. Lang, the founding editor of *Clinical Oral Implants Research*, was awarded a medal and named Honorary Member of the EAO.

Manifold speakers, multifaceted issues

The debate on principles of tooth preservation versus extraction and implantation in case of periodontally compromised teeth was the core issue of the congress. Stability, vitality and hard-tissue protection would favour tooth preservation, while aggressive forms of periodontal disease would speak against it. Studies do not prove any benefits of implantation versus preserving periodontally compromised teeth after periodontal treatment. Much space in the discussions was taken up by the digital revolution that intervenes in every step of the prosthetic and implant rehabilitation.

The sound analysis of errors in implant treatments offered by *Dr Bertil Friberg* of the Brånemark Centre in Göteborg was one of the highlights of the congress. *Professor Torsten Jemt* contributed nearly 40,000 population-related data points. He questioned the role of peri-implantitis in subsequent bone resorption as he had already done in 2013, and he asked – as *Professor Tomas Albrektsson* did in his session on the state of the art in bone biology – whether peri-implantitis might not rather be the manifestation of a foreign-body reaction of dispersed titanium ions or of a disturbed local immunological balance. According to him, the shortage of available data on extremely late implant loss allows only prudent conclusions. *Dr Daniel Wismeijer* discussed treatment options for manual and guided implant placement, *Dr Zvi Artzi* compared autolo-

gous versus allogeneic bone blocks and *Professor Giovanni Zucchelli* spoke on the choice between connective and epithelial tissue for covering implants. All lectures conveyed individual experiences of great impressiveness. Procedures that are no longer used due to high failure rates were the final issue of the day. *Professor Mariano Sanz* discussed the (rarely indicated) immediate implant placement in the premolar region; *Dr Karl-Ludwig Ackermann* explained his change of view on complete implant-supported prostheses underlining that he avoided onlay bone grafting. *Dr Margarete Hultin* critically discussed the Teeth-in-one-hour concept propagated in 2005, which does not allow a predictable final complete denture with a balanced occlusion due to the increasing possibility of errors in the course of the treatment. *Dr Konrad Meyenberg* clearly rejected the use of cement for denture fixation. Two teams, *Zuhr/Hürzeler*, Germany, and *Mankoo/Frost*, Great Britain, discussed the challenges associated with highly demanding aesthetic restorations. Solutions for selected cases from the point of view of the speaker's respective specialty were finally offered by *Dr Mario Rocuzzo*, *Professor Hannes Wachtel*, *Professor Fouad Khoury*, *Dr David de Franco* and *Professor Petra Gierthmühlen*. Among the industry symposia, the one headed by *Professor Frank Schwarz* deserves special mention for its systematic description of his studies on peri-implantitis.

Professor Alberto Sicilia Felechosa from Spain was elected President of the EAO by the General Assembly. Some meritorious implantologists resigned at their own request, among them *Dr Franck Renouard*, one of the event's hosts. Moderations, it was agreed, should be passed on to the next generation. The EAO Medal of Honour was awarded to *Professor Daniel van Steenberghe*, a scientist of outstanding merit and an excellent rhetorician.

AWU/Dr Lutz Tischendorf, Halle, Germany ■



The EAO Junior Committee elects new members

A dedicated younger generation

The European Association for Osseointegration Junior Committee has elected two new members. Sven Mülhemann from Switzerland, and Tommie Van De Velde from Belgium are filling vacancies left by Nele Van Assche and Daniel Thoma.

The Junior Committee is a group of young scientists working in the field of implant dentistry. They represent the junior section of the EAO and support the Board of Directors with a range of projects. These include developing new ideas for the growth of the association. The committee consists of eight members from eight different European countries. Each member is elected for a two-year period. At the EAO's 25th scientific meeting in Paris, the Junior Committee presented a unique session called "Seven minutes to convince". It featured a series of short presentations showcasing new research submitted by members of the public. Only seven of the 39 candidates who applied were selected to present during the session. The audience had the chance to vote for the one they thought was the best.

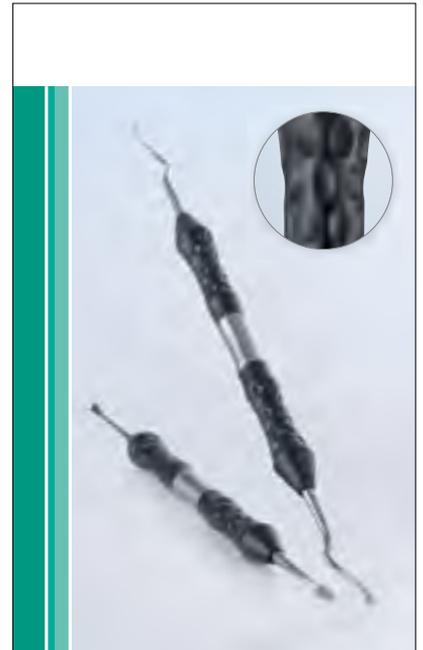
The winning presentation was "Point of view perspective of a dental implant patient" by *Dr Mustafa Ozcan*, Turkey. His discussion featured an innovative recording of an implant procedure from the patient's perspective using a head-mounted camera. His research highlighted patient anxiety as a factor in post-operative satisfaction rates and gave dentists a point of view which may be unfamiliar to them. *Dr Ozcan* was presented with an award for his success in the competition. ■

More information

www.eao.org/junior-committee-0



From left: Sven Mülhemann, Switzerland; Katarzyna Gurzawska, Poland; Ferruccio Torsello, Italy; Iva Milinkovic, Serbia; Tommie Van De Velde, Belgium; Helena Francisco, Portugal; Stefan Fickl, Germany; and current chair Jose Manuel Navarro, Spain.



Aesculap® Ergoperio

The New Class of Excellence

Ergoperio combines modern design with unique ergonomics and top functionality

- Flawless performance
- Easy-to-grip surface
- Pleasant ergonomics
- Pioneering aesthetics



The Winner of the
iF DESIGN AWARD 2015
Category Medicine/Healthcare

Aesculap – a B. Braun company

B | BRAUN
SHARING EXPERTISE

Aesculap AG
Am Aesculap-Platz
78532 Tuttlingen
www.aesculap-dental.de

Heads of CED and CPME exchange views and express concerns

Doctors and dentists in Europe face common challenges

In September 2016, Dr Marco Landi, President of the Council of European Dentists (CED), met with his counterpart Dr Jacques de Haller, President of the Standing Committee of European Doctors (CPME, Comité Permanent des Médecins Européens) to discuss recent trends in dental and medical professions. As a result, both organisations agreed upon to further collaborate on the issues at stake striving for high quality of health and access to healthcare.

Dr Landi and Dr de Haller consider professional autonomy as a cornerstone to safeguard quality of care and patient safety. The central element of professional autonomy and clinical independence is the assurance that individual dentists and phy-

sicians have the freedom to exercise their professional judgment in the care and treatment of their patients without undue influence by outside parties or individuals. "We are serious about preventing any tendencies putting professional autonomy and thus patient safety at risk", Dr de Haller underlined.



Dr Jacques de Haller, President of the CPME (left), and Dr Marco Landi, President of the CED, exchanged experiences on recent trends in dental and medical professions.

The representatives of the CED and the CPME made clear that both professions have major concerns about the trends in the European Union of introducing standards in clinical, medical and dental care developed by non-medical/dental standardization bodies, which neither have the necessary professional ethical and technical competencies nor a public mandate. CPME and CED will continue to engage with the wider health community discussing ways forward.

Additionally, both professions share concerns about economically driven Brussels agendas challenging professional regulation. Professional associations are increasingly asked to justify their regulations and to remove any regulatory element considered unjustified, while at the same time they should be defending the public interest, protecting public health and patients' best interests. Healthcare services differ from other services and this must be duly recognized in Brussels. "We are convinced that our rules are fit for purpose", Dr Landi said, "and we don't accept deregulation serving market interests to the detriment of patient safety."

The Council of European Dentists

The Council of European Dentists (CED) is a European not-for-profit association which represents over 340,000 practicing dentists through 32 national dental associations and chambers from 30 European countries. Its key objectives are to promote high standards of oral healthcare and effective patient-safety centred professional practice across Europe, including through regular contacts with other European organizations and EU institutions.



Interested in the work of both organizations?

www.cedentists.eu
www.cpme.eu

Your confidence is our inspiration

Welcome to the World Summit Tour 2017

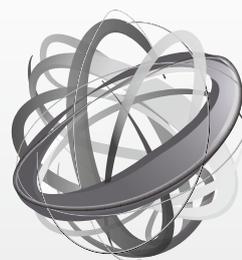
Join us for the World Summit Tour in 2017 and experience a state-of-the-art scientific program, workshops and product demonstrations, all designed to inspire and broaden your knowledge.

Through the presentation of clinical evidence and strategies for treatment success, as well as peer-to-peer discussions, you will gain renewed confidence knowing you are providing your patients with the best treatment solutions available.

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

Don't miss your chance to experience the dynamic and powerful synergy of people, science and clinical practice.

Because inspiration and confidence matters.



**WORLD
SUMMIT
TOUR 2017**

TOKYO *San Diego*
NICE *SHANGHAI*

International Scientific Committee



Tomas Albrektsson
Sweden



Christoph Hämmerle
Switzerland



Ye Lin
China



Jan Lindhe
Sweden



Clark Stanford
USA



Meike Stiesch
Germany



Tetsu Takahashi
Japan



#WorldSummitTour
www.worldsummittour.com

 **Dentsply
Sirona**
Implants



German Dental Congress 2016 (Deutscher Zahnärztetag)

Feeling the heat in Berlin

Deutscher Zahnärztetag, the German Dental Congress, not only appeals to the over 70,000 dentists in Germany. Dentists in neighbouring Europe also take a keen interest in the direction German dentistry and German dentists are taking – in the scientific field and in professional policy. The most important aspect of the latter is currently the response on the part of dentists in private practice to the many new regulations and laws they are facing in Germany and Europe.

The German Health Minister is a regular guest at the German Dental Congress. But the relationship between acting Minister *Hermann Gröhe* and the German dentists is marred by a smouldering dispute over a new law that would allow his ministry to exert even more control over the self-govern-

ment bodies within statutory health insurance. This dispute takes place in a context of flaring discontent and strife among contract dentists – more specifically within the German Association of Statutory Health Insurance Physicians (KBV), which has been rocked by scandals and infighting since 2015. The dentists feel collective responsibility being thrust upon them, and they fight back. In his political report, the re-elected President of the German Dental Association, *Dr Peter Engel*, appealed to make the German healthcare system future-proof for the coming decades so it can continue to offer every patient access to quality care, organized according to the principles of the liberal professions. The self-government bodies within healthcare, he said, provided reliable structures to ensure just that. It was now up to the politicians to provide support for them rather than hostile interference and undifferentiated demands. Also, the attempt by the European Commission to weaken the legal requirements for entering and practicing dentistry merely to promote economic growth was not acceptable, *Engel* said. In the interest of patient safety, the high level of quality now offered by dental and medical practitioners must be ensured.

Health Minister *Gröhe* defended the bill, currently in the ministerial draft stage, as a means to strengthen self-government within healthcare and statutory health insurance. He called the dentists' fears that the existing regime of legal supervision could be replaced by a regime of technical and professional



Straumann® Roxolid®

More than solid – Roxolid®.
Reducing invasiveness.



The “old” and new heads of German Dentistry: Dr Peter Engel, President of the German Dental Association (center), and his Vice Presidents Professor Dietmar Oesterreich (left) and Professor Christoph Benz.



supervision completely unfounded, stressing that the proposed law merely formalized what was already implemented by today’s self-government bodies.

But not all developments reported were negative for dentists. There is now a reformed version, the first in 60 years, of the new licencing regulations for dentists (which determine who is admitted to the dental profession in Germany on completion of his or her studies) issued by the Ministry of Health based on applicable federal law, as the Health Minister was not shy to point out in his welcoming address before the German Dental Association meeting of representatives. The Minister asked for the dentists’ support in implementing the regulations on state level. The licensing regulations provide a federal framework for dental education (including its minimum duration, structures and mandatory contents of the studies themselves and other necessary training periods), as well as requirements for state-approved testing and other requirements for the granting or withdrawal of licences.

Praise from the German Health Minister

Minister *Gröhe* thanked the dentists in Berlin for their continuing commitment to dental prevention, which he said was generally perceived in nothing but positive terms. According to the most recent independent German Oral Health Study, published every ten years by the Institute of German Dentists (IDZ), oral disease in Germany is retreating rapidly. The number of preserved teeth has consistently increased over the past few surveys and across all age cohorts. The number of remaining teeth in adults (35 to 44 years) has increased over the last three studies, from 24.1 to 25.6 and now to 25.9 teeth. The number of teeth without restorations has risen from 11.9 to 16.8. Seniors show an even more significant improvement, from 4.3 to 10.3 healthy teeth. In short, people of all ages have more teeth,

and more of those teeth are healthy. The prevalence of severe periodontitis in the adult German population has fallen from 17.4 to 8.2 per cent.

Digitization

Professor Christoph Benz, Vice President of the German Dental Association (BZÄK), addressed the topic of digitization in healthcare – talking not about digital workflows but about the internet, apps and “big data”. He said that health-related applications do not automatically make treatment reliable. Correlation should not be confused with causality. Moreover, the protection of privacy and sensitive personal data must be absolutely guaranteed. *Benz* further reported on evidence parameters increasingly considered to be suitable tools for supply management and healthcare decision-making. He renounced restrictive bureaucratic regulations as less-than-viable solutions to problems in health care delivery.

The German Dental Congress adopted several resolutions on digitization, education and training and on strengthening the professional image of the dental nurse. The Congress rejected the delegation of dental responsibilities as well as the concept of what they called a “dentist light”.

3rd Future Conference: work and family

The 3rd Future Conference, as part of the Scientific Congress of the German Dental Congress, specifically targeted young dentists – whether assistants or employees. It took place the previous week under the motto “Start-up – start your practice and start your family”, addressing topics such as “Low-budget practice start-ups?”, “Contracts with hearts and smarts”, “Pregnancy and the dental surgery – the new Maternity Protection Act” and providing information about salaries and on how to finance a newly opened practice.



Genesis

Become a biomimetic addict

Genesis, the Biomimetic Implant System™

Genesis, a unique biomimetic implant system™ which emulates nature by design. The AnaTite™ pink collar and abutments mimic the natural hue of gingival tissue, for short & long-term aesthetics. Its dual thread design, combined with the unique Biospark™ hydrophilic surface, mimic the chemistry of bone for immediate function, while minimizing bacterial colonization. Genesis is so predictable that its lifetime warranty begins on day one.

- **Aesthetic**
- **Immediate function**
- **Fast osseointegration**
- **Lifetime warranty**



Save the date: 12th BDIZ EDI Expert Symposium, Cologne

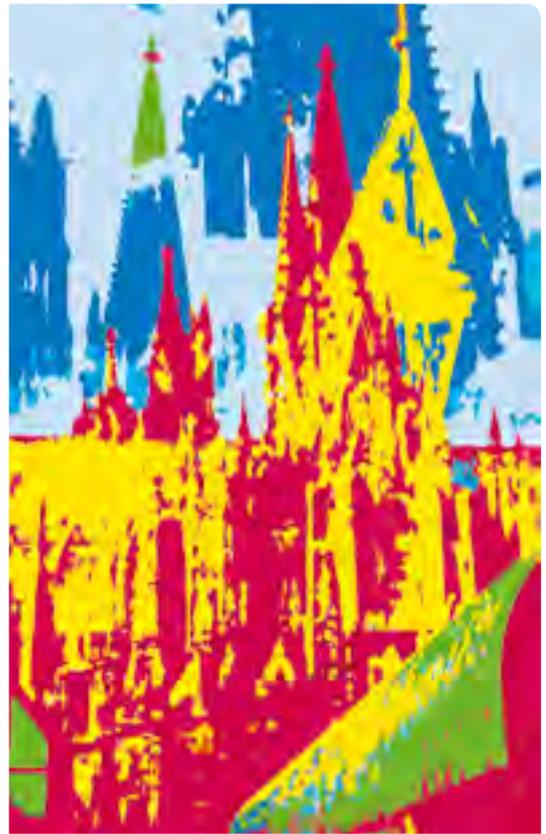
State of the art in digital oral implantology

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

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

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

In 2009, the EuCC consensus paper (Guideline) focused on 3D imaging. "Three-dimensional imaging offers benefits when it comes to the placement of implants relative to the patient's anatomy and



relative to other implants" was the indication of CBCT for the postoperative evaluation of implants, as defined by the guidelines at the time. But the six-year-old consensus paper also pointed out limitations, namely that three-dimensional imaging is less suitable for evaluating the implant healing process because a large percentage of the x-ray radiation is absorbed by titanium or ceramic implants, giving rise to imaging artifacts. Three-dimensional imaging, on the other hand, is essential for an exclusion diagnosis of nerve lesions. It may also be required for an exclusion diagnosis of trauma to other important anatomic structures.

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

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

AWU ■



Details and registration

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

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

For programme and registration form, please go to www.bdizedi.org > English > News or use the above QR code.

Smart Dentin Grinder

You can transform extracted teeth into **the best bone** graft in < 20 minutes

- Makes other bone substitutes unnecessary
- Satisfied patients
- The (R)Evolution for dental surgeons



3 steps to the autologous graft:



Extracting the teeth



Grinding the cleaned teeth



The ready bone substitute



Placing the produced graft



Placed bone graft



3 weeks after surgery



You want to watch the live Smart Grinder procedure in combination with live surgeries? The 'MIMI®-Flapless' (Minimally-Invasive Implantation) courses in the Champions Future Center will include the method of transforming the patient's extracted teeth into autologous graft and the big advantages of this procedure.

Our next courses

13 + 14 January Fri. & Sat.

3 + 4 February Fri. & Sat.

24 + 25 February Fri. & Sat.

17 + 18 March Fri. & Sat. with Champions-Party

FDI Annual World Dental Congress 2016

The dental world in Poznań

In 2016, the FDI World Dental Federation finally held its Annual Meeting in Europe again – in Poznań, Poland, to be exact. Delegates representing about 200 dentist and professional associations from 135 countries brought a White Paper on caries treatment on its way and discussed, among other things, the Minamata Convention, which is aimed at eliminating the use of mercury, and hence dental amalgam, globally in the long term. This is a difficult undertaking that, while already well under way in many EU countries, is taxing the limits of what is possible in developing countries. In addition to the delegates' agenda at the Annual Meeting, a multi-day congress, the FDI Annual World Dental Congress, had attracted dentists from all over the world to Poznań. In this report, our editorial team offers an overview of the implantological aspects of that congress.

Around 18,000 participants attended the event on the four days in Poland. With this article we can only cast a brief glance at the four-day programme.

Day 1

Professor Marzena Dominiak from the University of Wrocław, Poland, reported on new methods of soft-tissue augmentation around teeth and implants. She said that in the short term, it is very important to assure the proper emergence profile of implants, while in the long term, the correct height of keratinized tissue is key to assuring a stable position of the gingival margin around implants and teeth. She introduced this year's preliminary clinical comparison of the use of fascia lata allografts and autologous connective-tissue grafts in multiple gingival-recession coverage based on the tunnelling technique. The aim of that study, she said, was the comparative assessment of different methods for augmenting the keratinized gingiva before and after orthodontic or implant treatment. The study comprised 30 patients who underwent multiple gingival-recession procedures using a modified, coronally advanced tunnel (MCAT). Patients were divided into two groups of 15 according to the type of materials used for gingival augmentation: fascia lata allografts for the test group and connective-tissue grafts for the control group. A clinical assessment was made at baseline and at three and six months following surgery. No statistically significant clinical differences were observed between the groups after six months, with the exception of complete root coverage, which was 94.87 ± 0.14 mm in



Meeting in Poznań (from left to right): BDIZ EDI President Christian Berger, the German delegate to the FDI World Dental Parliament; Dr Leszek Dudziński and Dr Maciej Hamankiewicz, Vice-President and President of the Polish Chamber of Physicians and Dentists NIL; and Dr Andrzej Wojtowicz, President of OSIS EDI.

the control group and 94.24 ± 0.20 mm in the study group ($p = 0.034$). The average height of keratinized tissue after six months was 2.86 ± 1.60 mm in the control group and 3.09 ± 0.95 mm in the test group, an increase over baseline of 0.73 mm ($p < 0.001$) and 0.48 mm ($p = 0.017$), respectively. Fascia lata allografts, *Dominiak* concluded, may serve as an alternative to autologous connective-tissue grafts in multiple gingival-recession coverage based on the tunnelling technique.

Dr Wojciech Bednarz, Poland, focused on contemporary procedures for the prevention and treatment of gingival recession. He described the indications and contraindications for those procedures he had

used in his own practice. Maximum clinical efficacy and the best aesthetic effect can be achieved by harvesting autologous subepithelial connective tissue from the palatal mucosa. Where gingival thickness at potential soft-tissue donor sites is inadequate, he stated, augmentation with lyophilized collagen sponge can be carried out before harvesting.

The first day's "Hot Topic Session" addressed a global strategy and teamwork approach for periodontal and general health, featuring *Dr Li-Jian Jin*, Hong Kong, *Professor Søren Jepsen*, Germany, and *Dr Filippo Graziani*, Italy. The session was chaired by *Dr Marzena Dominiak* and covered global periodontal health problems and their socio-economic impacts as well as links between periodontal health and general health based on common responses to major systemic diseases (for example, diabetes and cardiovascular disease). New strategies and actions were discussed to tackle global periodontal health problems by prevention, public engagement and teamwork.

Day 2

On the second day, the classic question was examined on the implantological side: tooth or implant? However, the lectures did not uncover any new aspects. The oral/general health debate was summarized in some lectures. The management of patients with diabetes and periodontitis was discussed based on guidelines developed by *Professor Søren Jepsen*, President of the European Federation of Periodontology (EFP). *Jepsen* himself outlined the process of developing medical and dental guidelines and announced the impending development of a joint clinical guideline for the management of patients with periodontitis and/or diabetes. The overall goal, he said, was to facilitate the cooperation between physicians and dentists to improve care for patients suffering from these conditions. A clinical guideline, according to *Jepsen*, is a document aimed at guiding decisions and criteria regarding the diagnosis, management and treatment in specific areas of healthcare based on the comprehensive examination of current evidence and usually includes summarized consensus statements on best practice in healthcare and recommendations for patients.

Dr Mariusz Duda, President of the Polish Society of Oral Implantology, presented treatment errors in both simple and complex cases and compared different methods for the rehabilitation of partially and fully edentulous patients based on clinical cases. His "counterpart" in Poland, *Professor Andrzej Wojtowicz*, President of the OSIS EDI and head of the Department of Oral Surgery at the University

of Warsaw, lectured on effectiveness and success in implant therapy, on standards and on aspects of general health. He focused especially on the treatment of peri-implantitis. It is well known, he said, that part of the implant surface comes into contact with the periosteum/mucosa and wound of compact bone, and the deeper surface of the implant comes into contact with bone marrow, especially with stem cells and macrophage colony-forming units. *Wojtowicz* also presented his five-year follow-up study of implant therapy in patients chronically treated with small doses of immunomodulators. These patients were suffering from psoriasis or multiple myeloma. The blood markers IL1, IL8, CD43, osteopontin, 1,25-dihydroxy-cholecalciferol, CRP and other factors were evaluated in immunomodulated patients after implant treatment. Chronic treatment with immunomodulators can positively influence prognosis in implant treatment in patients suffering from psoriasis and myeloma multiplex.

Day 3

The third day was mainly dedicated to osseointegration on the surgical side. The Academy of Osseointegration Symposium took a look at subgingival and supragingival prosthetic materials in implant-supported restorations. *Dr Tomas Linkevicius*, Lithuania, introduced a special technique to combine zirconia and e.max. *Dr Asbjørn Jokstad*, Norway, reviewed the parameters for achieving the best possible appearance of peri-implant soft tissues, including the "minimal critical dimensions" of hard and soft tissue around implants. *Dr Hadi Antoun*, France, made a distinction between the three main treatment alternatives in patients with posterior atrophic mandibles: placing short (< 8 mm) implants supporting removable prostheses; transposing the mandibular canal; or bone augmentation.

During the FDI Dental World Congress 2016, the Congress Centre of the Poznań International Fair hosted visitors from all over the world.





Highly attentive and focused: attendees from Indonesia.

The lunchtime symposia on this third day concentrated on pharmacological treatment and antiseptics in implantology with *Dr Silvestros Spiridon*, Greece, *Dr Gil Alcoforado*, Portugal, and *Professor Marzena Dominiak*, Poland. Since the administration of pharmaceutical agents, whether local or

White Paper on managing tooth decay

FDI World Dental Federation has released a white paper “Dental Caries Prevention and Management”. The paper – launched at the annual World Dental Congress in Poznan, Poland in September 2016 – outlines strategies to prevent and manage dental caries (tooth decay) through concerted action by oral health professionals, policymakers and the general public.

FDI President *Dr Patrick Hescot* said, “Untreated dental caries affects almost half of the world’s population (44 per cent), yet in many countries there are still no action plans implemented to address this growing disease burden. FDI is committed to protecting the population from the pain, suffering and even tooth loss caused by dental caries through effective prevention strategies.”

The white paper outlines how dental practitioners can shift from a restorative approach to the management of dental caries to one focused on delivering preventive dental medicine. It also highlights that this cannot be done in isolation and calls for policymakers to implement population-wide prevention strategies (for example, availability of fluoride, taxation on sugary foods and drinks) as well as for third-party payers to change outdated remuneration models.

Conclusions from the paper suggest that the oral health community and policymakers alike must now urgently commit to:

- Supporting caries prevention efforts at both the individual and population level;
- Initiating a shift in the management of caries;
- Promoting a redefinition of cariology curricula;
- Working towards a stronger integration of oral health within general health policy;
- Participating in rethinking remuneration for caries prevention and management;
- Encouraging data-driven, evidence-based caries prevention and management.

Co-author *Professor Domenick Zero* stressed, “Many groups and organizations within dentistry have been asking for a move towards more effective caries prevention and preservation of sound tooth structure for over 20 years now. It is time to stop talking and start doing. The white paper strives to be a useful tool in this endeavour.”

systemic, in peri-implant surgery is an established practice, it is not associated with specific guidelines. The most commonly used drugs are antibiotics, analgesics, non-steroidal anti-inflammatory drugs (NSAIDs), corticosteroids and oral antiseptics. Spiridon said that antibiotics seem to be beneficial for tissue healing, reducing implant loss especially in complicated cases. Analgesics, and especially NSAIDs, had proven very effective in pain management, even though their long-term use may interfere with alveolar bone healing. Corticosteroids should be administered with caution and only if extensive oedemas are expected. Oral antiseptics could reduce microbial complications. *Alcoforado* discussed the use of different antiseptics and local and systemic antibiotics. The Past-President of the European Federation of Periodontology stated that peri-implant mucositis could be treated non-surgically; however, he considered surgery the method of choice for treating peri-implantitis.

Day 4

Oral health in an ageing population and international standards for dental implants were the main topics on the fourth day, with the latter addressed by *Professor Jean-Paul Davidas*, France, *Professor Gottfried Schmalz*, Germany, and *Dr Claudio Fernandes Pinheiro*, Brazil. This joint session with FDI provided an opportunity to promote the collaborative work between both organizations on a specific topic of growing interest to industry, academic and practice stakeholders and was aimed at fostering awareness among dental professionals about the importance of international standards for improving the quality and safety of dental implants. The current status of technological knowledge and medical science offers proper conditions for developing international standards in the face of growing global demand to reducing the impact of edentulism in human life. FDI President *Dr Patrick Hescot* himself served as the moderator of the session. The session took a look at the role of ISO standards for implants in clinical practice and at the biocompatibility of dental implants (*Davidas*), pre-preclinical biological evaluation and testing (*Schmalz*) and an increased global demand for oral implantology treatment (*Pinheiro*).

The dental world met in Poznań and tried to discuss the challenges to global dentistry. Although it focused on global oral health, oral implantology played an increasing part. The next FDI meeting will be from 29 August to 1 September 2017 in Madrid, according to the motto of “Bringing the world together to improve oral health”.



Respects your needs.
Today and tomorrow.



NEW

**Implantmed with W&H Osstell ISQ module
for reliable treatment results.**

Implant stability can be measured precisely with the W&H Osstell ISQ module, available as an accessory. In combination with the torque control it greatly increases the reliability of the treatment process. Upgrade at any time – for today and tomorrow!



implantmed

Oral implantology at the International Dental Show 2017

Will there soon be resin implants?

Oral implantology as a cross-sectional science is characterized by a multitude of impulses from different disciplines – and it is a growth area within dentistry. For example, more than 10,000 dentists in Germany regularly perform implant treatment. For them, and for all those who are planning to enter this field, the International Dental Show (IDS) in Cologne is a comprehensive source of information on trends, new products and innovative forms of treatment.



Materials and sizes

The realm of implant materials is definitely in a flux. More and more new materials are being introduced beyond the established “classic”, titanium, with zirconia implants another important option. While the latter are usually one-piece designs, various two-piece alternatives should be available in time for IDS 2017 – optionally with an adhesive bond or a screw connection. They are meant to allow submerged healing, usually impossible with one-piece implants. Looking at the aesthetic side, a multitude of prefabricated ceramic abutments for titanium implants are optionally available. Alternatively, custom can be provided using CAD/CAM technology.

Furthermore, resin implants are becoming more viable. Implants made of PEEK (polyether ether ketone), for example, are suitable for the minimally invasive flapless technique (insertion without mucoperiosteal flaps). Related materials such as PEKK (polyether ketone ketone) could soon gain in

significance. Hybrid materials attempting to combine the best of the resin and ceramic worlds are an exciting prospect.

In addition to full-size titanium implants, mini-implants (for narrow and atrophied jaws, for denture wearers or for narrow anterior edentulous spaces) and short implants (as an alternative to a sinus lift) offer interesting possibilities. Conversely, the particularly long zygomatic implants (3–5 cm), which are anchored within the cheekbone, are interesting options for long-time denture wearers or tumour patients, or if bone augmentation is rejected (due to time limitations or other reasons).

Prophylaxis of peri-implantitis

Implant maintenance is also important and will remain crucial for success rates for many years to come. The individual choice of material is as important as the emergence profile, which can be optimised by careful backward planning and custom abutments.

BDIZ EDI at the IDS 2017

Meet BDIZ EDI at the IDS in Cologne: Like in recent years, you will find us in hall 11.2, aisle O, stand 59 – close to the German Dental Association. BDIZ EDI again tracks down what is missing from the practice of oral implantology in terms of postgraduate continuing education and European networking among dentists. Meet the activists behind the scenes – BDIZ EDI board members on site will be happy to answer all the questions you may have regarding the association and its concepts, programmes and curricula.

BDIZ EDI at the IDS 2017

Hall 11.2, aisle O, stand 59



Accessibility for oral hygiene is essential in implant planning. The dental industry offers products and services for every need, such as abutments with attachments on a titanium basis or concepts for screw-retained bars.

A safe prognosis is aided by a highly differentiated microbiological diagnosis. This includes the standard probing depth and bleeding-on-probing test, but also mirrors and magnifying glasses for determining the plaque index. If peri-implant infection is suspected, a complete set of additional analytical tools can be put to use: x-ray systems, genetic tests for IL-1 polymorphism, microbiological markers, and activated metal matrix proteinase-8 (aMMP-8), to name only a few parameters. IDS visitors will learn how to make an informed decision on what can be examined at chairside and where collaboration with a specialist laboratory is necessary, and what sampling and probing methods can be carried out in the dental practice.

Digital implantology

The self-healing potential of the body can be maximally exploited by optimizing the planning process for implant positions and the surgical procedure. This is where digital methods can provide excellent help – indeed, oral implantology has become the showpiece for digital approaches in medicine.

Available options range from the superimposition of image data (for example x-rays, perhaps CBCTs, CTs, intraoral scans, scanned model data) for purposes starting from backward planning to the production of drilling templates. These can increasingly be produced in the laboratory or in the dental office, which saves times, adds value and strengthens the bottom line.

GTR and GBR

Other emerging fields within oral implantology are guided tissue regeneration and guided bone regeneration (GTR, GBR). The dental industry offers a whole range of products for this purpose, starting with a vast choice of bone substitute materials.

Customized CAD/CAM-produced bone blocks based on 3D x-ray data can be precisely inserted and improve success rates where bone augmentation or grafting are performed (which will be comprehensively demonstrated by industry experts in Cologne). The grafts used can be autologous bone grafts or allogeneic bone blocks; the latter can also be used for the reconstruction of deficient alveolar ridges in patients with periodontal disease.

Like every other year, the upcoming IDS will offer all those interested or active in dental implantology the perfect opportunity to learn about all innovations in this dynamic specialist field – and the only opportunity of its kind, given the unique size and assembled competence at the International Dental Show. Whatever their personal focus – all visitors to the IDS, which will take place from 21 to 25 March 2017, are apt to find the solutions that suit them best. Numerous experts will be on site to provide advice. Visitors planning to attend the IDS can look forward to invaluable impulses and knowledge to assist them in their professional activities. Ideally, teams of dentists and dental technologists will join forces and work together, as oral implantology requires constant close cooperation, a fact that is becoming ever more evident.

Held by the Association for the Promotion of the Dental Industry (Gesellschaft zur Förderung der Dental-Industrie, GFDI), the commercial arm of the Association of German Dental Manufacturers (Verband der Deutschen Dentalindustrie, VDDI), and organised by Koelnmesse, the IDS (International Dental Show) is held in Cologne every other year.

Based on a Koelnmesse report ■



This QR code leads you directly to the English version of the ids-cologne website.

More information and registration

www.ids-cologne.de



The complete implant workflow



Planmeca PlanScan®

Ultra-fast intraoral scanner



Planmeca ProMax® 3D

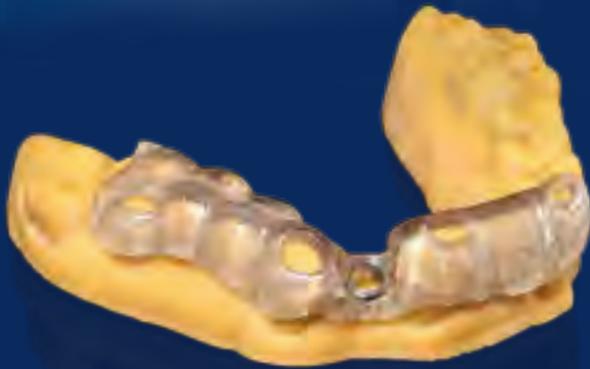
True all-in-one CBCT units

Planmeca Creo™

Precise 3D printer



– easiness with **one** software



The **Planmeca Romexis**[®] software offers a completely integrated and digital workflow for modern implantology. From efficient imaging to sophisticated designing and accurate manufacturing, the most sophisticated implant planning tools are always just a few clicks away.



PLANMECA



Possible consequences of Brexit on the health sector

Terra incognita

In EDI Journal 3/2016, we reported on the referendum on United Kingdom membership of the European Union from the British perspective and from an overall economic perspective. The present article by Dr Alfred Büttner, Head of the Department for European/International Affairs of the German Dental Association (BZÄK), addresses the possible consequences of Brexit on the health sector.

Brexit and European law

The withdrawal of the UK does not find the EU wholly unprepared. Article 50 of the Treaty on European Union provides that a member state may decide to withdraw from the Union in accordance with its own constitutional requirements. This provision had been introduced in 2007 under the Treaty of Lisbon. The withdrawal request will be followed by a negotiation process with the objective of concluding an international agreement on the details of the withdrawal. If, for whatever reason, no withdrawal agreement has been signed two years after the notification, the withdrawal will become effective im-

mediately even without an agreement, according to Article 50 paragraph 3 of the EU Treaty.

During the two-year transitional period, the UK will remain a full EU member and continue to be bound by all EU regulations. Furthermore, the UK will continue to be involved in all current decisions, with the exception of discussions on the exit negotiations in the EU Council of Ministers.

The British government has announced plans to issue the official notification only next year. This would have the advantage that the expiry of the two-year period would coincide with the elections for the European Parliament in 2019, which would avoid uncertainty regarding the legal standing of its 73 British members.

Dr Alfred Büttner



Dr Alfred Büttner is the Head of the Department for European/International Affairs of the German Dental Association (BZÄK). Büttner, now 45, hails from Marktredwitz in Upper Franconia. He studied law in Bayreuth, where he received his Doctor of Law degree. Büttner had been research assistant to the MEP for Upper Bavaria, Dr Angelika Niebler, from 2002 to 2009. He has been heading the Brussels office of the German Dental Association since October 2009.

Result of the exit negotiations uncertain

Brexit will have far-reaching consequences for the UK and the rest of the EU. The results of the exit negotiations are the determining factors in this context. However, negotiations are bound to be difficult because of highly divergent interests on both sides of the negotiation table.

While the UK has every interest to make Brexit a success, sentiments in the rest of the EU are quite different. A successful Brexit could trigger a devastating domino effect. However, if the consequences turn out to be detrimental to the UK in the long run, Brexit could have a deterrent effect, discouraging the increasingly more vocal EU-critics in, say, the Netherlands, France and Central and Eastern Europe.

Question of access to the single market to become the focal issue

For the UK, the important question is whether and to what extent the country will have access to the internal market even after leaving the European Union. >>



*Simple surgical procedure
For narrow ridge*

Simple surgical procedure
for narrow ridge

NR Line

Narrow but strong
Well synchronized design
Extended thread design



Pre-op



Implant guide



Implantation (NR Line 3009)



OSTEON™ II Collagen
+ HA Collagene Membrane



Customized abutment



Final prosthesis



Get access to clinical case videos
at all times

Dentium
For Dentists By Dentists

www.dentium.com
biz_mail@dentium.com



Photo: The European Union

The possible impacts of Brexit were the topic of the informal meeting of EU's Heads of State or Government in Brussels on 29 Juni 2016.

However, access to the single market presupposes acceptance of the European fundamental freedoms – free movement of goods, free movement of persons, freedom to provide services and free movement of capital and payments. In addition, there are the numerous requirements within EU law concerning the single market.

This point, however, is highly controversial. The British side seems to have taken the position that the UK can choose “à la carte” to renounce only specific fundamental freedoms and unwelcome EU internal market rules. For example, before the referendum, Brexit proponents had vehemently argued that it would halt the influx of workers from EU countries, especially from the new EU countries of Eastern and Central Europe. However, it is hardly conceivable that the remaining EU member states would grant the UK full access to their internal market with all its benefits, without, in return, the fundamental freedoms applying on the island in full.

In this context, it might be mentioned that the countries of the European Free Trade Association (EFTA), namely Norway, Switzerland, Liechtenstein and Iceland, have full access to the internal market even without EU membership. However, these countries are forced to adopt existing and future EU rules and laws that concern the internal market without having a voice in shaping them.

Influence of European guidelines on the health sector

Much of what is being said about the potential consequences of Brexit for the health sector is there-

fore still in the realm of speculation. Nevertheless, these consequences are apt to be grave. Today, European guidelines have a significant influence on the health sector. In the area of drug and medical devices legislation, the EU has been given extensive powers, which it has chosen to exercise, accompanied by guidelines on patient mobility.

Above all, rules of the internal market have a significant everyday impact on the dental profession. These rules ensure, for example, that dentists and other healthcare professionals from an EU member state can move freely within the EU to take up studies or work. For dentists, the Professional Qualifications Directive adopted in 2005 provides a system of automatic recognition of dental diplomas acquired in the EU.

Different scenarios conceivable

There are several different conceivable scenarios for the outcome of any exit negotiations. Should Britain accept the whole gamut of EU internal market legislation and rules, including the free movement of workers, in return for access to the internal market, then comparatively little will change for dentists and other healthcare professionals.

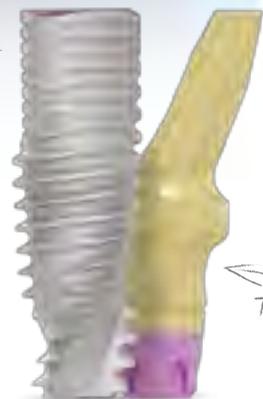
But if the differences between the UK and the EU turn out to be so substantial that the exit negotiations end in disagreement, the UK is expected to start replacing existing EU regulations previously implemented into British law by its own rules. This might result in the freedom of movement for workers and the freedom of establishment being abolished and the mobility of labour in both directions

in a place that has no borders,
creativity goes unbound...



VCONCEPT[®] By
mis[®]
SET THE VOLUME

Bone →



← Tissue

Albert Einstein once said, "Look deep into nature and then you will understand everything better". We are proud to introduce you to our VCONCEPT, based on natural design. Ingenuity that leaves more bone volume, more soft tissue volume, more room for nature. Because in a place that has no borders, creativity goes unbound... To learn more about VCONCEPT visit: www.vconcept.com

restricted. Dentists from the EU could, for example, lose their right to automatic recognition of their diplomas. Similar obstacles might arise in the context of exporting medical products to the UK or in the regulatory approval of medicinal products.

Impact on the British health system

It is questionable, however, whether such a development is in the UK's own best interest, especially when it comes to the health sector. A point against would be that the British National Health Service (NHS) depends heavily on skilled personnel from other EU countries. According to press reports of August 2016, an estimated 57,000 employees from other EU member states are currently working in the NHS. For them, recent developments have brought great uncertainty, and not a few of them are toying with the idea of leaving the UK. This would bring the British health system to the brink of collapse. It is therefore more likely that the UK, in the event the exit negotiations fail, would try to attract those healthcare professionals who are needed in the country by offering rapid unilateral professional recognition, effectively eliminating the effects of any Brexit-related restrictions for these professionals from the EU member states.

Patient mobility in question?

Brexit could also have consequences for the intra-European mobility of patients – mainly of British patients. The EU Patient Mobility Directive has been in effect since 2011. It stipulates that the cost for outpatient treatment abroad will be reimbursed by the health insurance system, up to the amount that would have been paid out for the corresponding treatment in the country of residence. Considering the long waits at the NHS and other circumstances, this has resulted in more British patients being treated abroad than vice versa. According to figures released by the British Department of Health, the UK had demanded reimbursement 50.3 million pounds from other EU countries for medical expenses incurred in the United Kingdom during the fiscal year 2013/14. At the same time, the UK paid out approximately 750 million pounds to other EU countries for the treatment of British patients abroad during the same period. It must therefore be assumed that this trend will be at least partially reverted as part of the exit negotiations.

Economic recession will hit British dentists harder

If we believe the forecasts of economists, Brexit – if nothing else because of the uncertainties it creates – will lead to an economic recession, the consequences of which are likely to affect British dentists

as well. Any impact on the general economy is likely to reduce patients' purchasing power, which in turn would most seriously affect British private dental practices.

General impact on EU policy

Regardless of the outcome of the exit negotiations, we can safely predict that the Brexit will result in broad policy changes within the European Union. The United Kingdom sports a liberal policy approach to many fundamental issues, a stance that is apt to be weakened on the European stage.

Whether Brexit will also affect the discussions, so important for the dental profession, on the liberalisation of service markets in the EU remains to be seen. Some doubts appear justified, since the demand for a reduction in the scope of employment regulation raised as part of the EU's internal market strategy of 2015 is part of a policy focus of the Directorate-General for the Internal Market, Industry, Entrepreneurship and SMEs led by Internal Market Commissioner *Elżbieta Bieńkowska*.

Leave the European associations for the dental profession?

For the British dental profession, Brexit could have an additional impact. So far, British dental associations have been very much involved in intraprofessional policy discussions at the European level. For example, the British Dental Association (BDA) is one of the most active member associations of the Council of European Dentists (CED), the most important dental umbrella organisation at the European level. However, the statutes of the CED provide that only organisations from EU member states can be members of the CED. Thus, the influence of the BDA within the CED will probably end when Britain leaves the EU, or even earlier, or at the least be significantly reduced to a possible observer status within the CED.

Conclusion

Given the fact that Britain has not yet served the official notification of withdrawal under Article 50 and that the exit negotiations have not even begun, any statements about the consequences of Brexit must remain speculative. Nevertheless, the dental profession like any other is bound to feel the effects of Brexit at various levels. Presumably, the consequences will be felt more strongly by dentists and patients in the UK than in the rest of the EU.

OSSTEM[®]

IMPLANT

Qualität schafft Vertrauen

The perfect solution for
the internal sinus lift

Crestal Approach Sinus-KIT

CAS-KIT

- Innovative atraumataical drill design
- Easy and safe elevation of the membrane
- Reliable stopper system
- Magnificent cutting ability



TS-System

SS-System

- high initial stability for immediate and early loading
- good feeling of fixture implantation
- powerful self threading
- easy to change the path

US-System



New S3 guideline – BDIZ EDI contributed

Dental implants in patients treated with bone antiresorptives

There is now a new S3 guideline that aims to help dentists decide whether implant treatment is indicated in patients receiving bone antiresorptive medication, such as bisphosphonates. This guideline was developed under the lead of the German Association of Oral Implantology (DGI) and the German Society of Oral and Maxillofacial Surgery (DGZMK) with the support of 16 professional associations and organizations, including BDIZ EDI represented by its presidents Christian Berger and Professor Joachim Zöller. The team of authors was headed by Professor Knut A. Grötz (Wiesbaden, Germany; guidelines coordinator) and Professor Christian Walter (Mainz, Germany; lead author).

With the new S3 guideline on dental implants in patients treated with bone antiresorptives, including bisphosphonates, another recommendation on an important implantological subject will be published at some point within the next few months. The guideline will assist dentists in their decision on whether to provide implantological treatment to patients receiving so-called bone antiresorptives. This umbrella designation covers a number of medical drugs that can counteract bone loss and are used, for example, in cancer patients to treat osteoporosis or bone metastases.

Main concern: bisphosphonates

The main representatives of this group of drugs are different bisphosphonates or the monoclonal antibody, denosumab. A rare but difficult-to-treat complication of this treatment is jaw necrosis, more precisely labelled osteonecrosis of the jaw (ONJ). This is the second of four guidelines whose develop-

ment was begun by experts – representing 16 professional societies and organizations – at the DGI guidance conference in September 2015.

Prevalence of ONJ

According to the joint press release of DGZMK and DGI, over 200 million doses of bisphosphonates are prescribed in Germany each day. The prevalence of bisphosphonate-related osteonecrosis of the jaw (BRONJ) varies depending on the underlying disease. In primary osteoporosis, the event rate of ONJ is 0.1 per cent – one out of 1,000 patients is affected. In secondary osteoporosis and prophylactic intake in cancer patients, 1 per cent or 10 out of 1,000 patients are affected. In malignant basic diseases, the prevalence varies between 1 and 20 per cent for the relevant risk patients. Under denosumab therapy, slightly higher event rates than in control groups under bisphosphonate therapy have often been reported in trials.

Triggers of ONJ

In most cases of antiresorptive-related osteonecrosis of the jaw, triggering factors can be identified in the oral cavity. These include periodontally compromised teeth, denture pressure sores or sequelae of oral surgery – mostly tooth extractions without specific precautions, where pathogens manage to invade the jawbone. The insertion of implants, too, could be one such trigger. Nevertheless, implants could on the other side help to avoid denture pressure sores, thereby reducing the ONJ risk balance.

Intensive teamwork for the benefit of patients and dentists in one of the working groups of the Guidelines Consensus Conference.



The evidence in the literature, however, reflects our still limited knowledge of the true risk of implant-associated ONJ or bisphosphonate-related implant failure. Still, the working group for this guideline was able to make seven evidence-based recommendations, complementing them with 14 recommendations by consensus on the basis of experience gained.

To-do list for risk stratification

In all patients on or after antiresorptive therapy in whom dental implants are indicated, the individual ONJ risk should first be evaluated, as an ONJ may be the result of an inflammatory implant-related complication. In addition to the underlying disease, the application, duration and frequency of antiresorptive therapy and other medications and treatments must be examined, and the same is true of additional general diseases and systemic factors that may play a role in wound healing. It must also be clarified for each individual case whether and to what extent the implant treatment might even be able to reduce the risk of ONJ by avoiding the development of denture pressure points.

The guideline provides guidance on how the risk of ONJ can be preoperatively assessed, for example by observing the individual bone regeneration rate following a tooth extraction. The experts recommend avoiding jawbone augmentation or at least require a stringent indication. Patient motivation and the ability of patients to maintain good oral hygiene should be included in the decision-making process. In addition, there has to be a risk-adapted follow-up. If an implant treatment appears feasible, the evidence-based recommendation is to initiate perioperative systemic antibiotic prophylaxis.

“Based on our recommendations, dentists can now evaluate individual criteria to make rational decisions, together with their patients, for or against an implant-supported rehabilitation”, said Professor Grötz. AWU ■

Photo: Knipping



Professor Knut A. Grötz chaired the working group on the use of dental implants in the growing number of patients treated with bone antiresorptives.

www.ids-cologne.de





Buy your tickets now:

www.ids-cologne.de/tickets/en

37th International Dental Show
Cologne, 21 - 25 March 2017

Trade Dealer Day: 21 March 2017

Koelnmesse GmbH
Messeplatz 1
50679 Köln | Germany
Tel. +49 180 677-3577
ids@visitor.koelnmesse.de





Portrait: BDIZ EDI – European Association of Dental Implantologists

The association behind EDI Journal

BDIZ, the German Association of Implant Dentists, was founded in 1989 to lend a strong voice to dentists in private practice active within the field of implant dentistry in their efforts to negotiate reasonable individual fees for private dental treatments. As early as 2002, the Association changed its name – and focus – to become BDIZ EDI, where EDI stands for “European Association of Dental Implantologists”.

This early pan-European orientation of BDIZ EDI was based on the realization that the increasing influence of “Brussels” on the healthcare sector does not stop at the door of the dental office. Many guidelines and policies, for example those governing professional recognition, medical devices etc., originate at EU level. Accordingly, regular meetings are held with partner and associated organizations of BDIZ EDI to devise and implement continuing professional development (CPD) events, to keep members updated on new laws and guidelines and to intervene where appropriate. In doing so, BDIZ EDI maintains close contacts to Brussels, in

particular with the Council of European Dentists (CED), but also with the dental associations of the member states.

5,500 members

The number of BDIZ EDI members is increasing continuously. At this point, the association serves 5,500 dentists in Germany and all over Europe. The primary goal of BDIZ EDI is to protect the freedom of therapeutic choice and to promote the field of oral implantology. Any dentist with the requisite qualification should be able to practice dental implantology in his or her own practice.

Each year, the European Consensus Conference (EuCC) under the auspices of BDIZ EDI issues a consensus paper on a current practical topic within oral implantology.



To download the guidelines, go to www.bdizedi.org/bdiz/web.nsf/id/pa_en_guidelines.html or use the above QR code.

**Peri-implant inflammation:
Prevention – Diagnosis – Therapy**

10th European Consensus Conference (EuCC) 2015 in Cologne
14 February 2015

European Association of Dental
Implantologists (BDIZ EDI)
An der Eiche 2 · 53111 Bonn
Tel. 02281935 92 44 · Fax 02281935 92 45
office.bonn@bdizedi.org
www.bdizedi.org

**Update on short, angulated and
diameter-reduced implants**

11th European Consensus Conference (EuCC) 2016 in Cologne
6 February 2016

European Association of Dental
Implantologists (BDIZ EDI)
An der Eiche 2 · 53111 Bonn
Tel. 02281935 92 44 · Fax 02281935 92 45
office.bonn@bdizedi.org
www.bdizedi.org



Borderless exchange of implantological ideas: BDIZ EDI regularly meets with its partner organizations from Great Britain, Poland, Portugal, Serbia and Spain and with associated organizations from Croatia, France, Italy, Macedonia and the Netherlands to join forces in holding CPD events.

The focus of the work of BDIZ EDI when it comes to German dentists is on private dental billing issues. The BDIZ EDI has compiled its interpretation of the GOZ – the German fee schedule for dentists treating private patients – that is recognized and accepted by public corporations, health insurers and related institutions.

Continuing professional development

With its Curriculum Implantology, developed and held in cooperation with the University of Cologne, and the iCampus programme, BDIZ EDI shows that it cares deeply about the next generation of implant dentists. As part of its commitment to CPD, the association organizes internationally recognized symposia at home and abroad. The annual highlight is the BDIZ EDI Expert Symposium in Cologne that addresses one specific topical issue in oral implantology every year. This is also where the European Consensus Conference (EuCC) is regularly held under the auspices of BDIZ EDI, issuing a new guideline annually. For example, the topic of 2016 was “Short, angulated and reduced-diameter implants”. All guidelines can be downloaded in English from the BDIZ EDI website (see left page).



2017
Member of BDIZ EDI

Dr John Smith

is an active member of the Bundesverband der implantologisch Tätigen Zahnärzte in Europa/
European Association of Dental Implantologists (BDIZ EDI).

Currently, the association consists of more than 5.500 members in Europe. The BDIZ EDI is dedicated to providing continuous improvement of excellent quality in oral implantology in Germany and throughout Europe for the benefit of patients. By meeting the state of the art in science and technology, the BDIZ EDI is also dedicated to providing high-quality postgraduate education for dental implantologists. These efforts will be reflected by the slogan of BDIZ EDI: Helping patients – educating dentists – active in Europe.

Bonn, January 2017

Christian Berger, President

Helping patients – educating dentists – active in Europe: Members of the BDIZ EDI receive an official membership certificate stating the association’s objectives and slogan.



The Board of BDIZ EDI is currently working on its strategy for the future, “BDIZ EDI 2025”, which is all about optimizing support for the dental practice as well as implantological training and CPD.



Join the BDIZ EDI!

The primary objectives of the BDIZ EDI are:

- to preserve the free exercise of the dental profession in the best interest of both patients and professionals.
- to strive for continuing further development of the oral implantology and to support the dental practice to keeping oral implantology as a part of day-by-day dental treatment.
- to provide continuing education in the discipline of oral implantology Europe-wide.
- to support dental clinicians with relevant clinical guidelines for the daily implant practice and treatment recommendations.

Become a member of the BDIZ EDI-family and participate in a lot of benefits.

You will find all important details on our website www.bdizedi.org. The adjacent QR code will lead you directly to the members' area.



In addition, BDIZ EDI is an active member of the Consensus Conference Implantology, cooperating with all other professional societies within oral implantology – for example in guideline conferences targeting technical and medical aspects. To support individual dentists in their clinical work, the association has published patient guides on implant treatment and implant maintenance.

BDIZ EDI has also established a comprehensive network of technical and legal experts, as only experts with practical experience in oral implantology are in a position to prepare state-of-the-art opinions with practical relevance. Quality improvements within in implant dentistry, in everyday clinical practice as well as in material/technical terms, are the responsibility of the Quality and Research Committee. It regularly examines and tests dental material in collaboration with renowned research institutes (for example on surface contamination on implants in sterile packaging).

Getting involved in legislation

Advocacy also extends to healthcare policies relevant for dentists. For example, BDIZ EDI developed draft alternative legislation on combating corruption in health care, where the government draft by the German Ministry of Justice was totally inappropriate in terms of its potential consequences for German dentists. This work also regularly gives rise to guidelines for the dental office.

3.1mmD Eztetic™ Dental Implant



ZIMMER BIOMET
Your progress. Our promise.™



The 3.1mmD Eztetic Implant offers a strong, esthetic solution for narrow anterior sites. Designed to reduce micromovement and microleakage, the implant-abutment connection consists of a conical interface, integrated platform switch and Double Friction-Fit™ technology.

Please contact us at +34-93-470-55-00 for more information.

www.zimmerbiometdental.com

All trademarks herein are the property of Zimmer Biomet or their affiliates unless otherwise indicated. Due to regulatory requirements, Zimmer Biomet's dental division will continue to manufacture products under Zimmer Dental Inc. and Biomet 3i LLC respectively until further notice. The Eztetic Implant is manufactured by Zimmer Dental, Inc. and distributed by Biomet 3i, LLC. Product may not be available or registered in every country/region. Please contact your Zimmer Biomet Dental representative for product availability and additional information. AD074 REVA 08/16 ©2016 Zimmer Biomet, All rights reserved.

Researchers develop sensor platform to quantify antibiotics in human blood

Personalized antibiotic treatment

A team of researchers from the University of Freiburg, Germany, has developed a system inspired by biology that can detect several different antibiotics in human blood or other fluids at the same time. This biosensor system could be used for medical diagnostics in the future, especially for point-of-care testing in doctors' practices, on house calls and in pharmacies, as well as in environmental and food safety testing.

The researchers focused their study on the antibiotics tetracycline and streptogramin in human blood. "The analysis takes only ten minutes from sample to result", says microsystems engineer *Dr Can Dincer*, the head of the research team. "Our study was about demonstrating the applicability of the platform." The researchers have recently published their results in *Analytical Chemistry*, a scientific journal of the American Chemical Society. Based on these findings, the group is currently working on developing a method to determine how quickly the human body breaks down antibiotics, thus enabling the dosage of medications to be adjusted to each patient. "This technology could pave the way for personalized antibiotic treatments in the future", *Dincer* said.

The all-too-frequent use of antibiotics in human and veterinary medicine causes pathogens to develop resistance. Multidrug resistant bacteria are the reason for an increasing number of life-threatening infections that are difficult to treat with medications available today. In this context, biosensors have a great potential in research, since they are inexpensive and easy to work with. Biosensors could possibly be employed to customize

antibiotic treatments to fit each patient's requirements, thereby decreasing the development of resistant bacteria.

The electrochemical biosensor platform was developed by *Professor Gerald Urban's* research group. It works with extremely small amounts of liquid. "The major advantage of this system is that we can measure up to eight different substances at the same time, quickly and simply", *Dincer* says. The researchers combined their chip technology with a method developed earlier by *Professor Wilfried Weber*, expert on bioengineering at the University of Freiburg. The method is based on a naturally occurring sensor protein in resistant bacteria to recognize antibiotics and activate their defence mechanisms. These bacterial sensors react quickly, sensitively and specifically to antibiotics, which makes them ideal for analytical testing. Essentially, the bacteria are providing the researchers with a tool that can be applied to fight them back in the long run.

The eight researchers from the University of Freiburg involved in the interdisciplinary study include *Lucas Armbrecht*, *Dr Can Dincer*, *Dr Jochen Kieninger*, *André Kling*, *Edvina Qelibari* and *Professor Gerald Urban* – all from the Laboratory of Sensors at the Department of Microsystems Engineering (IMTEK) – as well as *Claire Chatelle* and *Professor Wilfried Weber* from the BIOS Centre for Biological Signalling Studies and the Institute of Biology II (Biochemistry).

Source: University of Freiburg/Germany ■



Photo: Andreas Weltin

The electrochemical biosensor system for point-of-care testing.

Original publication:

André Kling, Claire Chatelle, Lucas Armbrecht, Edvina Qelibari, Jochen Kieninger, Can Dincer, Wilfried Weber, and Gerald Urban, *Multianalyte antibiotic detection on an electrochemical microfluidic platform*, 2016 *Anal. Chem.*, 88(20), 10036 - 10043. DOI: 10.1021/acs.analchem.6b02294.

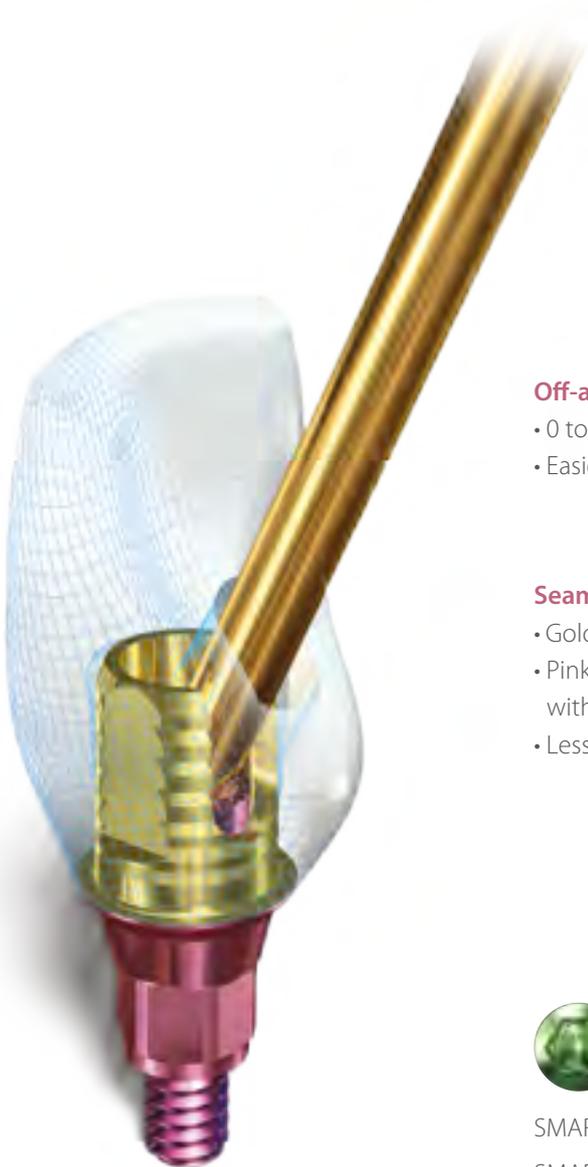
SMARTbase

Beauty Done Better



Implant Direct's SMARTbase CAD/CAM abutments combine **superior aesthetics** for your patient and more **freedom of choice** for your restorations and your practice. They are compatible with both traditional and digital workflows.

AVAILABLE NOW



Off-axis engagement for greater accessibility

- 0 to 25° off-axis capability allowing a discreet access cavity
- Easier access in posterior where space is limited

Seamless blend for a natural look

- Gold anodization permits use of more translucent restoration material
- Pink anodization of the titanium base for a more natural blending with gingival tissue
- Less chance of gray base show through in comparison to other Ti-bases



SMARTbase for Legacy is compatible with Zimmer Biomet's® internal hex*

SMARTbase for InterActive and SwishActive is compatible with Nobel Biocare's® NobelActive and Nobel conical connection implant systems

* Not compatible with 3.1mmD Eztetic™ implant

KaVo Kerr

Implant Direct is part of KaVo Kerr

Order SMARTbase now:

www.implantdirect.eu | 00800 4030 4030

Europe Ticker +++

Medical studies in Austria

Quota system to be terminated?

Austria uses a quota system for prospective foreign medical and dental students. The country now wants to extend this regime; the European Commission is currently reviewing the request. However, not all Austrian doctors endorse their government's view. In 2006, Austria severely restricted access to university programmes for medicine and dentistry to 1,500 places (the current year's figure is 1,620). Of these, 75 per cent are reserved for Austrian high-school graduates, the rest goes to EU citizens (20 per cent) and to non-EU citizens (5 per cent).

The quota system had been the Austrian reaction to the invalidation of its university admission rules by the European Court, which resulted in numerous German applicants who were unable to find a place to study in their own country due to local restrictions flocking to Austrian universities. The European Court of Justice (ECJ) had given Austria dispensation from its ruling until the end of 2016. The quota system as such is in violation of EU law, as it discriminates against EU citizens, "Zahnärztliche Mitteilungen" (zm, Germany) reported.

Austria will now have to demonstrate that the delivery of health services and medical care is at

risk without the quota, for example because the bulk of foreign students – most of them prospective doctors from Germany – return home after graduation, rather than working in the Austrian healthcare system.

Science Minister and Vice Chancellor *Reinhold Mitterlehner*, citing estimates by the Austrian Medical Association, said that there would be a shortage of 3500 doctors in Austria by the year 2030 if the quota system was to be abandoned. Scholarships would have to be introduced for medical students committed to working in Austria for a specific period after graduation, or additional incentives for doctors establishing a medical practice in specific regions of the country.

His assessment of the situation is vehemently contradicted by *Markus Müller*, Professor of Internal Medicine and Clinical Pharmacology and Rector of the Medical University of Vienna. He fears "significant reputational damage" for Austria and the emergence of "second-class physicians", denying that there is a shortage of physicians in the first place. Rather, the Austrian health system "has become addicted to the 'physician' drug", he told the press. Universities, he said, would spring up everywhere due to misguided reasoning, with even small communities wanting to establish their own institution of higher education: "What is worrying me is that the curricula often have little in common with those at medical universities. There is no de-facto standard for international research-guided teaching. This means potential reputational damage for our country", concluded *Müller*, citing the Faculty Association in Germany that had already warned against an Austrian "Dr. med. light".

Source: zm, Germany ■

Amalgam in dentistry

The eternal debate

The Environment Committee of the European Parliament calls for silver amalgam to be banned. This call is not unexpected – the Minamata convention of the United Nations had already been signed as early as 2013. Amalgam releases mercury. Since the 1990s, amalgam has been suspected by critics to trigger numerous diseases.



Photo: Fotolia/nyaz

But how dangerous is amalgam really, and how good are the alternatives? The scientific EU committee in charge issued a report in 2015, whose core message was that yes, mercury is released from amalgam fillings – but the concentrations appear to be so low that they present no health hazard to the general population. According to the German Cancer Research Centre, it has not been established beyond a reasonable doubt that nerve damage, fatigue or chronic headaches are actually caused by amalgam. The question of how much of the mercury is actually released from amalgam fillings and how much of it remains in the body “has not been conclusively answered to date”.

Alternative filling materials, especially composite resin, are a better fit for the shade of the tooth, but they have their own shortcomings. “They are very complex in composition and not without toxicological risks”, said *Professor Gottfried Schmalz* of the Department of Operative Dentistry and Periodontology, University Hospital Regensburg, Germany.

In terms of durability, the resin-based composites had “significantly improved” in recent years, said *Schmalz*.

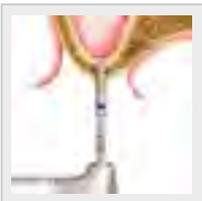
In 2014, a systematic review by the global independent Cochrane network had come to the conclusion that the failure rate and the risk for secondary caries after five to seven years was twice as high for composite resin fillings as for amalgam fillings. However, the researchers criticized the low levels of evidence of the studies reviewed. “More recent comparative studies have shown that composite fillings can be similarly durable as amalgam fillings,” said *Dr Uwe Blunck*, Dental Consultant at the Department of Conservative and Preventive Dentistry at Charité University Medicine, Berlin.

It is clear, however, that the placement of composite fillings is a very time-consuming process – and the error rate is greater than with amalgam. “And in patients with a high caries risk, its average service life is shorter than that of amalgam”, said *Schmalz*.

Source: Various media ■



Perform sinus lifts in 25 minutes at your clinic



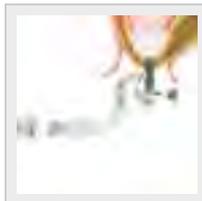
1

Reach sinus safely:
special cortex drill



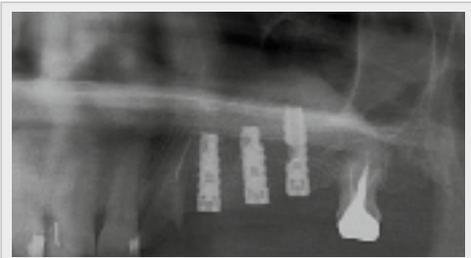
2

Elevate membrane
with saline pressure



3

Inject
bone graft



Post-op panoramic x-ray

perform sinus lift procedures with **confidence** and **ease**
dramatically improve your patients' **experience** and **quality of life**



Seeking exclusive distributors:
come and share the iRaise success

www.maxillent.com e-mail: info@maxillent.com

Europe Ticker +++

Voluntary commitment by manufacturers required

Focus on health apps

The market for health apps is still largely unregulated. But that is supposed to change now. The European Commission is demanding EU standards for their quality and safety. The aim is to call for a commitment by the manufacturers of health apps to comply with data protection rules (Code of Conduct) at a European level. The Commission reported that a decision regarding the matter is imminent. Also on the initiative of the European Commission, quality criteria for the assessment of health apps are currently being developed and are on track to be presented in 2017. The eHealth Initiative is working on the problem at EU level. Currently there are more than 100,000 health apps.

Source: Various media ■

EU Commission continues the fight against antimicrobial resistance

Second action plan announced for 2017

According to the Commissioner for Health and Food Safety, *Vytienis Andriukaitis*, the EU Commission will present a second action plan against antimicrobial resistance in 2017. The Commission's evaluation of the last action plan had already been published at the end of October. The new action plan will take the form of a Commission communication to the European Parliament and the Council and builds on the experiences gained from the previous plan.

It will put the focus on supporting member states, particularly in establishing, implementing and monitoring their national action plans, and it is supposed to "strengthen the leading role of the EU" in global fora. The action plan will also bring together EU funds and instruments with the objective of promoting innovation and research against AMR. No exact publication date for the Commission communication has been announced.

Source: EU Commission ■

CED News

Dental issues in the EU

The Education and Professional Qualification Working Group of the Council of European Dentists (CED) met online to discuss the update to CED resolution on Annex 5.3.1 of Directive 2005/36/EC. CED is consulting with ADEE (Association of Dental Education in Europe) on this process. The working group discussed the resolution on the profile of the future dentist, concurring to proceed with a shorter version of the document prepared by the chair of the working group during the online meeting. They also followed up on the ESCO project (European Skills, Competences, Qualifications and Occupations) of the EU Commission and how the specialist dentist's skill description should be listed. The members were pleased to note that ESCO respected the terms of the CED position on specialists, described in the future dentist's CED profile.

EU developments in connection with the amendments to the Waste Directive were also discussed in the relevant working group. CED welcomes the initiative of the European Commission to stimulate Europe's transition towards a circular economy. However, the proposal should not subject SMEs to overregulation, unnecessary administrative burdens or extra costs. Electronic record-keeping, if established in parallel to paper records, should be the responsibility of national competent authorities, which are best placed to carry out and control this activity. Moreover, setting up electronic registries for other waste streams (for example non-hazardous waste), for which targets are set by Union legislation, would be a measure extremely difficult and time-consuming to accomplish in practice.

Source: CED ■





The **REVOLUTIONARY METAL-FREE**
CAD/CAM Material



- Metal-Free
- Biocompatible
- Durable
- Lightweight

WHY TRINIA?

Dentists and technicians are looking for alternatives to metal substructures. TRINIA is the CAD/CAM solution for metal-free restorations.

CLINICAL USES:



Bridges



Fixed Prosthesis



Fixed Prosthesis



Partial Dentures

The determination of “need” in authorizing the opening of a pharmacy

Primacy of EU law over national obstinacy

In EDI Journal 2/2014 (page 50 f.) we reported on the judgement of the European Court of Justice (ECJ) of 13 February 2014 (C-367/12) in a preliminary ruling on the Austrian Law on Pharmacies. In that judgement, the ECJ addressed the illegality of some of the need-related planning regulations in granting licences to operate pharmacies. Following that judgement, the national courts had to once again address the original applications for such a licence. Since the national courts could not agree on a common understanding of the ECJ judgement of 13 February 2014, the ECJ had to hand down two additional decisions on 15 October 2015 (C-581/14) and on 30 June 2016 (C-634/15) in the same matter.

The case

Ms Susanne Sokoll-Seebacher and *Mr Manfred Naderhirn*, acting independently of each other, had each applied for a licence to operate a pharmacy in two different Austrian municipalities. According to the Austrian Law on Pharmacies, a prerequisite for granting authorization to open a pharmacy is the need for a new pharmacy to be established. Such a need does not exist where the number of people remaining to be served by one of the existing pharmacies would be reduced and fall below 5,500 after the establishment of the new pharmacy.

Both *Ms Sokoll-Seebacher* and *Mr Naderhirn* had their respective application for a pharmacy licence rejected. Both cases went to court. The case of *Ms Sokoll-Seebacher* was stayed, and the question was referred to the ECJ whether the said regulation from the Austrian Law on Pharmacies (Section 10 Para. 2 No. 3) was compatible with European law, in particular with Article 49 of the TFEU. As explained in EDI Journal 2/2014, the ECJ considered it a breach of European Union law that the competent authorities could not depart from the rigid limit of 5,500 “people remaining to be served”

in order to take account of particular local geographical conditions.

Following this ECJ judgement issued on 13 February 2014, the competent Austrian court granted *Ms Sokoll-Seebacher* and *Mr Naderhirn* their requested licences under the Law on Pharmacies. However, several pharmacies located in the vicinity of the proposed new pharmacy brought an appeal before the next higher Austrian court, the Administrative Court of Austria. The Court upheld those appeals, thereby voiding the licences, arguing that Section 10 Para. 2 No. 3 of the Law on Pharmacies could be disapplied under the ECJ’s 2014 decision only when examining the reasonable access to medicinal products in rural and isolated areas. In all other circumstances, Section 10 Para. 2 No. 3 of the Law on Pharmacies should continue to apply. The cases of *Ms Sokoll-Seebacher* and *Mr Naderhirn* were thus remitted back to the court of previous instance.

Pursuant to a specific Austrian national regulation, the court of first instance, in this case the Regional Administrative Court of the Province of Upper Austria, is bound by the decisions of the Higher Administrative Court. The former did,

however, interpret the ECJ decision of 2014 differently. It therefore submitted two separate references for a preliminary ruling to the ECJ, asking the following questions: Does a national regulation stating that a court is unconditionally bound to an interpretation of European Union law by a superordinate national court constitute a violation of European Union law? Should the judgement of 13 February 2014 be understood such that the pertinent stipulations of the Act on Pharmacies are contrary to EU law merely when related to rural and isolated areas because it leaves no possibility for derogation and consideration of local circumstances, or are they fundamentally contrary to EU law, such that they must be applied under any circumstances?

The decisions

The first question was answered by the ECJ by court order of 15 October 2015 (C-581/14). In this court order, the ECJ pointed out that every national court is required to ensure the full effectiveness of European Union law. To this end, each national court must be competent to disapply any conflicting provision based on its discretionary authority. To

do so, the national court does not need to apply for a suspension of the conflicting provision (e.g., by legislative means or by separate legal proceedings). This requirement by the ECJ is a very broad one because, to preserve the unqualified primacy of European Union law, it mandates no less than the non-application of national procedural rules that otherwise serve to ensure legal clarity and a uniform application of national laws.

The ECJ further clarified that a regulation is incompatible with European Union law according to which a national court is unconditionally bound by a national provision to a superior national court's interpretation to the extent that the interpretation by that higher court does not conform to European Union law as interpreted by the ECJ. The ECJ had already issued a similar ruling in 2011. In such a situation, the ECJ holds

that the respective national court must, by its own decision-making authority, ensure the primacy of European Union law by disapplying the national rule that it is bound to by the interpretations of a superordinate national court. So if a national court disagrees with the application and specific interpretation of European Union law by a superordinate national court, it may always deviate from the legal views of that superordinate court, even if national procedural rules seemingly preclude this.

In another decision dated 30 June 2016 (C-634/15), the ECJ clarified its judgement of 13 February 2014 on whether the fixed limit of 5,500 "persons who continue to be served" must be disregarded in all cases or only in cases relating to certain specific areas or situations. The ECJ stated that this specific stipulation in the Austrian Law on Phar-

macies did not enable the competent authority to duly take into account the particularities of each situation examined. However, this would be necessary to bring the determination whether a need for a pharmacy exists – where the licencing requirement is seen as a derogation of the fundamental freedom of establishment pursuant to Article 49 of the TFEU – in line with the purported justification, namely ensuring a reliable and high-quality supply of medicinal products to the public. The criterion relating to the number of "people who continue to be served", in the opinion of the ECJ, may affect each individual situation, which is why Section 10 Para. 2 No. 3 of the Austrian Law on Pharmacies is fundamentally incompatible with European union law.

It is thanks to the tenacity of the Regional Administrative Court of the

#1 U.S. Brand of Implant Motors in Europe



 **Asepticco**

Since 1975

int@asepticco.com
Dealers welcome

Province of Upper Austria that the ECJ judgement of 13 February 2014 concerning the determination of “need” in authorizing the opening of a pharmacy has been enforced to its fullest extent, rather than upholding the Higher Administrative Court’s view that was in violation of European Union law. The ECJ decision of 30 June 2016 thus refuted the call for the protection of their interests by established pharmacists, who had opposed the licences granted to *Ms Sokoll-Seebacher* and *Mr Naderhirn*. The same is true of the determination of part of the Austrian judiciary to uphold the regulation in the Law on Pharmacies declared incompatible with European Union law. It is telling that the Austrian legislature waited until early June 2016 to add a paragraph to Section 10 of the Law on Pharmacies to implement the ECJ judgement of 2014 and limit the

exception to the rigid limit to rural and isolated regions. But this new regulation has already been rendered obsolete by the most recent ECJ decision of 30 June 2016. This is exactly what the Austrian Ministry of Health and Women’s Affairs pronounced in a decree dated 7 July 2016, demanding a legal interpretation compliant with European Union law. It is therefore necessary to examine, in each individual case, whether circumstances exist that would mandate granting an exception to the limit of 5,500 persons to be served that is stipulated by the Law on Pharmacies.

The ECJ has again championed the interests of patients and strengthened the freedom of establishment in the health-care sector, standing up against grandfathered interests of already established healthcare providers and against national obstinacy. ■



Photo: Margrit Müller

Contact address

Dr Berit Jaeger
Specialist Solicitor on Medical Law
Ratajczak & Partners mbB
Berlin · Essen · Freiburg · Meissen ·
Munich · Sindelfingen
Posener Straße 1
71065 Sindelfingen
Germany

ECJ rules on fixed prices for prescription-only medicinal products

Not compatible with EU law

The ECJ has handed down its decision: The German system of fixed prices for prescription-only medicinal products is not compatible with European Union law (addendum to our article in EDI Journal 3/2016, pages 52–54).

In its judgement of 19 October 2016 (Case C-148/15), the European Court of Justice ruled that the German system of fixed prices for prescription-only medicinal products is in violation of European Union law in that it constitutes a prohibited restriction on the free movement of goods.

The background for this decision was a cooperation between the German Parkinson Association (DPV) and the Dutch online pharmacy DocMorris that had

resulted in a legal dispute with the Centre against Unfair Competition (ZBW).

In its judgement, the ECJ followed the closing arguments of the Advocate General by stating that “a system of fixed sales prices, such as that laid down in the German legislation, has a greater impact on pharmacies established in a member state other than the Federal Republic of Germany than on those which are established within German territory”. The ECJ draws the conclusion

that this fact could impede market access for products from other member states more than it impedes such access for domestic products.

The ECJ also rejected the view that the German legislation could be justified on grounds of the protection of health and life of humans as it held that such legislation is not appropriate for the objectives pursued.

Dr Christiane Werle, Specialist Solicitor on Medical Law, Ratajczak & Partners mbB ■



We talk Implantology



- **Easy** | Simple device setup
- **Strong** | Powerful and smooth motor
- **Reliable** | High quality finish



Your success is our pleasure

Scan me to be linked to the Nouvag contact form. ►



NOUVAG AG · Switzerland
info@nouvag.com · www.nouvag.com

Treatment of peri-implant lesions

Surgical treatment and defect filling: a case report

DR STEFAN FICKL, WÜRZBURG, GERMANY

Dental implants have become a routine treatment adjunct in modern dentistry. However, only a few concepts have been proposed for the treatment of peri-implant infection. The key to treatment, however, seems to be direct surgical access, particularly in the case of a more advanced defect. The additional filling of the defect with biomaterials is currently a matter of critical discussion in the literature.

Dental implants are now routine in oral medicine. However, peri-implant complications can limit the long-term success of implant-supported restorations. Although survival rates of up to 95.6 per cent after five years and 93.1 per cent after ten years have been described for dental implants, these figures include neither mechanical complications such as ceramic chipping or screw loosening nor biological complications such as peri-implant mucositis or peri-implantitis [1]. If we take these events into account, we find that only 66.4 per cent of patients experienced no complications in the context of implant/restorative treatment [1].

In addition, certain patients seem to be at high risk for peri-implant afflictions: Recent clinical studies have given the incidence of peri-implant disease in patients with pre-existing periodontal conditions as about 18 per cent after five years despite the strict implementation of supportive periodontal

follow-ups [2]. These figures are compatible with the results of a long-term clinical study of patients with moderate periodontitis over more than ten years that found peri-implantitis rates of about 16 per cent [3].

These results are all the more important in actual practice since there are still no clinical guidelines for the effective treatment of peri-implant infections. For example, *Renvert* et al. showed that while non-surgical procedures can be effective in peri-implant mucositis, they are unable to treat peri-implantitis successfully [4]. A review article by *Claffey* et al. examined surgical methods for the treatment of peri-implantitis and concluded that access flaps with implant decontamination alone are successful in approximately 60 per cent of cases and that bone augmentation procedures can be associated with highly varying levels of clinical success [5].

1 | Clinical situation with peri-implant inflammation.

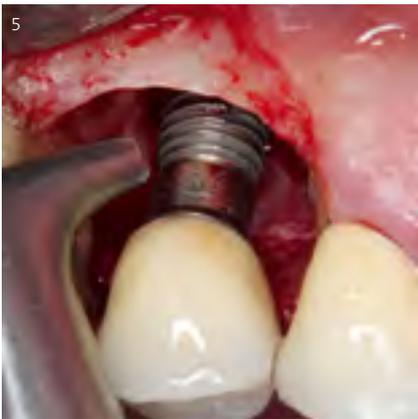
2 | Pus discharge on probing.





3 | Single-tooth radiograph showing peri-implant bone loss at implant 15.

4 | Intraoperative situation after degranulation.



5 | The implant surface was first decontaminated with sterile saline solution and subsequently with a powder/water jet device.

6 | Following decontamination, the intrabony portion was filled with a xenogeneic bone substitute material.

A recent review article was unable to make any recommendations regarding an evidence-based treatment strategy for peri-implant lesions due to different definitions of peri-implantitis and considerable heterogeneity in the studies examined [6]. However, the authors recommend a phased approach similar to that used in periodontal treatment, consisting primarily of non-surgical treatment coupled with oral hygiene instructions and improved cleansability of the superstructure. In the event of a persistent peri-implant lesion, surgical exposure, degranulation and possibly stabilization of the defects using biomaterials are recommended [6].

Some clinical studies suggest that the threshold value for a predictable non-surgical therapy even when coupled with adjuvants such as local antibiotics and glycine powder/water spray [7] corresponds to about 6 mm of pocket depth [8–10]. In lesions with greater probing depths or in the case of a relapse, surgical procedures should therefore be instigated.

This article presents a clinical example of a peri-implantitis treatment using a surgical approach that also involves filling the defect space.

Case report

A 45-year-old patient presented with probing depths of 11 mm and simultaneous pus discharge on im-

plant 15 (Figs. 1 and 2). The radiological examination showed a bowl-shaped bone defect reaching to about 50 per cent of the implant length (Fig. 3). The implant had been inserted about five years previously. Furthermore, several insufficient restorations were found. Radiologically, the superstructure at site 15 exhibited a slight inaccuracy of fit, but this was clinically still acceptable. The patient was on a regular periodontal recall regime and reported dull sensations of pain in the implant region, as well as an unpleasant taste in his mouth and bleeding during oral hygiene.

To improve the quality of the marginal tissue, a pretreatment was carried out with a powder/water jet device to achieve supra- and subgingival decontamination. A week later, the surgical treatment was carried out under antibiotic protection, with access to the bone defect gained via a mucoperiosteal flap (Fig. 4).

Following the elevation of a flap and degranulation of the defect, the implant surface was first cleaned with a sterile saline solution and then with a low-abrasion powder/water mixture (Fig. 5). To support the marginal soft tissue and to stabilize the blood clot, a xenogeneic bone substitute material (Bio-Oss, Geistlich Biomaterials) was introduced (Fig. 6).



7 | The wound was closed with absorbable sutures.



8 | Postoperative radiograph showing how the defect had filled in.



9 | The clinical situation six weeks postoperatively ...



10 | ... and the clinical situation at six months, after healing. The peri-implant tissue appeared free of inflammation.



11 | Probing at six months showed a significant reduction in pocket depth, albeit at the cost of recession.



12 | At twelve months after surgery, the site was free of inflammation.

The wound was closed with an absorbable suture (Serafit, Serag-Wiesner) (Figs. 7 and 8). The healing process was free of complications. After six weeks, a fully healed peri-implant mucosa was observed (Fig. 9). The clinical examination six months after the procedure showed an inflammation-free marginal mucosa (Fig. 10). The probing depths had decreased to approximately 5 mm (Fig. 11). One year after the treatment, the situation appeared normal. The post-operative shrinkage, particularly in the distal papillary region, that began after the procedure, was preserved (Fig. 12). The radiograph showed that the defect had filled in, but it also suggested that complete consolidation of the bony defect was still pending (Fig. 13).

Discussion

Increased probing depths and pus discharge are possible clinical findings around implants. To identify the right mode of treatment, a correct diagnosis is particularly important in these cases. Inflammatory processes that are restricted to the soft tissue (peri-implant mucositis), without radiological bone loss, can be successfully treated by non-surgical procedures and the additional application of local antibiotics, laser or powder/water jet equipment [11]. However, in manifest peri-implantitis with inflammation-induced bone resorption, isolated non-surgical treatment is usually not recommended [4]. Therefore, it is of great importance to compare a current radiograph with the situation after implant placement to exclude any bone loss caused by the peri-implant inflammation.

If the diagnosis is peri-implantitis, surgical procedures should be preferred to non-surgical measures. However, surgical procedures will not necessarily be successful in every single one of these cases. *Charalampakis* et al. found that the progression of peri-implantitis could be stopped by a surgical treatment in only about 55 per cent of cases [12].

A review by *Esposito* et al. even estimated the recurrence rate of peri-implantitis following treatment at up to 100 per cent. This shows that it is still unclear today whether any treatment mode – and if so, which one – offers predictable success in peri-implantitis [13].

In the case described here, the implant surface was cleaned and the bone defect was augmented. The concurring filling of a defect with a slowly resorbable biomaterial is currently a matter of critical discussion in the literature. For example, a recently published review article on the use of adjunctive methods in non-surgical or surgical peri-implantitis treatment reported that an additional augmentative therapy can provide benefits in terms of reducing



13 | The radiograph at twelve months after the procedure showed that the defect had filled in, but it also indicates that the remodelling process continues.

both bleeding on probing and probing depths [14]. It has also been reported that slowly resorbable bone replacement materials appear to be superior to autologous bone [14], which is why a xenogeneic (bovine) bone substitute material was used in this case. The defect geometry also plays a crucial role. Bony dehiscences react significantly less favourably to augmentation than bowl-shaped bone defects [1]. For this reason, only the intrabony aspect was filled with bone substitute in the present case.

It is still unclear whether it is advisable to smooth the rough portion of the implant surface (implantoplasty) at the same time. Some studies have shown a positive effect of implantoplasty [15,16]. Other data, however, suggest that clinical success can be achieved without implantoplasty [12,17]. Since in this case the defect was mainly intrabony, the implant surface was merely decontaminated with sterile saline and a powder/water jet device.

Conclusion

There is consensus in the scientific discussion that pronounced peri-implant defects such as the one presented here should be treated surgically. However, it is not clear whether the additional step of defect filling with biomaterials – or even coverage with a barrier membrane, which was not performed in the present case – actually increases the treatment success. ■

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

Contact address

Dr Stefan Fickl
Section for Periodontology – Department of
Periodontics and Restorative Dentistry
University Hospital Würzburg
Pleicherwall 2 · 97070 Würzburg · Germany
fickl_s@klinik.uni-wuerzburg.de

Surgical reconstruction of lost papilla around single implants using a modified technique

Rebuilding the pink aesthetics

DR MAHDI FARAJI, PRETORIA, SOUTH AFRICA

This case report describes the clinical application of the coronally advanced flap procedure associated with the subepithelial connective-tissue pedicle graft with palatal tunnelling, in order to reconstruct the interproximal papillae. In this modified technique, the distal end of the pedicle graft was divided into two parts, creating a bifid graft, which was then placed around the abutment and sutured on the facial aspect. This technique results in the filling up of the entire black triangle, coverage of the gingival recessions on adjacent teeth, significant improvement in the emergence profile of the implant-supported restoration, and a clear aesthetic improvement.

Background

In the last decade, the most important factor with regard to the success of implant-supported restorations has been gingival aesthetics. The presence of the dental papilla is critical to achieving an aesthetic outcome with single-tooth implant-supported restoration. The reconstruction of a missing peri-implant papilla is still an unpredictable and challenging problem.

The loss of papillae in the anterior region of the maxilla may lead to functional, phonetic and aesthetic concerns [1]. *Jemt* [2] developed an index system that assesses single implant-supported restorations for their degree of regeneration and recession of the papillary contour. It includes following classification:

- Index score 0: No papilla is present.
- Index score 1: Less than half of the height of the papilla is present.
- Index score 2: At least half of the height of the papilla is present, but it does not reach the contact point.
- Index score 3: The papilla fills up the entire proximal space.
- Index score 4: The papilla is hyperplastic and overfilling the restoration.

Despite all the surgical techniques for augmentation and reconstruction, the issue of restricted blood supply remains a major limiting factor. In such cases, a combination of surgical and restorative procedures may be required [1]. Moreover, a

variety of surgical treatment approaches has been proposed to reconstruct the interdental papilla [2–6]. However, the results achieved by these procedures seem to be unpredictable, and more than one surgical procedure may be required to obtain the expected aesthetic result.

With respect to the treatment, the subepithelial connective-tissue pedicle graft (SCTPG) can give better results because of the amplified blood supply provided by the base of the pedicle. Connective-tissue grafts may provide better support for displaced gingival flaps [7,8]. A modification of this method consists of a pedicle connective-tissue graft with palatal tunnelling where the distal end of the pedicle graft was divided into two parts. The bifid part of the graft was then placed around the abutment and sutured on the facial aspect. This eliminates the need for a second surgical step and establishes a better healing pattern without interfering with the blood supply from the base of the pedicle graft.

Case presentation

A healthy 47-year-old non-smoking woman was referred for the reconstruction of the lost interproximal papilla between the maxillary single-tooth implant and the left central and canine (Fig. 1). The patient had previously undergone two surgical procedures involving guided bone regeneration (GBR) and implant placement. Two years later, her main complaint was about the aesthetic outcome, with the loss of the papilla around the



1 | Preoperative view. Lost interproximal papilla around the implant restoration.



2 | Removal of temporary restoration and abutment.



3 | Periapical radiograph shows a 10 mm distance from contact point to bone crest.



4 | Pedicle graft dissected from the palate through a single incision design from the first molar to canine. Care was taken to stop the incision a few millimeters distal to the implant site.

implant. A clinical examination revealed *Jemt* scores of 0 for the mesial and distal papilla of the implant. The distance between the contact point and the alveolar bone crest was 10 mm. In addition, both the adjacent teeth next to the implant showed some degree of gingival recession on their buccal and proximal aspects (7 mm on the central incisor, 4 mm on the canine). The temporary restoration had an unacceptable appearance. However, the soft tissue around the implant restoration appeared clinically healthy, with a minimal probing depth. After clinical and radiological examination, the patient was informed about the further procedure.

Light mechanical root instrumentation was performed preoperatively, without chemical root conditioning, as extensive root planing had been performed as part of the previous regenerative procedure. The temporary restoration and abutment were removed (Fig. 2). As shown in the periapical radiograph (Fig. 3), the tooth-to-implant distance was less on the mesial side than on the distal side,

which might have further compromised the blood supply to the mesial region.

Local anaesthesia was applied to the recipient and donor sites, taking particular care not to distort the tissue volume. Subsequently, a single palatal incision design was made from the left canine to the first molar. Care was taken to end the incision a few millimetres distal to the implant site. The width of the graft was calculated to match the mesio-distal size of the lateral implant space. The pedicle graft was dissected on the coronal, distal, and apical aspects, leaving the mesial side attached. Using an Orban periodontal knife, a tunnel was created under the palatal mucosa, connecting the donor site to the implant area (Fig. 4). A suture was provided at the distal end of the pedicle graft to aid in sliding it under the created tunnel and into the facial aspect. Buccal horizontal intrasulcular incisions were made around both recessions of the adjacent teeth and connected at the base of the adjacent papilla. A vertical releasing incision



5 | A vertical releasing incision was made at the end of the horizontal incision mesial to the central incisor and distal to the canine and extended to the alveolar mucosa to allow the coronal advancement of the flap. The healing abutment was connected to the implant.



6 | The distal end of the pedicle graft was divided in two parts and each connective tissue part being sutured interproximally.



7 | Coronally advanced flap and primary soft-tissue closure.



8 | Six months follow-up shows complete papilla reconstruction and significant improvement in the emergence profile of the implant-supported restoration.

was made at the end of the horizontal incision mesial to the central incisor and distal to the canine, and extended to the alveolar mucosa to allow the coronal advancement of the flap. The healing abutment was connected to the implant (Fig. 5), and the distal end of the pedicle graft was divided in two parts by a surgical blade creating a bifid. This resulted in each connective-tissue part being placed interproximally between the healing abutment and the adjacent tooth. Once the connective tissue was adapted interproximally, the bifid part of the graft was then placed around the abutment and sutured on the facial aspect (Fig. 6).

The buccal flap was coronally advanced at the level of the CEJ, covering as much as possible of the connective pedicle graft and the exposed root surfaces, and sutured (Fig. 7). The surgical site was not covered with a periodontal dressing. The temporary restoration was placed on the healing abutment without pressure on the surrounding soft tissue. Postoperative instructions included chlorhexidine rinses and nonsteroidal anti-inflammatory medication. Sutures were removed ten days after the surgical procedure, and thorough oral care was continued.

Healing was uneventful in the immediate post-operative period. Adequate height and volume of the reconstructed papilla was maintained over a six months follow-up period (Fig. 8).

Result

This technique resulted in a significant gain of papillary volume in the coronal and facial direction. The gingival recession that had presented on the canine was also completely covered. However, only 50 per cent of the mesial papilla was regained after healing. This can be explained by the insufficient distance between the implant and the central incisor compromising the blood supply. The emergence profile of the implant-supported restoration was improved significantly. The index score of the papilla was increased from 0 to 3 at follow-up. The patient was satisfied with the aesthetic outcome.

Discussion

Several surgical and nonsurgical approaches have been proposed in the literature to reconstruct the lost interdental papilla [2-6]. Several factors can determine the selection of a specific procedure. These

include the height of the crestal alveolar bone, the dimension of the interproximal space, the size and shape of the contact area, the width of the keratinized tissue, professional experience, the amount of connective-tissue available from the donor site, and, finally, mucogingival phenotypes [9].

Various authors have claimed that more than one procedure can achieve the goal of successful papilla reconstruction. *Azzi et al.* [9] demonstrated a technique in which a connective-tissue graft was placed under the papilla, and the semilunar incision and flap was displaced coronally. A variation on the technique was introduced by *Nemcovsky* [5], who placed a gingival graft and preserved epithelium through an access incision on the palatal aspect of the papilla. The major limiting factor in all these surgical reconstructive and augmentation techniques is an insufficient blood supply.

There has been controversy as to the extent to which results are affected by the distance from the contact point to the interdental alveolar bone. Some authors [2,10] have reported that even a distance of 9 mm from the contact point to the interdental alveolar bone can produce excellent results for the papillae next to implant-supported single-tooth restorations. Unpredictable and controversial results have been reported in the literature relating to papilla augmentation. However, some studies have shown that the papilla can be reconstructed using adequate techniques and a proper case selection.

In the present case report, papilla reconstruction was possible despite the distance of 10 mm from the contact point to the alveolar interdental bone. The key is to provide sufficient connective-tissue with an adequate blood supply – in other words, a connective-tissue pedicle graft. Compared with free grafts, the blood supply of the pedicle graft is retained at the donor site which is a major advantage. The tunnelling procedure increased the stability at the recipient site. This method has demonstrated minimal postoperative morbidity while offering soft-tissue closure at both the donor and recipient site, providing a greater amount of tissue.

In this modified technique a connective-tissue pedicle graft was used whose distal end was divided into two parts. The bifid part of the graft was placed around the abutment and sutured on the facial aspect. This procedure increased the amount of soft tissue around the abutment and maintained its stability. The technique might make a second surgical step unnecessary and could also establish a better healing pattern without interfering with the blood supply from the base of the pedicle graft. It re-establishes the papilla in the interdental space and covers the gingival recession on the adjacent

teeth. There was significant improvement in the emergence profile of the implant-supported restoration and a clear aesthetic improvement.

In the present case there was a significant gain in both soft-tissue height and the volume of the treated site. This technique leads to better vascularization of the pedicle by creating a tunnel to the defect area under the mucosa palatal. Additionally, the graft is stabilized in the desired position over the defect site by the overlying palatal mucosa. When a CAF is associated with a SCTPG, better vascularization is provided for the graft, which may be one of the reasons why clinical improvements and aesthetic results were achieved. The formation of a soft-tissue protuberance at the site of the pedicle rotation is also minimized significantly by this modification. The second-stage connection of a healing abutment is eliminated, so treatment time is shortened. Despite this, the author considers existing pedicle-graft modalities to be less time-consuming and technique sensitive. These findings need to be interpreted with caution, however, as this technique has not been subjected to controlled clinical trials.

Conclusion

Rebuilding the pink aesthetics is important in modern aesthetic implant dentistry, and any implant-supported restorations that require aesthetic compromises are considered failures. Moreover, reconstructing the interproximal papilla in the aesthetic zone is one of the most difficult, challenging and unpredictable procedures in implant therapy. The subepithelial connective-tissue pedicle graft associated with a coronally advanced flap seems to be a viable approach for the treatment of missing papillae associated with implant-supported restorations.

This case showed that a rotated palatal connective-tissue pedicle graft can regenerate a lost interdental papilla and provide significant functional and aesthetic advantages at the interproximal site. The reconstructed papilla remained stable and without any signs of clinical inflammation six months after surgery. However, clinical studies using large samples are necessary to determine the success rate and predictability of this technique. In aesthetically compromised cases, a supplementary restorative approach can mask the loss of tissues, but will rarely achieve ideal aesthetic outcomes. ■

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

Contact address

Dr Mahdi Faraji
Department of Periodontics • University of Pretoria
Private bag X20 • Hatfield 0028 • South Africa
info.drmaf@gmail.com

The “SKY fast & fixed” concept and the possibilities of transverse screwing

Digital workflow: from planning to implant-prosthetic restoration

JAN KIELHORN, ÖHRINGEN, SIEGFRIED HOELZER, KÖNIGSBACH, AND MDT BJÖRN ROLAND, KLEIN-WINTERNHEIM, ALL GERMANY

By combining innovative procedures for implant surgery and reasoned prosthetic concepts, high-quality treatment results that are individual to each patient can be drawn up for the edentulous jaw. The authors describe the digital workflow for the tried-and-tested immediate restoration concept SKY fast & fixed and discuss the possibilities of transverse screwing, amongst others.

Digital technologies help simplify the process involved in implantology and often accelerate the process, whilst at the same time offering a high level of accuracy. High-precision results can be achieved in an efficient manner by combining the digital production of the superstructure. In addition to digital know-how, proven fundamentals are promising factors. This includes patient compliance, a sound dental and dental technical knowledge, surgical and manual skills, the perfect materials and products and close consultation within the treatment team. On the basis of this, modern computer-guided procedures offer an optimum basis for re-interpreting tried-and-tested implant-prosthetic concepts such as the SKY fast & fixed (bredent medical, Senden). This article shows the digital workflow using a patient case as an example.

Anchoring

The “fixed” treatment option has become important for edentulous jaws and jaws that are becoming edentulous. Many patients state that they are not satisfied with the classic removable total prosthesis; in particular, if they lose the last few teeth they still have. They want an aesthetic, functional implant-prosthetic restoration. However, areas of limitation, such as suboptimal anatomical circumstances, are often encountered. In order to be able to avoid bone augmentation measures where possible in these cases, as well as problematic implant positions and limited aesthetics, suitable implant-prosthetic solutions are sought. The SKY fast & fixed concept is one of those.

With regard to fixed implant prosthetics, a fundamental distinction is made between screwed and cemented prostheses. In an edentulous jaw, we generally prefer screwed reconstruction. In contrast to cementing, the main benefit is the fact that the restoration can be removed from the implants without problems. For example, if an abutment were to loosen or a repair be required, the restoration can be carried out with ease. What is more, hygiene measures are simplified, which is an important aspect, particularly with regard to professional implant aftercare.

The treatment concept

In SKY fast & fixed therapy, the implants are inserted in the local bone in such a way that they can be restored immediately after insertion with a fixed temporary bridge. Osseointegration is supported by means of primary interlocking. In order to be able to insert the implants into the jaw without augmentation measures where possible, meticulous preoperative investigations and an implant component especially designed for use in this situation are pre-requisites. This objective can generally be achieved by means of angled insertion of the posterior implants. The immediate temporary restoration is guaranteed by means of screwing onto the implants, resulting in stable interlocking. The prefabricated interim restoration is made from plastic. Due to the relatively low elasticity module, the load application on the implants can be cushioned during the healing phase. Following successful osseointegration, several prosthetic

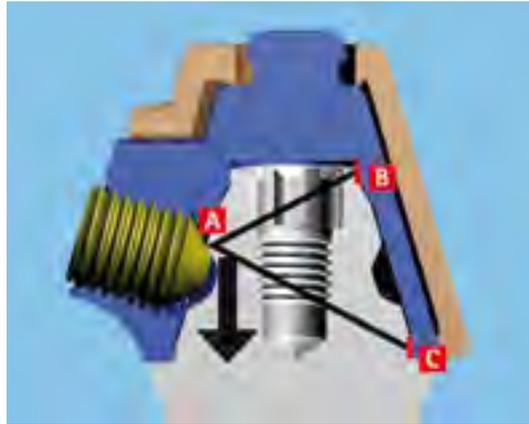
configurations lead to the desired result. The primary requirement of the restoration is the tension-free fit on the implants.

Transverse screwing

Due to the type of screwing of the dental prosthesis, a choice can be made between two variants in the described concept. In addition to occlusal screwing, a bonding element is also offered for the transverse (horizontal) screwing. This offers an aesthetic benefit in many situations. Especially in the anterior region, orthograde screwing – screw channel emerging occlusally – often means a compromise solution in terms of aesthetics. The seal of the screw channel in the visible region of the front teeth limits the dental technician with regard to the aesthetic design. Adequate alternatives include normal bonding elements in the region that is not visible. The SKY fast & fixed abutment with horizontal circumferential groove is available to this end; it is restored using a prefabricated transverse screwed coping. This type of screwing involves bolting in the true sense of the word. The thread for the bolt screw is located in the bridge framework. The bolt screw and the cylindrical surfaces form a unit (Fig. 1). Fixation is carried out as three-point fixation, which prevents tilting. Thanks to the slightly inclined position of the bolt screw, the prosthetic coping is “pressed” onto the abutment platform without showing a gap once it is tightened. The transverse bonding of the dental prosthesis with the implants assures excellent aesthetics and a complete lack of tension.

Patient case study

The 48-year-old patient came for a consultation in the practice due to an unsatisfactory removable dental prosthesis in the maxilla. Teeth 11 to 23 were still present, but severely damaged periodontally.

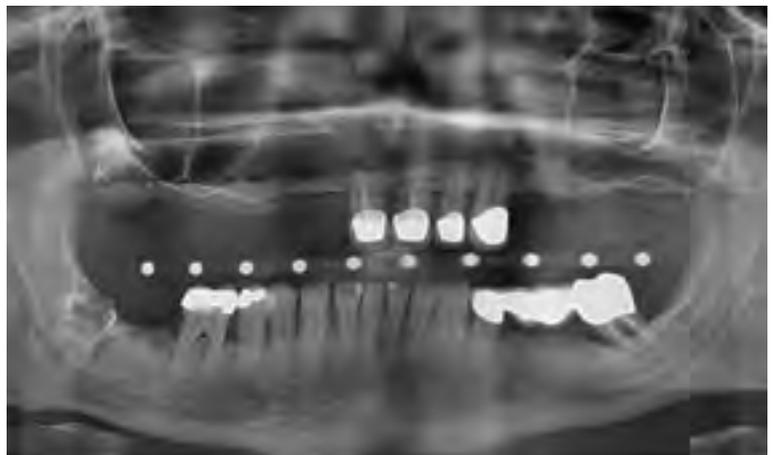


1 | Transverse screwing: The thread for the bolt screw is located in the bridge framework. The bolt screw (A) and the cylindrical surfaces (B and C) form a unit. The prosthetic coping is fixed as a three-point fixation using the bolt screw and the short cylindrical surfaces. Due to the short cylindrical surfaces, the coping locks itself once attached.

A fixed restoration was requested. The high mobility grade of the teeth would not permit stable anchoring of a new dental prosthesis. Therefore, following a discussion with the patient, extraction of the teeth and immediate implant prosthetic restoration was planned in accordance with the SKY fast & fixed concept.

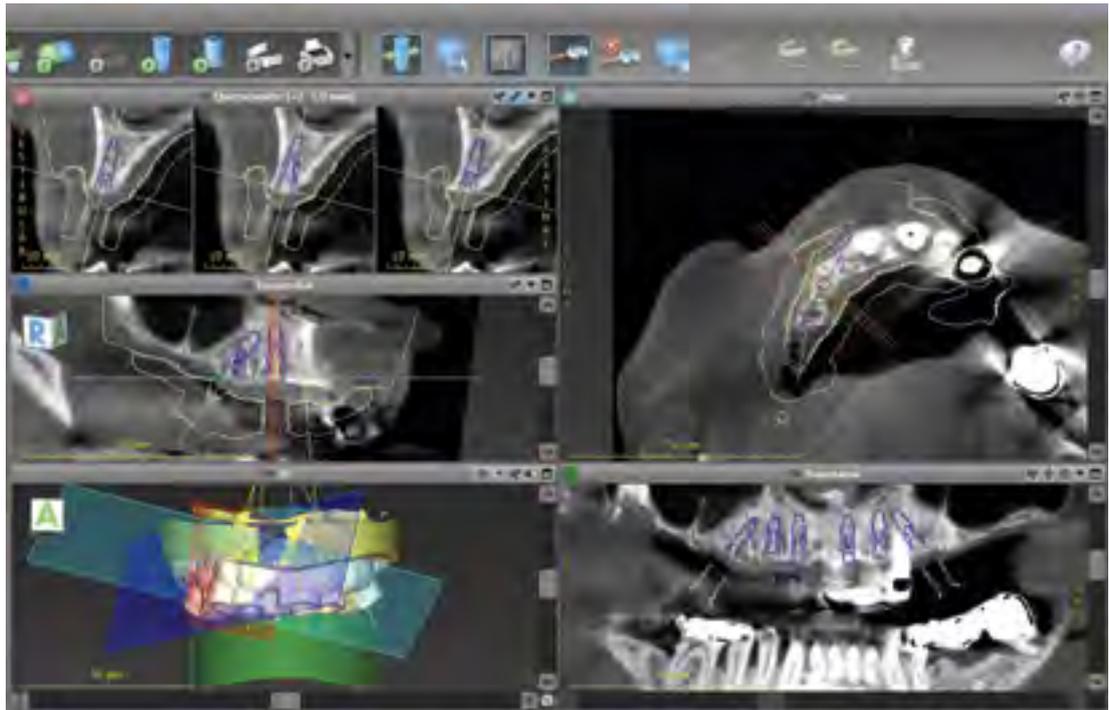
Planning

As a planning base, a situation model was initially produced (Fig. 2); it was digitalized in the laboratory scanner (3Shape, D800) and an STL data set was created. The two-dimensional X-ray image did not yield sufficient information about the available bone to validate the implant positions (Fig. 3). Therefore, a three-dimensional image (DVT) was compiled, without a scan template being required for this.



2 and 3 | Initial situation: conventional X-ray measurement (two-dimensional) and situation model.

4 |
Three-dimensional
planning of
six implants,
based on a DVT.



Thanks to the allocation of space for the anatomical structures, a detailed analysis of the jaw was now possible. Using the planning software (coDiagnostiX, dental wings), six implants were planned in the local bone based on the visualization of the anatomical structures and the digital set-up (ideal position of the prosthesis) (Fig. 4). By angling the distal implants, anatomically vital structures were circumvented and augmentation measures avoided.

The angle of the implants is between 30° and 45° for the SKY fast & fixed concept. In addition to the individual surgical components, special prosthetic superstructures are integrated in the complete concept. A drilling template for the navigated implant insertion and a temporary restoration were created from the planning software for the immediate restoration (Figs. 5 and 6).

In order to guarantee accurate positioning in the mouth, both objects were designed with a palate, whereby the temporary dental prosthesis was produced with target fracture sites, in order to guarantee a palate-free design of the screwed bridges (Figs. 7 and 8).

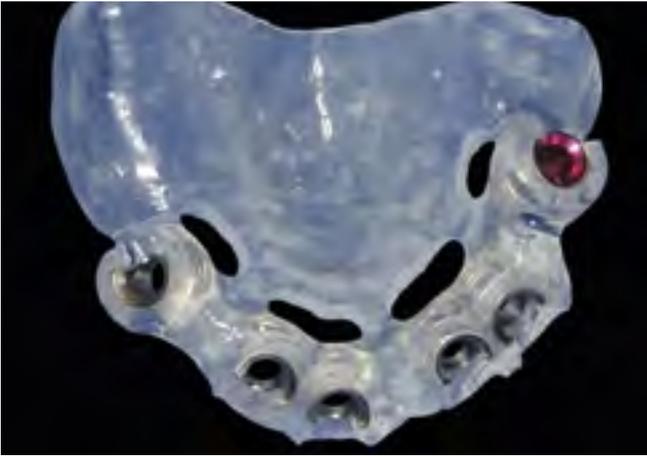
Implantation and immediate restoration

At the time of the surgical procedure, the existing teeth were extracted atraumatically and six implants (blueSKY, bredent medical) were inserted with the help of the drilling templates. The implants were inserted in a primary stable manner with a torque of between 30 to 45 Ncm (Fig. 9). The abutments were applied and the area sutured. The prefabricated temporary restoration was inserted without an impression needing to be taken. The palate provided support in order to ensure the reliable referencing of the mouth.

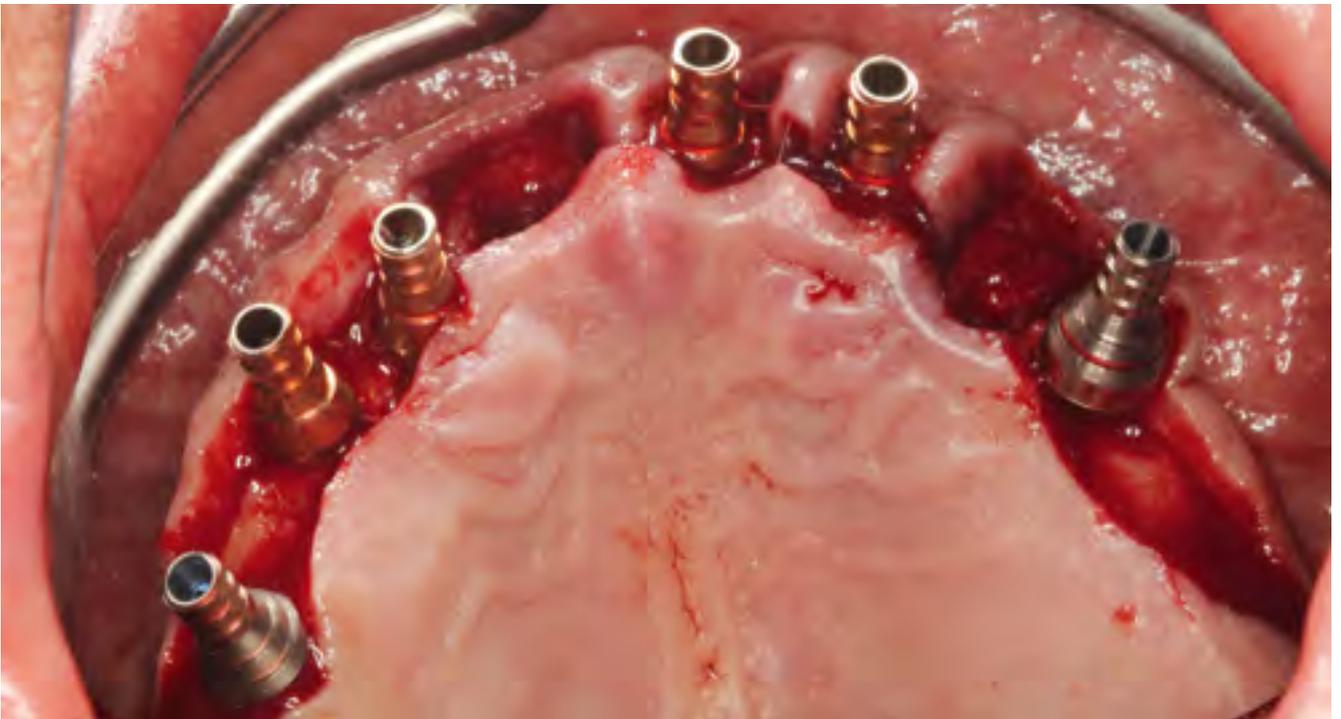
The temporary restoration was bonded with the abutment for a tension-free intraoral fit (Qu-resin, bredent) and relined; thereafter, the bridge was processed and finished (Figs. 10 and 11).

5 and 6 |
Digitalized situation
model (STL): de-
termining the drill
template design.





7 and 8 | The drilling template and the prefabricated temporary restoration with palate for optimum positioning.



9 | Inserted implants with the corresponding superstructures for the SKY fast & fixed concept.



10 | Long-term temporary restoration with target fracture sites before intraoral adhesion and relining.



11 | Bridges screwed onto the implants (long-term temporary restoration following removal of the palate) for immediate restoration.



12 and 13 | Three months after the implant insertion: osseointegrated implants and stable hard and soft tissue conditions. Pick-up impression with individual tray.



14 | The implant model for manufacturing the final restoration (transverse screwed bridge).

Manufacturing of the final restoration

Postoperative progress was free of problems. The patient was able to participate in social activities without restrictions during the healing phase. Osseointegrated implants and stable hard and soft tissue conditions were seen after three months. Following a pick-up impression, the temporary restoration was removed and the implant situations were modelled using an individual tray (Figs. 12 to 14). A screwed restoration was also planned for the final dental prosthesis. The framework made from non-precious-metal alloy (NEM) was supposed to be veneered using a high-quality composite material. In order to give the aesthetic design ample space, transverse screwing (bolting) of the dental prosthesis with the implants was considered.

A restoration screwed onto implants puts high requirements on the framework fit. In complex res-

torations of this type, this represents a considerable challenge in the manufacturing procedure. Due to the implants' rigid bond with the bone, even a low amount of force can cause a considerable displacement of the implants. The highest level of precision is required from both the dentist and the dental technician. Digital manufacturing technologies come into play here. They offer a perfect framework fit and a high material quality; the resulting efficiency of the manufacturing process is the icing on the cake. In the CAD software, the data relating to the pick-up impression were superimposed on the data relating to the implant master model (matching) and a framework was constructed in a smaller anatomical crown shape. In the software, the bonding elements for the transverse bolting were integrated in the framework (Figs. 15 to 17). CAM milling of the NEM framework was carried out in the laboratory's own high-performance milling machine. The thread for the transverse bolting was then incorporated within the cavity incorporated in the bridge framework (Figs. 18 and 19).

A framework try-in in the mouth confirmed that the fit was perfect. The individual veneering of the restoration was carried out with prefabricated veneers (novo.lign, bredent). They were fixed to the framework with a dual-hardening adhesive and the individual fine touches were added with a veneer plastic (crea.lign, bredent). The multiple-layer veneers (high-impact PMMA composite) and the light-curing composites support a simple manufacturing process and an individual, aesthetic outcome. The efficient workflow is complemented by the fact that the composite reduces the masticatory forces, an important characteristic, particularly in implant prosthetics.



15 | CAD construction with the bonding elements for the transverse bolting.



16 | Digitalized set-up.



17 | Construction of the framework in a smaller, anatomical crown shape.



18 and 19 | CAD/CAM-manufactured framework before the try-in: The transverse bolting in the cervical-palatine area is easily recognizable.



20 | The final restoration is fixed to the implants by means of transverse bolting.



21 | Final X-ray image. The posterior implants were positioned obliquely in the local bone in accordance with the SKY fast & fixed concept.



22 | Wonderfully healed soft tissue on recall (continuous hygiene phase).

Insertion and aftercare

The bridge was fixed using the prosthetic copings (SKY, uni.cone transverse prosthetic coping) and bolting in the practice. As this was carried out as three-point fixation, tilting or rotation of the dental prosthesis can be ruled out. Thanks to the slightly inclined position of the bolt screw, the prosthetic coping is “pressed” onto the abutment platform without showing a gap once it is tightened. This elegant type of fixation combines high-quality aesthetics with a tension-free position. The “screw channels” are located in the palatine region of the cervical area, which does not lead to any aesthetic or functional impairments. Following final fitting, the functional, aesthetic and periodontal hygiene factors were subjected to a final check and the patient was discharged from the practice with an aesthetic, fixed restoration (Figs. 20 and 21).

The superstructure was designed in such a way as to ensure optimal hygiene was guaranteed. The patient was given comprehensive instructions in this regard. An important pre-requisite for the long-

term success and therefore for a stable periodontal situation is aftercare in the practice. For the first year after treatment with an implant, in particular, a continuous, specific recall system is recommended. The patient had a consultation in the practice every three months. Once the superstructure was removed, professional cleaning and disinfection of the components of the dental prosthesis bearing the implant were carried out. The peri-implant soft tissue remains exemplary to date (Fig. 22).

Summary

The success of a total concept such as SKY fast & fixed is based on a coherent procedure. From the surgical components to the prosthetic materials - the philosophy is to combine the components in an optimal manner.

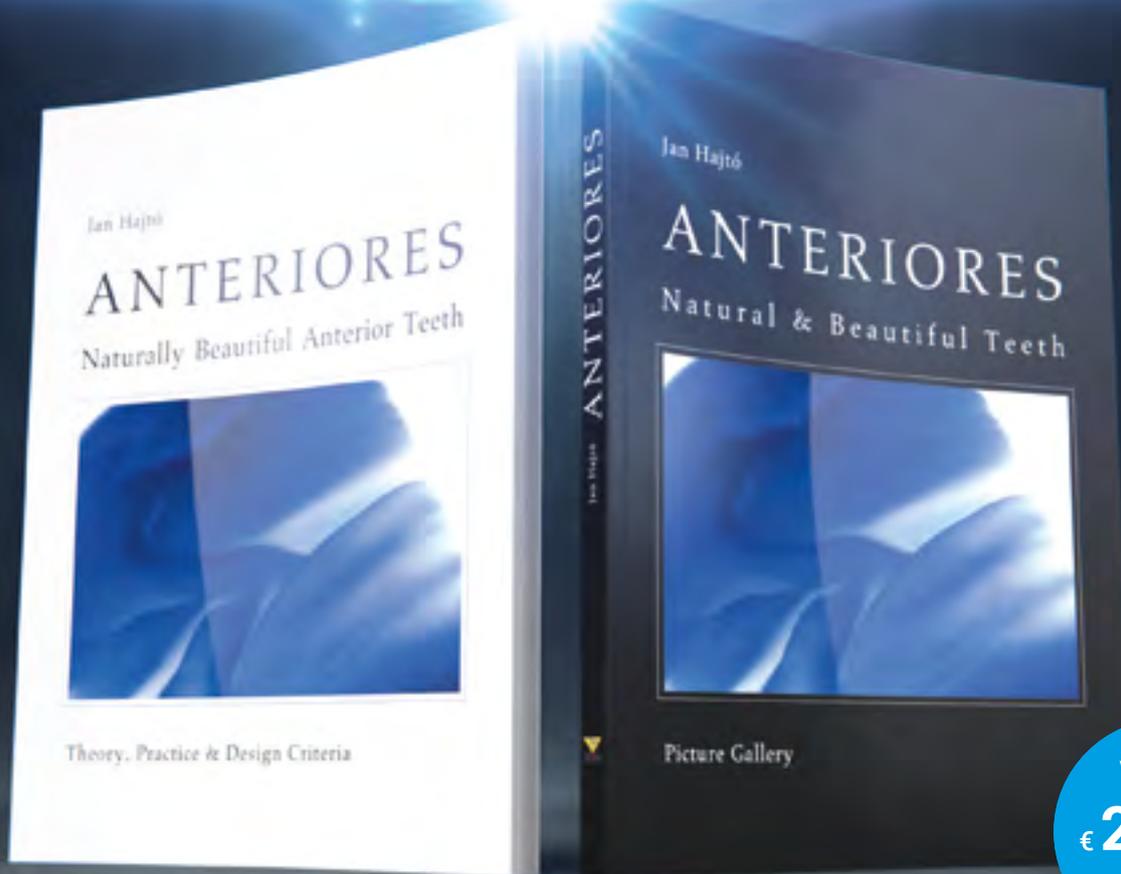
This requires a high level of cooperation between the practice and laboratory, which can be experienced more intensively and effectively in the digital workflow. Various concepts are offered for the final prosthetic restoration and the individual details are therefore taken into consideration.

In order to rule out an aesthetically compromising solution, in this case orthograde screwing of the dental prosthesis – screw channel emerging occlusally – was avoided. A normal bond was achieved in the region that was not visible by means of transverse bolting. The access to the bolting, which was easily achieved, made it possible to easily remove the dental prosthesis in the practice. ■

Contact address

Jan Kielhorn
Verrenberger Weg 15
74613 Öhringen
Germany
oehr@whiter.dental

BEST SELLER VALUE PACK



Value Pack

€ **239.00**

€ ~~268.00~~

Already in 2nd edition:

REF 9092

Anteriores Vol. 1

Theory, Practice & Design Criteria

Theoretical aspects of beautiful teeth and their relation to the smile on a face. The natural, individual variety of forms. Rules for achieving a beautiful anterior teeth region. Comprehensible, illustrated and didactically structured.

Anteriores Vol. 2

Picture Gallery

An outstanding collection of naturally beautiful anterior teeth areas. To be used as a workbook for aesthetic planning and fabrication. A valuable communication aid between dentist, patient and dental technician. Descriptive and inspiring.

www.dental-bookshop.com

✉ service@teamwork-media.de ☎ +49 8243 9692-16 📠 +49 8243 9692-22

**TEAM
WORK
MEDIA**

dental publishing

First report of a two-year retrospective study with a newly developed bone-level implant system

Peri-implant health and peri-implant bone stability after immediate implant placement

DR-MEDIC STOM. HENRIETTE LERNER^{1,2}, DR JONAS LORENZ¹, PROFESSOR ROBERT A. SADER¹, DR SHAHRAM GHANAATI¹

Dental implants have become a reliable and predictable treatment modality to replace missing teeth and retain dentures in edentulous patients. They can restore the oral health, form, function, mastication, articulation and aesthetics of the stomatognathic system with multi-year success rates of more than 90 per cent for implants in fully edentulous [1,2] or partially edentulous patients [3-6]. Variations in implant success have been found dependent upon surgical technique, loading protocol, implant localization and bone quality – for example, lower success rates have been reported for maxillary implants than for mandibular implants [7,8].

In the past few decades, research on dental implants has led to a broad modification of the surgical and prosthetic protocols. The original protocol of submerged healing with complete mucosal coverage during the osseointegration phase isolated dental implants from the oral cavity, avoiding trauma and infection and established favourable conditions for uneventful initial healing [9].

In addition to submerged healing, further surgical and prosthetic protocols – such as transgingival healing, immediate implant placement and immediate loading of dental implants – have been shown to provide stable clinical and aesthetic long-term results [10-14].

The ultimate aim of implant placement, especially, but not only, in cases of tooth loss in the aesthetic zone, is the preservation of hard and soft tissue after tooth loss to restore function and aesthetics. Different techniques have been proposed for preserving the morphology of the alveolar ridge [15,16], including guided bone regeneration [17], socket preservation [18-20], immediate implant placement [21-24] and different combinations of these options [15,25].

Maintaining the hard and soft tissue is a primary condition for highly aesthetic results, particularly in the aesthetic zone. The extraction of an anterior

tooth typically results in the loss of hard and soft tissue volume, especially in the fragile buccal bone. To compensate for these changes, which might compromise the aesthetic results of a prosthetic rehabilitation, immediate implant placement in combination with minimally invasive extraction techniques have been established in the past few years [26].

Beside anatomical considerations, such as the bone and soft-tissue volume and quality, an implant system that meets specific technical and constructional demands is required for long-term implant success [27]. The integration of material, physical, chemical, mechanical, biological and technical factors ensures the osseointegration of dental implants and long-lasting anchorage in the peri-implant bone [27]. Currently, numerous implant systems are available, in a range of sizes, shapes, coatings and prosthetic components [28].

For the surface of dental implants there is a clear consensus regarding the superiority of roughened/micro-textured surfaces compared to machined surfaces to maximize the implant/bone contact area. In-vivo and clinical studies have demonstrated that there is significantly greater bone apposition and integration when using implants with micro-textured surfaces [29].

¹ Department for Oral, Cranio-Maxillofacial and Facial Plastic Surgery, Medical Center of the Goethe University Frankfurt, Frankfurt am Main, Germany

² HL-Dentclinic, Baden-Baden, Germany

Other ways to increase the implant surface include the thread design, implant length and implant diameter. The implant design should incorporate features that best transform tensile and shear forces during mastication and minimize undesirable force components [30].

Also essential for the long-term stability of peri-implant bone tissue and an aesthetically and functionally sufficient dental implant is the stability of the implant/abutment connection, to prevent implant fractures and screw loosening and to keep the peri-implant bone level stable [31-33]. A space or micro-gap between the implant and abutment is unavoidable with a two-piece design; however, a smaller micro-gap can also sometimes be found in designs with platform switching and Morse-tapered conical connectors, used to transfer the micro-gap facing the implant axis and reduce micro-movement. This can reduce the propulsion of sulcus fluid and, consequently, crestal bone loss, even with implants inserted below the alveolar crest (subcrestally) [34,35].

The aim of the present retrospective study was to describe the clinical and radiological results of a new implant system with a grit-blasted and acid-etched surface topography and a Morse-locking conical implant/abutment connection. Implants were inserted in fresh and intact extraction sockets of maxillary and mandibular non-salvageable teeth and were followed up clinically and radiologically after a mean loading time of two years. Special emphasis was placed on the maintenance of peri-implant health and the stability of peri-implant bone level.

Materials and methods

Study design and patient population

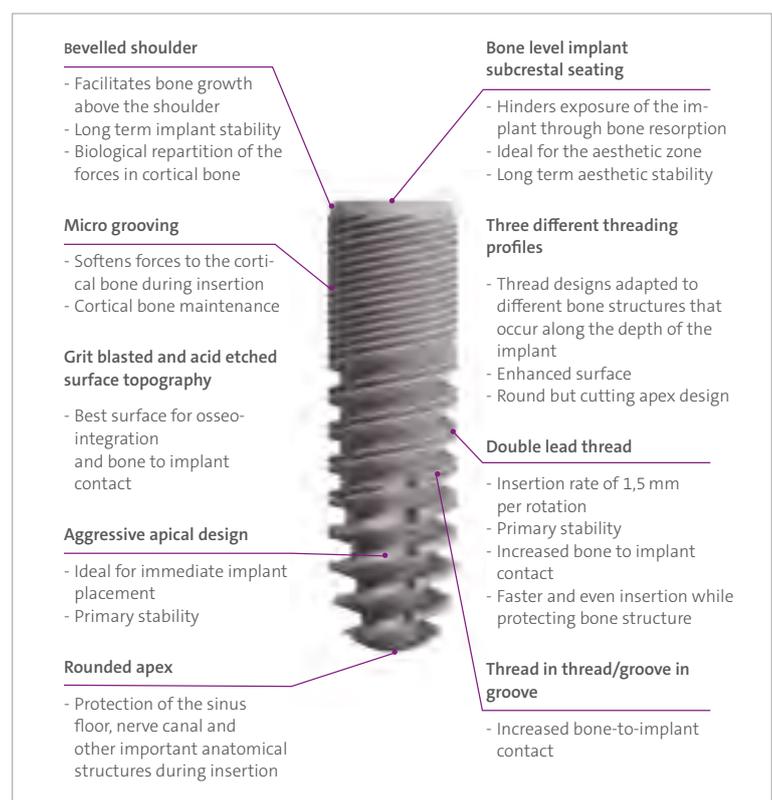
The present retrospective study reports clinical and radiological results for 50 dental implants placed immediately after the extraction of non-salvageable teeth in 21 patients (eleven women, ten men) at the HL-Dentclinic in Baden-Baden, Germany. The study was approved by the ethics committee of the medical department of the Goethe University, Frankfurt am Main, Germany. Patients presented prior to implant placement with non-salvageable maxillary and mandibular teeth. Implants were placed immediately after tooth extraction in case of an intact alveolar socket in the upper (31 implants) and lower (19 implants) jaw.

A total of ten implants, all in the upper molar region, were loaded immediately, while 40 implants were restored after a mean period of osseointegration of six months after placement. In total, 44 implants were restored with fixed and six implants with removable prosthetics. After a mean loading

period of two years, the implants were examined regarding implant survival, implant success and marginal bone loss. In some patients, further implants were placed using a delayed protocol after tooth loss; these implants were not included in the follow-up study.

C-Tech implant system

In the present retrospective study, dental implants of the Esthetic Line (EL; C-Tech Implants, Bologna, Italy) were placed. The implant system combines several design features proven to guarantee long-term stability, peri-implant health and ease of handling. The bone-level implants allow equicrestal or subcrestal placement and prevent implant exposure through bone resorption, which makes them ideal for the aesthetic zone. Implants are manufactured with three different threading profiles, adapted to different bone structures along the depth of the implant, and guarantee high levels of primary stability. Further, they have a bevelled shoulder, which facilitates bone growth above the shoulder, and a grit-blasted and acid-etched surface topography. The implant provides a Morse-locking conical connection with platform switching and an indexing hex. Peri-implant bone loss is prevented and the biologic width can be preserved. Figure 1 is a schematic representation of the C-Tech implant system with the main construction characteristics.



1 | Design of C-Tech EL implants (image provided by the manufacturer).

Surgical procedure

Immediate implant placement was considered in case of teeth not worth preserving that were free of acute infections, with stable extraction sockets and sufficient bone quality and quantity to achieve a sufficient rate of primary stability. In all patients, implant placement and previous tooth extraction was performed under local anaesthesia. After tooth extraction, a minimal-invasive mucoperiosteal flap without releasing incisions was mobilized for a better overview of the extraction site. Thereby, particular attention was paid to the buccal bone. In the upper incisor region, the implant position was set slightly palatally in relation to the extracted teeth. Subsequently, implant bed preparation was performed according to the surgical protocol of the C-Tech implant system. The number, positions, lengths and diameters of the implants were planned by clinical examination, analysis of jaw models and two- or three-dimensional radiographs (cone-beam computed tomography or panoramic radiographs). Implants were placed subcrestally with an insertion torque of at least 25 Ncm. A sealing screw was incorporated, and wound margins were adapted with absorbable tension-free single sutures.

In the case of delayed loading, implants were uncovered after a mean healing period of six months (four to seven months). In total, 44 implants were restored with fixed dentures and 6 with removable dentures. Medication after implant placement consisted of a chlorhexidine 0.2 per cent mouth rinse and ibuprofen 400 mg. In patients with more than two implants or in combination with further augmentation procedures, additional antibiotics (Augmentin) were prescribed for five days. Table 1 gives an overview of retrospectively investigated implants with implant localization, implant data, immediately or delayed loading, and prosthetic rehabilitation.

Clinical follow-up

Two years after implant insertion, a clinical and radiological follow-up was conducted at HL-Dentclinic, Baden-Baden, Germany, using previously published methods [36,37].

The following parameters were examined: implant survival, width and thickness of peri-implant keratinized gingiva (in mm), pink esthetic scores (PES), probing depths (in mm), bleeding on probing (BOP), peri-implant bone loss (in mm) and the presence of peri-implant osteolysis. Probing depths were measured with a blunt periodontal probe at six sites (mesiobuccal, buccal, distobuccal, mesiooral, oral, distooral). The width and thickness of

keratinized peri-implant soft tissue was measured with a pointed calibrated probe at standardized measuring points around the implant.

For the PES assessment, frontal photographs of implants with fixed restorations in place (44 implants) were taken, including the antagonist/adjacent teeth for comparison. The photographs were composed into a presentation in random order. Three independent and experienced blinded investigators familiar with the PES scoring method reviewed all images on the same portable computer. The score was computed by adding the point score (from 0 = very bad to 2 = excellent) for the seven items (mesial papilla, distal papilla, soft-tissue level, soft-tissue contour, alveolar process deficiency, soft-tissue colour and texture) for a maximum score of 14. Further, peri-implant bone loss was investigated by digitally recorded panoramic radiographs routinely taken after implant insertion and upon re-examination. Bone loss was estimated using radiological software appropriate for the x-ray system used. These examinations were used to determine the ability of the implant system to maintain implant stability, peri-implant health and peri-implant bone after a mean loading time of two years.

Investigation parameters

- Implant survival
- Width and thickness of peri-implant keratinized gingiva
- Pink esthetic score (PES)
- Probing depth
- Bleeding on probing (BOP)
- Peri-implant bone loss
- Presence of peri-implant osteolysis

Results

Clinical results

Altogether, 50 implants were placed after the extraction of non-salvageable teeth (see Table 1): 31 implants were placed in the upper jaw and 19 implants in the lower jaw. Implant diameters were 3 mm (4 implants), 3.5 mm (34 implants) or 4.3 mm (12 implants). Implant lengths were 9 mm (1 implant), 11 mm (25 implants) or 13 mm (24 implants). A total of ten implants, all in the upper jaw, were restored and loaded immediately, and the loading of 40 implants was delayed after a mean healing period of six months (four to seven months). Prosthetic restoration consisted of fixed prosthetics (44 implants) and removable prosthetics (six implants).

At the two-year follow up investigation, all implants were in situ and suitable for prosthetic rehabilitation, which corresponded to an overall survival rate of 100 per cent. It must be mentioned that

Patient	Gender (m/f)	Age (years)	Implant localization (regio)	Implant diameter (mm)	Implant length (mm)	Loading protocol	Prosthetic rehabilitation
1	f	51	14	3,5	13	d.l.	f.p.
			11	3,5	13	d.l.	f.p.
			21	4,3	11	d.l.	f.p.
			24	3,5	13	d.l.	f.p.
			31	3	11	d.l.	r.p.
			41	3	11	d.l.	r.p.
2	m	74	21	3	11	d.l.	f.p.
			23	4,3	13	d.l.	f.p.
3	m	51	16	3,5	13	d.l.	f.p.
			24	3,5	13	d.l.	f.p.
4	f	54	25	3,5	13	d.l.	f.p.
5	m	69	14	3,5	11	d.l.	f.p.
			15	4,3	13	d.l.	f.p.
6	m	59	12	4,3	13	d.l.	f.p.
7	f	62	46	4,3	11	d.l.	f.p.
8	m	58	46	4,3	11	d.l.	f.p.
			26	4,3	11	d.l.	f.p.
9	f	65	12	3,5	13	d.l.	f.p.
10	f	66	15	3,5	11	i.l.	f.p.
			14	3,5	13	i.l.	f.p.
			13	3,5	13	i.l.	f.p.
			23	3,5	13	i.l.	f.p.
			24	3,5	13	i.l.	f.p.
			25	3,5	11	i.l.	f.p.
11	m	69	42	3,5	13	d.l.	f.p.
12	m	51	34	3,5	11	d.l.	f.p.
			46	4,3	11	d.l.	f.p.
13	f	64	15	3,5	13	d.l.	f.p.
14	f	71	44	3,5	11	d.l.	f.p.
15	f	69	36	3,5	11	d.l.	f.p.
16	m	54	22	3,5	13	d.l.	f.p.
			37	4,3	9	d.l.	f.p.
			47	4,3	11	d.l.	f.p.
17	f	47	13	3,5	11	d.l.	f.p.
			15	3,5	11	d.l.	f.p.
18	f	69	41	3	11	d.l.	f.p.
19	f	58	17	3,5	11	d.l.	f.p.
			21	3,5	13	i.l.	f.p.
			22	3,5	13	i.l.	f.p.
			23	3,5	13	i.l.	f.p.
			24	3,5	11	i.l.	f.p.
20	m	56	17	4,3	11	d.l.	f.p.
			27	3,5	11	d.l.	f.p.
			37	4,3	11	d.l.	f.p.
			46	3,5	11	d.l.	f.p.
			47	3,5	11	d.l.	f.p.
21	m	64	41	3,5	13	d.l.	r.p.
			43	3,5	13	d.l.	r.p.
			31	3,5	13	d.l.	r.p.
			33	3,5	13	d.l.	r.p.
Total: 21	11*f; 10*m	Mean: 61	total: 50 31*u./19*l.j.	34*3,5/12*4,3	1*9/25*11/ 24*13	10*i.l./40*d.l.	44*f.p./6*r.p

Table 1 | Participating patients and the number and site of the inserted implants (f: female; m: male/u.j.: upper jaw; l.j.: lower jaw/ d.l.: delayed loading; i.l.: immediate loading/f.p.: fixed prosthetics; r.p.: removable prosthetics).

prosthetic complications, such as screw fracture, abutment fracture or loss of retention were not present in any of the implants during the two-year window.

An analysis of the width and thickness of the peri-implant keratinized gingiva was performed to determine a potential correlation between keratinized peri-implant gingiva, a potential inflammatory response and peri-implant bone loss, and peri-implant osteolysis. A band of keratinized gingiva of at least 1 mm in width and thickness was found around all implants. The mean width of the peri-implant keratinized gingiva was 2.04 mm (upper jaw: 2.19 mm; lower jaw: 1.79 mm), and the mean thickness of the peri-implant keratinized gingiva was 1.66 mm (upper jaw: 1.77 mm; lower jaw: 1.47 mm). No significant correlation between the width and thickness of the peri-implant gingiva and probing depths, BOP and marginal bone loss could be detected.

Probing depths and BOP were assessed with a blunt periodontal probe to describe the condition of the peri-implant soft tissue and to determine potential inflammation. The mean probing depth, measured at six sites per implant, was 2.25 mm. BOP was present on 17 of the 50 implants (corresponding to 34.0 per cent). A distinct correlation between the accumulation of plaque and increased probing depth could be observed, as most implants with BOP presented probing depths of at least 3 mm.

The aesthetic appearance of the immediate placed implants was evaluated by the PES. The measured items were mesial papilla, distal papilla, soft-tissue level, soft-tissue contour, alveolar process deficiency, soft-tissue colour and texture, with a score of 0 to 2 (from 0 = very bad to 2 = excellent). The mean evaluated PES achieved for the immediate placed implants was 10.91 (ranging from 9 to 13; upper jaw: 11.03; lower jaw: 10.62), from a maximum score of 14.

Radiological Results

Radiological images (Yoshida, Japan), recorded after implant placement to control the implant position and for the regular follow-up investigation after two years of loading, were examined to determine peri-implant bone levels and detect any peri-implant osteolysis. A stable peri-implant bone level reaching the implant shoulder was present around all 50 implants. Further, no osseous peri-implant defect was obvious in the groups. The mean bone loss calculated digitally was 0.83 mm (upper jaw: 0.85 mm; lower jaw: 0.8 mm), ranging from 0 to 1.7 mm. Table 2 gives an overview on the results of the clinical and radiological two-year follow-up.

Discussion

This retrospective study reports on a two-year follow-up investigation of a newly developed implant system on immediate placement in fresh extraction sockets. Implants were analyzed regarding implant stability and peri-implant soft and hard tissue health using established methods [36,37].

After a mean loading period of two years, all 50 implants were still in situ and usable for prosthetic rehabilitation. The peri-implant tissue presented healthy and stable in all cases, without any signs of acute infection or peri-implantitis.

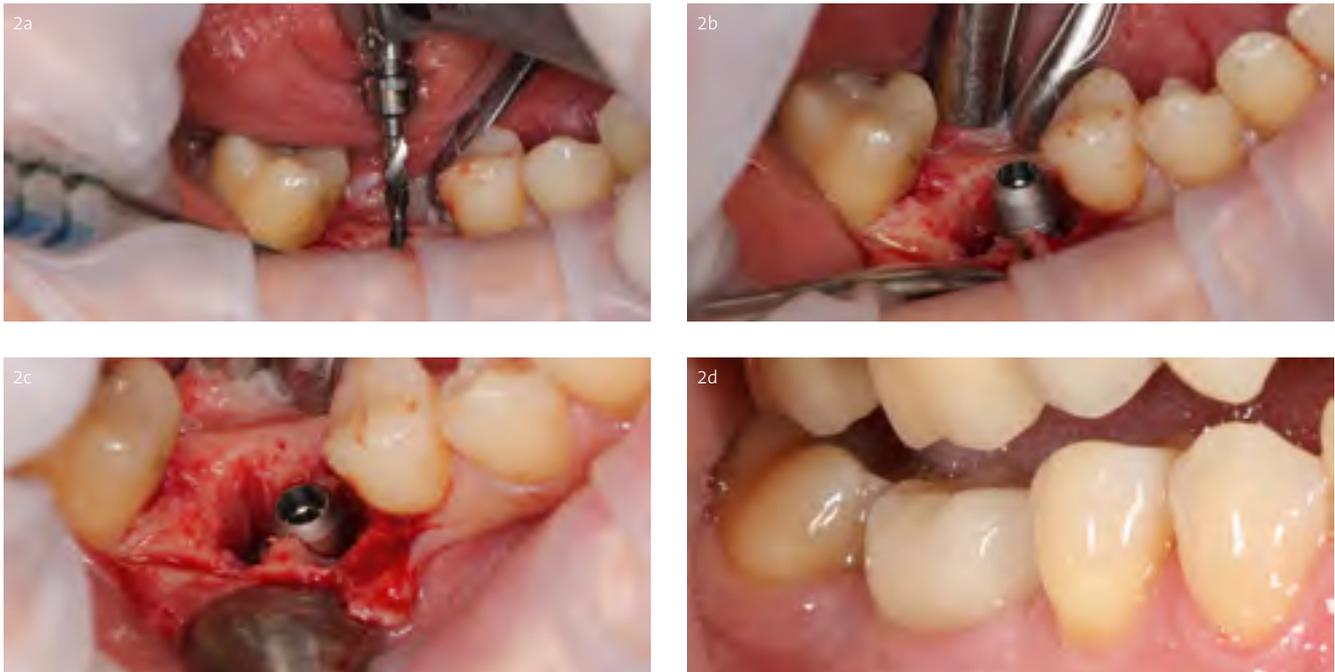
Probing depths and BOP around the implants served as markers for peri-implant soft-tissue health. The values for the probing depths (mean: 2.25 mm) and BOP (mean: 34 per cent) were in accordance with the values found in the literature [38,39]. When comparing the probing depths and BOP on dental implants and natural teeth, it must always be remembered that the anatomy and morphology of the peri-implant soft-tissue structure is different from that of natural teeth, as dental implants do not possess a compact barrier against penetration from the oral cavity and they act more like a cuff-like barrier [40]. Further, the peri-implant soft tissue contains fewer blood vessels [41,42] and cells, but more collagen, which leads to a greater susceptibility to plaque-induced inflammation and bleeding [40,43]. Investigation of the mean peri-implant bone loss after two years of loading revealed 0.83 mm (upper jaw: 0.85 mm; lower jaw: 0.8 mm). The peri-implant bone around all 50 implants reached the implant shoulder and showed no signs of acute peri-implant osteolysis or peri-implantitis.

Immediate implant placement is a reliable and promising technique to replace teeth not worth preserving, at the same time reducing the treatment time (see Figs. 2 to 4). Immediate implant placement, especially in the aesthetic zone, can help preserve the fragile buccal bone, which is important for an aesthetically sufficient result. A further approach to fast oral rehabilitation is immediate loading of the implant, which requires high primary implant stability. The prerequisites for both immediate placement and immediate loading of dental implants are an intact extraction site and an awareness of any acute inflammation present [26,44,45].

Numerous studies have examined the impact of immediate implant placement on implant failure, the occurrence of postoperative infection and the magnitude of marginal bone loss [13,46]. In a clinical study evaluating long-term bone stability up to twelve years by radiographic analysis, it was shown that 312 implants with an anodic oxidized surface

Patient	Implant localization (regio)	Implant loss (+/-)	Buccal width of keratinized periimplant gingiva (mm)	Buccal thickness of keratinized periimplant gingiva (mm)	Pink esthetic score (PES)	Probing depth (mm) at six sites (mb, b, db, mo, o, do)	Bleeding on probing (BOP) (+/-)	Peri-implant bone loss (mm) mesial and distal	Presence of peri-implant osteolysis (+/-)
1	14	-	2	3	11	4,3,2,3,3,3	+	0.7 0.5	-
	11	-	3	2	12	3,3,2,2,2,3	-	0.5 0.9	-
	21	-	3	2	12	3,3,2,2,2,3	-	0.6 0.8	-
	24	-	2	3	10	2,2,3,3,3,2	-	0.8 0.9	-
	31	-	2	1	r.p.	2,2,1,1,1,2	-	1.1 0.7	-
	41	-	2	1	r.p.	2,2,1,1,1,2	-	0.4 0.6	-
2	21	-	2	2	12	4,2,3,2,2,3	+	1.1 0.6	-
	23	-	3	3	11	3,2,3,3,3,2	-	0.5 0.7	-
3	16	-	1	1	9	3,1,3,3,1,3	-	0.7 0.6	-
	24	-	2	1	11	2,1,2,2,1,2	-	0.8 0.5	-
4	25	-	2	1	11	3,1,2,2,1,2	-	0.7 1.2	-
5	14	-	2	2	11	4,2,2,2,2,3	+	0.6 0.8	-
	15	-	1	2	10	3,2,2,3,1,4	+	1.4 0.7	-
6	12	-	3	2	12	4,2,3,2,2,3	+	1.1 0.8	-
7	46	-	1	1	9	2,1,3,2,1,3	-	0.8 0.7	-
8	46	-	2	2	10	4,2,3,2,2,3	-	0.6 0.6	-
	26	-	3	2	11	3,3,2,2,2,3	-	0.8 1.0	-
9	12	-	2	1	12	3,1,2,3,1,3	+	1.2 1.4	-
10	15	-	2	1	11	3,1,2,3,1,4	+	0.8 0.6	-
	14	-	2	1	12	3,2,1,1,2,2	-	1.2 0.8	-
	13	-	3	2	12	3,3,2,2,3,2	-	1.4 1.2	-
	23	-	3	2	12	3,3,2,2,2,3	-	1.1 1.3	-
	24	-	2	2	12	2,1,2,1,1,2	-	0.6 0.8	-
	25	-	1	1	11	3,2,2,3,1,2	-	0.5 0.5	-
11	42	-	2	1	10	3,1,3,4,1,3	+	1.2 0.9	-
12	34	-	2	2	11	2,2,3,2,1,3	-	1.2 0.9	-
	46	-	1	1	10	3,2,2,2,1,3	-	0.8 0.5	-
13	15	-	2	2	11	3,2,2,2,1,3	-	0 0.4	-
14	44	-	1	2	13	4,2,1,2,2,3	+	0.4 0.8	-
15	35	-	2	1	11	3,1,2,1,1,3	-	1.2 0.6	-
16	22	-	2	2	13	2,2,3,2,1,3	+	1.4 1.2	-
	37	-	1	2	11	2,1,2,2,2,1	-	0 0.5	-
	47	-	1	3	12	2,1,3,3,2,2	-	0.7 0.9	-
17	13	-	3	2	11	4,2,3,2,2,3	+	1.0 1.2	-
	15	-	2	2	11	2,1,2,3,2,2	-	0.8 0.6	-
18	41	-	3	2	10	4,2,3,2,2,3	+	0 0.4	-
19	17	-	1	2	9	3,2,3,2,2,3	-	0.8 1.4	-
	21	-	2	2	10	2,1,3,2,2,2	-	1.2 0.7	-
	22	-	2	2	11	2,1,3,4,2,2	+	0.6 0.6	-
	23	-	3	2	11	3,3,2,2,2,3	+	0.4 0	-
	24	-	2	1	11	2,1,2,3,1,2	-	0.6 0.9	-
20	17	-	2	1	10	4,1,2,3,1,3	-	1.0 1.2	-
	27	-	3	1	9	3,2,3,2,1,3	-	1.6 1.4	-
	37	-	1	1	10	2,1,3,2,1,2	-	0.9 1.3	-
	46	-	1	1	11	3,2,2,1,1,2	-	1.7 1.5	-
	47	-	1	1	10	4,2,2,3,3,3	+	1.2 0.9	-
21	41	-	3	1	r.p.	3,1,2,1,1,3	-	0.6 0	-
	43	-	2	2	r.p.	3,2,2,4,2,2	+	0.8 1.3	-
	31	-	3	1	r.p.	3,2,2,3,1,3	-	1.3 1.0	-
	33	-	3	2	r.p.	3,1,3,2,2,3	+	0.8 0.6	-
Total: 21	Total: 50 31*u. j. 19*l. j.	Total: 0	Mean total: 2.04 mm u. j.: 2.19 mm l. j.: 1.79 mm	Mean total: 1.66 mm u. j.: 1.77 mm l. j.: 1.47 mm	Mean total: 10.91 u. j.: 11.03 l. j.: 10.62	Mean total: 2.25 mm u. j.: 2.31 mm l. j.: 2.14 mm	Mean total: 34.0 % u. j.: 35.5 % l. j.: 31.6 %	Mean total: 0.83 mm u. j.: 0.85 mm l. j.: 0.8 mm	0

Table 2 | Results from the clinical and radiological two-year follow-up investigation (mb: mesiobuccal; b: buccal; db: distobuccal; mo: mesiooral; o: oral; do: distooral; +: present; -: absent/f. p.: fixed prosthetics; r. p.: removable prosthetics/u. j.: upper jaw; l. j.: lower jaw).



2 | Clinical image of patient 15. A dental implant was inserted at site 36 and restored with fixed prosthetics. a: Implant drilling after extraction of tooth 36. b and c: Implant insertion. d: Two-year follow-up.



3 | Radiographic images of patient 15. a: X-ray image of tooth 36, which was not salvageable due to persisting pain prior to extraction. b: X-ray image of implant 36 immediately after prosthetic rehabilitation. The bone level reaches the implant shoulder. c: X-ray image of implant 36 at the two-year follow up. The peri-implant bone level is stable and no peri-implant osteolysis was detected.

presented a mean bone loss of 0.4 mm (± 0.80 mm) [46]. In a systematic review, *Chrcanovic et al.* examined whether the immediate placement of dental implants increased the rates of implant failure, postoperative infection or marginal bone loss. This meta-analysis of a high number of reviewed publications (73) comparing implants in fresh extraction sockets to implants inserted in healed sites revealed no significant difference in terms of failed implants

(4.00 per cent in fresh extraction sites, 3.09 per cent in healed extraction sites), postoperative infection or marginal bone loss [13].

The newly developed implant system investigated in the present retrospective study features bone-level implants with a bevelled shoulder, which allows for subcrestal insertion (see Fig. 4d). It has a thread design that is different in the crestal and apical portions of the implant, making for high primary

stability. The implant surface is grit-blasted and acid-etched, which, in combination with the thread design, achieves a large surface. The implant/abutment connection is a Morse-locking conical connection with platform switching and an indexing hex, which aims to prevent peri-implant bone loss.

Starting with the original research in implant dentistry by *Brånemark*, it had been obvious that the most important factor for the longevity of dental implants is osseointegration. Previous research studies have shown that primary stability in combination with a large surface are predictors for osseointegration [47]. Primary stability of the implant within the implant bed was found to be achieved by a progressive thread design and a combination of macro- and microgrooves on the implant [48]. Further modifications of the implant surface seemed to increase the rate of osteoblast accretion, which, in combination with primary stability, is a prerequisite for sufficient and stable osseointegration [49]. Especially in implants inserted immediately after tooth extraction, achieving primary stability is of paramount importance, as the extraction site determines the local bone amount and therefore the bone-to-implant contact [49].

Also important in the design of dental implants is the implant/abutment connection. Multiple in-vitro and clinical investigations have shown that a conical connection in combination with internal platform switching reduces micro-movements and thus bacterial contamination by propelling sulcus fluid, which results in marginal bone loss [34,35,50].

With its combination of characteristics, the investigated newly designed implant system seems to meet the requirements for a successful dental implant system. The results from the two-year follow-up have demonstrated that immediate implant placement using the right implant system can, in certain cases, be a reliable and long-term stable approach to replacing missing teeth and restoring articulation and mastication. In addition to technical and surgical considerations, it has to be mentioned that – especially in immediate placement – strict and cautious case selection is necessary to achieve predictable outcomes.

Conclusions

The present retrospective analysis reports the results of a two-year clinical and radiological follow-up in 21 patients. A total of 50 implants of a newly developed implant system were placed immediately after extraction in the upper and lower jaw and restored immediately or delayed. The focus of the follow-up was on peri-implant hard- and soft-tissue health, by analysing the buccal width and thickness

PERIODONTAL OSSEOUS SURGERY NEW PIEZOSURGERY® INSERTS

5 NEW INSERTS FOR
OSTECTOMY AND OSTEOPLASTY
PROCEDURES DURING PERIO-
DONTAL RESECTIVE SURGERY

mectron s.p.a., Italy, tel +39 0185 35361,
www.mectron.com, mectron@mectron.com



EFFICIENT
BONE
REMODELLING
NEW
CRISS-CROSS
SURFACE



mectron
medical technology



4 | Clinical image of patient 17. Dental implant inserted at site 13 and restored with fixed prosthetics. a: Tooth 13 before extraction, b: Implant drilling after extraction of tooth 13, c: Implant insertion, d: After slightly subcrestal implant insertion.

of the keratinized peri-implant gingiva, probing depths, presence of bleeding on probing and marginal bone loss. Further, the aesthetic appearance of the implants and the implant-retained prosthetics were determined using the pink esthetic score.

All implants survived the two-year follow-up without any signs of peri-implantitis or acute peri-implant infection (see Figs. 2d and 3c). All implants presented a sufficient amount of peri-implant keratinized soft tissue, low probing depths (mean: 2.25 mm), and BOP (34 per cent). The peri-implant bone level was stable, with a mean bone loss after two years of loading of 0.83 mm. Regarding the results of the two-year follow-up examination, it can be concluded that the implant system examined affords a high rate of implant stability and adequate peri-implant hard- and soft-tissue health. Imme-

diately implant placement using a suitable implant system can, in certain cases, be a reliable, long-term stable as well as time- and cost-effective strategy to replace teeth not worth preserving. ■

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

Contact address

Dr Shahram Ghanaati
Department for Oral, Cranio-Maxillofacial
and Facial Plastic Surgery
Medical Centre of the Goethe University Frankfurt
60325 Frankfurt am Main · Germany
shahram.ghanaati@kgu.de

Save the date!

11th BDIZ EDI European Symposium

In cooperation with the Dental Chamber of Croatia
and the Bavarian Dental Chamber (BLZK)

19 and 20 May 2017
in Dubrovnik, Croatia



Workshops: 19 May
Symposium: 19 and 20 May



To promote the exchange of ideas within Europe, BDIZ EDI continues its proven concept to hold continuing education courses outside Germany. In 2017, the European Symposium will take place in Croatia. If you are looking for a high-class education event and want to enjoy a historic backdrop at the same time, this symposium is exactly the right thing for you!

The cooperation partners offer a two-day congress on 19 and 20 May with top-class speakers. All lectures will be interpreted simultaneously.

The congress starts in the morning of 19 May with practical workshops. The afternoon is dedicated to lectures on implantological issues. Implant and aesthetic dentistry will be treated on 20 May.

Dubrovnik is synonymous with sunshine, sea and culture. The fortress dating from the 7th century is one of the most beautiful cities in the world. The extraordinary landscape and a perfect climate are part of the accompanying programme.

Culture and recreation in their pure form.



Venue: Dubrovnik, Congress Center
You will soon find more information at:
www.bdizedi.org > English > News

If you are interested and want to receive more information about the programme, the registration and the fees in advance, then please send email to:

office-bonn@bdizedi.org

W&H and Osstell present result of their cooperation

All-in-one solution for treatment planning and decision making

At the EAO's 25th Annual Scientific Congress in Paris, W&H and Osstell presented the result of their current cooperation. Launched on 1 September 2016, the new W&H Implantmed surgical device with the optional W&H Osstell ISQ module offers clinicians a unique system for a reliable assessment of the implant stability and the degree of osseointegration. The two companies presented the new all-in-one solution at the EAO congress to scientific experts from around the world. As a forum for European and international professionals, the congress offered an ideal platform for demonstrating the benefits of the new Implantmed in high-level practical trainings and expert discussions.



W&H Managing Director Peter Malata (left) and Osstell CEO Jonas Ehinger presented the current cooperation result at the EAO congress: the new Implantmed surgical device with optional W&H Osstell ISQ module.

“With the launch of the new Implantmed, we started a close development, sales and marketing cooperation, as well as joint scientific activities with our partner Osstell. At the EAO congress, we demonstrated the unique combination of our state-of-the-art technologies and brought the benefits closer to

clinicians from all over the world,” explains W&H Managing Director *Peter Malata* (see interview on page 96). With the new generation of the Implantmed, W&H not only improves the surgical device's functionality but also provides an efficient, clinically proven and reliable solution for measuring the implant stability. Equipped with the optional W&H Osstell ISQ module, the clinician can monitor the implant stability and control the healing period objectively. This leads to a significant optimization of the treatment time. The unique system not only allows clinicians an improved management, especially of patients at risk, but also delivers more comfort and satisfaction to the customers.

“We are very happy that a recognized company like W&H has chosen to partner with Osstell, with the intent to bring innovative products to the market that will help clinicians to further improve implant treatment and patient comfort. Osstell's implant stability diagnostics combined with the state-of-the-art Implantmed for the surgical placement provides a unique capability benefitting both clinicians and patients”, says *Jonas Ehinger*, CEO Osstell.

Particular focus of the Implantmed presentation at the EAO booths of W&H and Osstell was put on the unique combination of the insertion torque control and the initial stability ISQ measurement. Furthermore, a patient-ID and tooth position re-

lated documentation of the insertion torque and the ISQ value supports users by providing a comprehensive and more predictable treatment protocol. With live demonstrations, interested visitors could see for themselves the functionalities of the new Implantmed and its customizable features for different applications.

**Osstell Scientific Symposium:
ISQ diagnostics in everyday practice**

Latest research and clinical use of the Osstell ISQ technology were presented at the Osstell Scientific Symposium on 29 September 2016. Held in conjunction with EAO 2016, the symposium provided about 250 registered clinicians with insights into the noninvasive assessment of osseointegration and implant stability by internationally renowned implant specialists. The new Implantmed with the optional W&H Osstell ISQ module was part of the case presentation of *Dr Jörg Neugebauer*, who gave exclusive insights into a safe implant treatment.

In an interactive workshop, the renowned implant specialist underlined the importance of the treatment time and a predictable outcome for the clinician as well as for the patient. *Dr Neugebauer* also pointed out another advantage, namely the minimization of the number of devices required during implant placement. Users benefit from an efficient workflow and increased convenience in the surgical environment.

Strong interest among the EAO congress visitors and valuable discussions showed the high relevance of the new Implantmed with the optional Osstell ISQ module for the field of modern oral implantology. As a unique cooperation result, the all-in-one-solution developed by W&H and Osstell was one of the major talking points at the EAO congress. ■

More information

www.wh.com

**PTFE SUTURES
Monofilament**

Soft, biologically inert and
chemically non reactive

OMNIA
Disposable Medical Devices

Ideal for any implant, periodontal
and bone graft surgery

OMNIA S.p.A.
Via F. Delnevo, 190 - 43036 Fidenza (PR) Italy - Tel. +39 0524 527453 - Fax +39 0524 525230 -
VAT IT 01711860344 - R.E.A. PR 173685 - Company capital € 200.000,00

www.omniaspa.eu

Dentsply Sirona at the EAO Congress in Paris

Solutions for modern and safe implant treatment

From 29 September to 1 October, dental implant professionals from all over Europe gathered for the 25th Annual Scientific Meeting of the European Association for Osseointegration (EAO) in Paris. Dentsply Sirona took the opportunity to present its latest innovations in the areas of implants and CAD/CAM.

More than 3,000 dental implant professionals met in the French capital for a lively exchange of news and views with the unifying theme of “Planning treatment and making decisions”. In addition to presentations on new scientific discoveries, the agenda included hands-on sessions, poster presentations and a variety of symposia.

“Here at the EAO, we are presenting Dentsply Sirona, The Dental Solutions Company, and we

are proud to provide dental professionals with a comprehensive end-to-end solutions offering,” said *Lars Henrikson*, Group Vice President Implants at Dentsply Sirona. *Roddy MacLeod*, Group Vice President CAD/CAM at Dentsply Sirona added, “We’re bringing Cerec’s single visit dentistry approach together with Dentsply Sirona Implants, creating new solutions for the dentist and the patient.”



Holger Emmert

Director Global Marketing
Cerec

“By combining the Cerec concept of one-session treatments with the many options of the Dentsply Sirona implant systems, we create a whole array of options for dentists and their patients.”



Anna Bruns

Marketing Manager
Integrated Solutions

“With the merger of Dentsply and Sirona, we offer a great number of well-matched, integrated digital processes, which can be implemented in alignment with the needs of the practitioner and his patients.”



Dr Björn Delin

Vice President Global Platform
Implant Systems

“The merger of Dentsply and Sirona truly creates great synergies. There are definitely only a few companies which can offer such a highly developed and coherent digital workflow with such an extended range of options and choices for the dentist.”



Dr Volker Winter

Product Manager Implantology
at Dentsply Sirona CAD/CAM

“We dispose of such a broad range of options that we do not have to impose any special concept to the practitioner – he can just make his own individual choice according to his own preferences and the particular need of the patient from our wide offer.”

Two symposia

Dentsply Sirona had sponsored two of the symposia: *Peter Gehrke*, *Mischa Krebs*, *Robert Nölken* and *Daniel Thoma* explored the topic “Challenging implant-supported single tooth restorations”. *Jan Lindhe* and *Tomas Albrektsson* debated on “Standpoints and views on peri-implantitis”, while *Guillaume Fougerais* gave a talk on “Guided surgery with the Dentsply Sirona Chairside Workflow”.

Exhibition presence with innovative solutions

Dentsply Sirona’s presence at the Congress extended to the associated industry exhibition, where it exhibited a variety of exciting innovations. Among other things, the company introduced three digital solutions: Atlantis CustomBase, a patient-specific, single-tooth solution; additive manufacturing for fixed Atlantis suprastructures; as well as mySimplant Planning Service. In addition to that, new data on OsseoSpeed Profile implants were presented at Dentsply Sirona’s trade fair booth.

As for CAD/CAM solutions, Dentsply Sirona CAD/CAM has expanded the range of TiBases to encompass important implant systems, including those



Joe Massoels

Director Digital Implant
Solutions Platform

“With the patient-specific mySimplant and the planning service for the dentist, we have solved one of the main issues which have so far impeded the introduction of digitally guided implantology on a larger scale. Meanwhile, the enormous efficiency increase of Guided Planning and Guided surgery is getting around. The time saving and the advantages of a better predictability and standardized processes become easier for both experienced and less experienced active dental implant practitioners.”

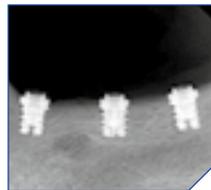
from Dentsply Sirona Implants. Together with the corresponding scanposts, the TiBases enable hybrid custom abutments and/or screw retained crowns to be delivered in a single patient visit. ■

More information

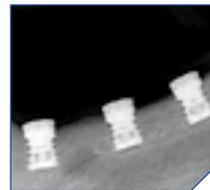
www.dentsplysirona.com



Ultra-Short Pyramid shaped implant.



5 mm length
before widening



5 mm length
After widening



Restored

Visit us in our stand at IDS 2017 H 4.1, B 058



contact us - Dentack; Pyramid implants: the shape of success
www.dentack.com, info@dentack.com | Tel: +972-9-7660379





11th International Conference of the DGÄZ

America meets Europe

Lake Tegernsee, that pearl of the Bavarian Alps, could have greeted us a little more enthusiastically. But as it were, the mountain panorama was shrouded in clouds and temperatures reminded of winter as it welcomed more than 600 participants from the USA, Germany and the rest of Europe to the 11th International Conference of the DGÄZ and the long-awaited remake of the successful “America meets Europe” format in early October. Yet the weather in no way detracted from the success of this major international interdisciplinary meeting, where friendships and professional contacts were established or gladly renewed.

Everybody keeps talking about interdisciplinary approaches and the importance of interaction across specialty boundaries. “America meets Europe” – held for the second time since 2008 – not only addressed a broad range of challenges associated with periodontal, orthodontic, implantological, surgical and restorative techniques but also presented an exciting opportunity to compare whether and in what specific ways these multidisciplinary approaches diverge on the two sides of the Atlantic.

To this end, two interdisciplinary teams, “Team America” and “Team Europe”, had been formed and presented their treatment concepts, illustrated by cases ranging from the simple to the complex. America had sent its envoys *Dr Gregory Kinzer*, *Dr Jim Janakievski* and *Dr Vince Kokich*, while Europe was represented by *Dr Mauro Fradeani*, *Dr Renato Cocconi* and *Professor Mirko Raffaini* (and others). The scientific programme committee, consisting of *Professor Florian Beuer*, *Dr Michael Cohen*, *Dr Gerhard Iglhaut*, *Dr Siegfried Marquardt*, *Dr Stefano Gracis* and *Dr Paolo Vigolo*, had presented the teams with some tricky clinical questions that they were supposed to discuss and answer. Following the case presentations and panel discussions, the audience was asked to comment on each team’s approaches to help establish quintessential and definitive clinical recommendations.

It was exciting to see how two regions that are quite similar in their industrial structure and their level of development come up with different solutions – the reasons ranging from different training

Everything is under control: Dr Siegfried Marquardt (right) and Dr Stefano Gracis.





Who wants to sit in a beer garden in this weather?
“Full house” at the exhibition.

experiences and treatment philosophies to differences in patient expectations. “A personal highlight for me was how well-structured and analytical the American group approaches a clinical case, triggering a veritable cascade of reactions”, said *Professor Beuer*.

The range of topics included guided/navigated surgery as an implantological treatment approach, the treatment of multiple recessions, an exceptionally aesthetic gap closure with hard- and soft-tissue restoration, the use of intraoral scanners and their integration into an open digital workflow, the management of peri-implant soft tissue, the benefits of interdisciplinary treatment planning, the state of the art in orthodontics, CAD/CAM prosthodontics, challenges in the aesthetic zone and reflections on the use of renewable materials in periodontology. Whether general dentists, implantology specialists, oral surgeons or prosthodontists – nothing was left to be desired for anyone. The various contributions afforded deep insights into fields well worth looking into time and again in order to assess the potential of specific treatments and to assess how to embed them within one’s own treatment concepts.

“This congress has once again brought home to me the importance of orthodontics”, said *Dr Vera Bohren* (Lucerne, Switzerland). “I plan to focus even more strongly on my network in future”, commented *Dr Florian Göttfert* (Nürnberg, Germany), “for this congress has again shown me that the key to success lies in interdisciplinary consultations within the team.” *Dr Thomas Bruckner* (Wertheim, Germany) added: “I was impressed by the brilliant orthodontic approaches, in particular those by *Kokich*. We general dentists tend to have little close contact with this specialty, but we should be aware of its possibilities, because you can achieve a lot if you have the right people on your team.”

Peter Hofmann (Dachau, Germany) is waiting impatiently for the appearance of the planning app by *Fradeani*, scheduled for November, and wants to pay closer attention to the sagittal positioning of anterior teeth in future prosthetic planning. *Dr Horst Lohmann* (Berg, Germany) gained valuable insights in the treatment planning sessions and the “aesthetic arena” and was very impressed by a highly complex case, a combination of bimaxillary surgery with rhinoplasty and genioplasty in one session: “This is definitely not routine practice, but the patients have benefited enormously.”

Particularly memorable was the presentation of Team America on Saturday morning – participants were deeply impressed not only by its fireworks of cases and solutions, especially the “Seattle Spirit” and the exemplary way of working in a team whose members work for mutual advancement, but also with its solutions to extremely complex cases and its amazing results in cases of severe bone defects.

Many pay lip service to collegial and friendly relationships and interactions, but few actually back this up with action in these times of globalization and increasing anonymity. All the more pleasant was the overall mood of friendliness and togetherness at Lake Tegernsee, making attendees feel like part of a large family. Local hero *Dr Siegfried Marquardt* and his omnipresent team held the whole meeting together, taking responsibility for the well-being of all while never forgetting the numerous exhibitors, the media and the sponsors whose help is instrumental in bringing about the success of this and similar events.

Add to this that the participants were treated to a Congress gala night at festive Gut Kaltenbrunn on Friday and “released” home with a cheerful Bavarian evening in nearby Kreuth on Saturday. Small wonder that many wished for the next “America meets Europe” not to take another eight years to materialize. STE ■



breident group days in Barcelona, Spain

New materials, new concepts: It's all about innovation

After its major congress in Berlin in 2014, breident this year organized six individual “breident group days” in different European countries. Up to 400 participants per event experienced extensive workshops that demonstrated new materials and treatment protocols for well-conceived approaches to immediate prosthetic restorations, innovative regeneration concepts, new physiological framework and hybrid materials as well as digital workflows – impressive presentations filling two densely packed days. In the Catalan capital of Barcelona, German dentists and dental technicians met with their Spanish counterparts at the end of September.

In his welcoming address, breident company owner *Peter Brehm* drew attention to the long-term care of aging patients, seconded by the event's scientific director *Professor Manfred Lang* (Nürnberg, Germany).

The first presenter, *Dr Georg Bayer* (Landsberg, Germany) pointed out that the dental technician, not the surgeon, is the key factor for success in oral implantology. The supplier of his choice, he said, was breident, a company where implantological and prosthetic competence are gathered under

one roof. *Professor Jörg Wiltfang* (University of Kiel, Germany) presented an update on the application of single-phase zirconia implants, while *Professor José Eduardo Maté Sánchez* (Murcia, Spain) introduced an immediate definitive restoration using a closed CAD/CAM workflow. He reported very positive experiences with PEEK as an abutment material. According to *Dr Alexandros Manolakis* (Thessaloniki, Greece), the most important advantage of the digital workflow, in addition to providing plan-

breident on top –
in the elegant Esferic
building on Montjuïc.



ning software and facilitating navigated surgery, is the speed and precision of CAD/CAM-fabricated prosthetic restorations.

Professor Marta Cabo Pastor and her dental technician *Jose Peidro Puerto* (Valencia, Spain) demonstrated two quick and easy fixed restorative solutions. *Cabo Pastor* uses the Helbo therapy for prophylaxis against bacterial infections and impaired wound healing. *Dr Frank Kistler* and his master dental technician *Stephan Adler* (Landsberg, Germany) presented as a German dream team, introducing decision-making trees for single-tooth and small bridge restorations. *Dr Manfred Lang* (Nürnberg, Germany) defined the integration of the dental technician's contribution into the digital workflow – as *Kistler* and *Adler* had so congenially demonstrated – as an impending worldwide challenge. The final highlight of the day was the presentation by *Dr Mario Parra* (La Nucia, Spain), accompanied by his father of the same name as dental technician, who can look back on ten years of experience with the high-performance polymer PEEK. Its special structure gives BioHPP its bone-like elasticity, which makes it an ideal framework material implant-supported rehabilitations.

Professor Kai-Olaf Henkel (Hamburg, Germany) got participants off to a good start the next morning with his lecture on “Anatomical complications and surgical solutions” and a firework of practical tips, followed by *Dr Sigurd Hafner* (University of Munich, Germany) and his elaborations on the scientific basis and surgical requirements of antimicrobial therapy using the Helbo laser. *Professor Alexander Schramm* (Ulm, Germany) works with navigated surgery almost exclusively. His bone augmentation cases including massive reconstructions following tumor resection are all computer-assisted, making them considerably less invasive and more predictable.

The presentation by *Dr Michael Weiss* (Ulm, Germany) addressed the use of custom abutments and the digital workflow in immediate restoration. *Dr Seitz* and his master dental technician *Jürgen Freitag* (Hanau, Germany) treated their audience to facts and visions on implant restorations with BioHPP. The round of presentations was concluded by another German team, dentist *Jan Kielhorn* (Öhringen) and his master dental technician *Björn Roland* (Klein-Winternheim) introducing All-on-SKY for restorations ranging from single-tooth restorations to full-arch rehabilitations. The afternoon offered a special programme for laboratory technicians as well as parallel workshops and table clinics where participants were given the occasion to deepen their understanding of the topics addressed in the theoretical presentations.



Interested visitors at the exhibition.



Peter Brehm: Small and medium enterprises as the basis of visionary projects.



Onward to the stars with Dr Jos Gal, the first German private astronaut at XCOR.

As a reward for their concentration on two densely packed days, participants enjoyed a Friday night gala event at the futuristic Esferic building on top of Barcelona's landmark hill Montjuïc, offering Spanish treats for the palate and the ears and stunning panoramic views of the Catalan capital. STE ■

First congress on root-analogue Replicate teeth attracts implant dentists to Amsterdam, Netherlands

Implantology in transition

Professor Daniel Wismeijer, Chairman of the Department of Oral Implantology of the Academisch Centrum Tandheelkunde Amsterdam (ACTA), had invited to a symposium on a new root-analog immediate implant that reduces the surgical risks and is a patient-friendly alternative to the traditional approach. The event was held under the motto of “Implantology is about to radically change — find out why”. The digital world has no borders, and exciting innovations meet with interest everywhere in the world. The speakers reported on their clinical experience with the Replicate system. Two live surgeries demonstrated how these patient-specific immediate implants are inserted.

The conference had been organized by the Department of Oral Surgery of the joint dental faculty (ACTA) of Amsterdam’s two leading universities and by Natural Dental Implants (Berlin, Germany). The ACTA, with its state-of-the-art facilities and its futuristic ambience, is certainly unique in Europe.

Although the symposium had originally been geared to a German or Dutch audience, attendees ultimately hailed from eleven different countries. *Professor Daniel Wismeijer* kicked off the event with his keynote speech, explaining that the traditional implant design had changed only minimally over the past decades. He suggested trying new approaches and being open to new ideas and pioneering technologies.

Dr David Anssari Moin, a research associate at the ACTA, reported on indications and factors for success for the Replicate system based on various case studies. The presentation by *Dr John Blythe*, oral and maxillofacial surgeon from London, United Kingdom, focused on patient satisfaction — especially in connection with the aesthetic results that can be achieved with this atraumatic and minimally invasive procedure. He said he kept being impressed by the simplicity of the procedure, which was quite unlike the very complex surgical reconstructions he usually faced.

Live surgeries transmitted from the OT showed the simple, rapid and precise handling that characterize the Replicate system. The two-rooted premolar and the three-rooted molar that *Dr Anssari Moin* had chosen were not exactly examples of simple root anatomies, but they impressively documented the system’s broad range of indications. The team of *Dr Reza Saeidi Pour*, research associate at the University of Munich, and *Dr Burkart Zuch*, dentist in Hamburg, both Germany, demonstrated aesthetic highlights in the anterior region. Exhibiting impressive didactic skills, the two of them walked the audience through the procedure, showing how this technology and a very gentle extraction method not only preserved the hard and soft tissues but actually significantly improved the soft-tissue situation — sometimes even creating a tissue excess.

The following speaker, *Dr Olivier Beckers* from the University of Brussels, Belgium, addressed the same subject. He felt that it was better “to preserve what is there rather than spending a lot of time and energy on replacing what was lost.” *Dr Dirk Duddeck*, director of the Clean Implant Foundation and a



Happy faces after a successful event (from left): Dr David Anssari Moin, Dr Dirk Duddeck, Dr Reza Saeidi Pour, Professor Daniel Wismeijer, Ruedger Rubbert, Dr Burkart Zuch, Dr John Blythe, Dr Olivier Beckers.



A view inside the 14-storey ACTA building with its state-of-the-art facilities.



ACTA welcomed visitors from eleven different countries to its symposium in Amsterdam.

guest researcher at the Charité University Medicine in Berlin, presented a comparative clinical assessment of the technological features of the Replicate system and conventional implant systems. He emphasized the quality and purity of the implant surface, the absolutely gap-free connections, plasma activation and cleaning, the super-hydrophilic

properties and the high-quality sealed packaging. Here, too, the Replicate system scored. The symposium was concluded with a collegial get-together. ■

More information

www.replicatetooth.com

Introducing Zest Dental Solutions

Zest Anchors, regarded as one of the global leaders and pioneers in the design and manufacturing of overdenture treatment technologies, today unveiled Zest Dental Solutions as its new company name reflecting both the evolution the company has realized and its vision for the future.

For nearly 40 years, Zest Anchors has focused on improving the lives of edentulous patients throughout the world with innovative, functional products for overdenture treatment. The company's flagship product, the Locator Attachment System, continues to be recognized by the implant industry, clinicians and patients as one of the most trusted brands for overdenture restorations. Never remaining idle, the company set its sights on providing more patient solutions by introducing a line of narrow diameter dental implants, the Chairside Product Portfolio consisting of dental tools and materials for overdenture modification and processing, and the next generation Locator R-Tx Removable Attachment System. In early 2016, further expanding the

breadth of its product portfolio, the company acquired Danville Materials, a leading manufacturer of restorative consumables, small equipment, and unique minimally invasive treatment solutions such as Perioscopy. To reflect the company's success and evolution, Zest Anchors, Danville Materials, and the Perioscopy product portfolios will all roll up under the umbrella company name Zest Dental Solutions, with the new name reflecting the diversity of the product portfolio and positioning the company for continued growth and future expansion. ■

More information

www.zestdent.com

The ITI launches Online Academy University Campus

A virtual classroom for future implantologists

The International Team for Implantology (ITI) announced the launch of its University Campus initiative. This unique programme is offered free of charge to universities and dental schools, providing them with a complete e-learning environment to facilitate implant dentistry education.

As an integral part of the ITI Online Academy – the ITI’s peer-reviewed, evidence-based e-learning platform –, University Campuses enable universities to set up, customize and manage their implant dentistry learning environment autonomously. Each University Campus comprises the necessary technical infrastructure as well as unlimited access to all ITI Online Academy content. Universities can also add their own learning materials to their Campus and organize all the content as a structured curriculum. This gives universities a unique opportunity to easily integrate implant dentistry into their undergraduate curriculum.

Within each Campus, an unlimited number of classrooms can be created, and students as well as learning content can be assigned to each individual classroom. Discussion forums on both the classroom and the Campus level round off the package. Students have ongoing access to all the materials in their classrooms throughout their course of study.

“The ITI recently took a strategic decision to address the needs of the emerging generation of dental professionals”, said *David Cochran*, ITI President. “By providing a multi-faceted, state-of-the-art e-learning platform free of charge to providers of undergraduate education, the University Campus initiative effectively demonstrates the ITI’s commitment to the future of implant dentistry.”

The first ITI Online Academy University Campus was launched in June 2016 at the University of Texas Health Science Center (UTHSCSA) at San Antonio, TX, USA. “The ITI Online Academy is the perfect platform for our virtual classroom,” said *Dr Stefanie Seitz*, Assistant Clinical Professor at the UTHSCSA Dental School. “The students really enjoy the way content is presented, and they appreciate the freedom to manage their learning. And if interested in additional information on a particular topic, they can explore in a self-directed manner.” Assistant Professor *Dr Richard Zimmermann* added: “The ITI Online Academy is a tremendous resource that allows students access to lectures from world-renowned experts.”

Three further Campuses will soon be established at the University of Melbourne, Australia, the Barts and The London School of Medicine and Dentistry, Great Britain and the Academisch Centrum Tandheelkunde Amsterdam (ACTA), the Netherlands. As of 2017, the programme will be rolled out at every university already affiliated with the ITI through an ITI Scholarship Center or an ITI Center of Excellence. Later on, every university or dental school that fulfills the criteria defined by the ITI can apply for a University Campus. ■



More information

www.iti.org

Interview with Rainer Berthan and Lars Henrikson, Dentsply Sirona Implants

“We are a People Company”

The summer’s thunderstorms had barely subsided when Dentsply Sirona triggered a thunderclap of its own in the implant market: Production is scheduled to be relocated from Mannheim to the locations Hanau in Germany and Mölndal in Sweden, while sales and customer service are relocated to Bensheim, Germany. “How were you thinking?” asked EDI Journal – and received responses from Rainer Berthan, Executive Vice President, Manufacturing and Supply Chain, and Lars Henrikson, Group Vice President, Dentsply Sirona Implants.

Well, so much for the tradition ... You are aware that Mannheim is one of the cradles of oral implantology in Germany?

Berthan: And you are aware that the first Benz car was also built in Mannheim, right? But that does not derogate the fact that Mercedes-Benz from Stuttgart is a very successful brand today. We are definitely aware of our roots and will continue to appreciate them. For us it is a successful continuation of our story – at nearby locations.

Mannheim stands for Ankylos, Xive or the Astra Tech Implant System – brands felt to be very strong and emotional.

Henrikson: And that is not going to change in any way, either. These strong brands and our direct contacts with our opinion leaders will not only continue to expand, but they will move on to new technological dimensions, such as completely digital workflows ...

Berthan: ... which is something that our customers – as we know from talking with them – simply expect from us. We do not call ourselves a Dental Solutions Company for nothing. Think of brands such as Ankylos, Xive and Astra Tech Implant System as unique personalities that are now part of strong family unit.

Henrikson: We know about our users, who have been loyal to our implants for decades. But these users – one might almost call them fans – deserve all the more for us to offer them contemporary and forward-looking solutions for improving their practice workflows.

Yet, oral implantology is a People Business. You do not perceive a risk that the more personal approach may be completely lost in these new large-scale structures?

Henrikson: Not at all – because we are a People Company. We are aware of our history and our heritage. All the more reason for us to keep it going strong to meet the challenges of today and tomorrow.

Berthan: Since the merger, Dentsply Sirona as a united company is one of the market leaders, if not the market leader, in many areas. 15,000 employees all over the world are a solid foundation to build on in order to combine our strengths and to exploit further potentials. Our task is to combine our extensive skills and abilities while staying close to the customer, for example at our Dental Academy, which trains thousands of dentists, dental technicians and dental specialists every year. The bandwidth of its future offerings will be immense.

The merging and optimization of production and logistics processes will be directly reflected for our users in the form of shorter delivery times, faster time-to-market for innovations and improved service.

Henrikson: Both for us and for our clinical users, product specialists will continue to contribute their strengths – it is just that these skills will be more clearly incorporated in comprehensive solutions on both sides. Our users have shown us the way, and we will be happy to follow it together with our employees and associates.

Thank you, Mr Berthan and Mr Henrikson, for your time and for this interview.

STE ■



Rainer Berthan,
Executive Vice
President,
Manufacturing and
Supply Chain



Lars Henrikson,
Group Vice President



Photo: Claude Lepaire/Paris

Interview with Peter Malata, Jonas Ehinger and Professor Neil Meredith

W&H and Osstell: a perfect match

As a surprise to the market, the Austrian family-run enterprise W&H at EAO in Paris announced its exclusive cooperation with the renowned Swedish company Osstell, together with its presentation of the new Implantmed generation. The new Implantmed impresses with numerous optimized features designed to satisfy today's needs in implant dentistry, periodontal and maxillofacial surgery. On top, Implantmed is available with an optional W&H Osstell ISQ module to measure the stability of an implant and, thus, control the healing period and optimize treatment times. EDI Journal met W&H CEO Peter Malata, Osstell CEO Jonas Ehinger and Professor Neil Meredith, who originally developed the resonance frequency analysis (RFA) method.

What gave you the idea of your cooperation to begin with and which company will benefit more?

Malata: You can speak of a triple win rather than a win-win situation here: We are both family-run or midsize companies with a strong innovative strain, so talks started very easily. With the unique combination of our state-of-the-art technologies, we can bring clear benefits closer to clinicians from all over the world and to their patients.

Ehinger: Another advantage of proprietor-led businesses like ours is that we accept each other's individualist approaches. We join forces as a winning team, but we also respect the individual history of each other.

What are the crucial benefits for the clinician?

Malata: Implantmed stands for ease of operation. The guiding principle behind the user interface

of the new generation was to integrate innovative functions which support an intuitive use. The aim is to make day-to-day work considerably simpler for both the surgeon and the dental nurse. In addition, the new surgical device presents a number of further improvements, such as an extremely small and lightweight motor, a wireless foot control and the best weight-torque relation you will find in the market.

Ehinger: Optionally, the new Implantmed can be equipped with the Osstell ISQ module as an efficient, clinically proven and reliable solution for measuring implant stability. Our implant stability diagnostics together with the sophisticated Implantmed for the surgical placement provides a unique capability benefitting both clinicians and their patients.

Why do you consider it vital for yourself and your patients to measure implant stability and to monitor osseointegration?

Meredith: Today, workflows in implant dentistry tend to be quicker, patients demand chairside solutions, implantations into extraction sites, immediate restorations or even immediate loading protocols. With this, you do not only need to know your implant's stability, but you had better also have a good documentation of it, both for yourself and for forensic reasons. With the Osstell, you get a proven diagnostic assurance and great prognostic values for your treatment. Combined with the Implant-med, which shows advanced ergonomic features I have never experienced before, both for myself and the assistants, it is a perfect match for many of today's challenges. Not to forget: It is a great tool for teaching, for explaining the biological process of implant stability and osseointegration to our students and dentists in postgraduate training for dental implantology. And the menu and guidance of the combined setting is extremely intuitive and user-friendly.

Malata: For the first time, you have this unique combination of insertion torque control and the initial-stability ISQ measurement. Moreover, documentation of both these parameters by patient ID and tooth position facilitates a comprehensive and more predictable treatment protocol. All these benefits are available with no additional complicated apparatus, instead providing a most convenient working process and surgical environment.

Thanks a lot for taking the time for this interview.

STE ■



Excellent results with Thommen Medical implants

A clinical study conducted by a group of scientists from Peking University School and Hospital of Stomatology, Beijing, China, and published in *Clinical Implant Dentistry and Related Research*^{1,2}, shows excellent results for Thommen Medical implants length 6.5 mm with superhydrophilic Inicell surface in severely atrophic posterior maxillae.

The prospective, randomized controlled clinical study shows that the two-year performances of short hydrophilic implants (6.5 mm) placed with osteotome sinus floor elevation procedures are similar to conventional long implants placed with lateral sinus floor elevation with bone grafting in severely atrophic posterior maxillae. Hydrophilic surfaces may be a favourable choice for patients with limited residual bone height as these implants can be loaded early in the elevated sinus, which contributes to the positive outcomes. ■

¹ Huajie Yu, Xing Wang, Lixin Qiu: Outcomes of 6.5-mm Hydrophilic Implants and Long Implants Placed with Lateral Sinus Floor Elevation in the Atrophic Posterior Maxilla: A Prospective, Randomized Controlled Clinical Comparison. *Clinical Implant Dentistry and Related Research*, Volume 00, Number 00, 2016 (Early view online version: DOI 10.1111/cid.12439).

² *Clinical Implant Dentistry and Related Research* is rated with impact factor 4.152 (Ranking: # 4/89) in the listing for journals on Dentistry, Oral Surgery & Medicine 2015 JCR Science Edition.

■ **More information**

www.thommenmedical.com

Interview with Paul Note, CEO Geistlich Pharma, Wolhusen, Switzerland

“There’s still a lot to do!”

2016 has been a special year for Geistlich Pharma. Two of its leading products, Geistlich Bio-Gide and Geistlich Bio-Oss, celebrated their 20th and 30th jubilee respectively. The company also toasted the 1,000th scientific study featuring Geistlich Biomaterials. Reason enough for EDI Journal to talk to CEO Paul Note about what has been achieved so far, what is happening now and what his vision for the future looks like.



Paul Note,
CEO Geistlich
Pharma

Geistlich Pharma has been celebrating a year of jubilees in 2016. What is the status of guided bone regeneration today?

It was very gratifying for me to hear the matter-of-fact statement by *Carlo Maiorana* from the University of Milan at a session of the EAO in Paris when he said: “Nothing new”.

In just a few words, *Carlo Maiorana* conveyed there is nothing to suggest that existing gold standards and materials in dental regeneration will be replaced by alternative methods.

Why do you consider the statement to be significant?

Looking back at the past also opens up a perspective for the future. The path we have been taking back then is still proving to have a lot of potential. There are plenty of competitors targeting the market with imitation products in an attempt to compete with us.

Do you associate any personal events with the years of the “birth” of Geistlich Bio-Oss (1986) and Geistlich Bio-Gide (1996)?

In 1986, I did my first consultancy work at Ed. Geistlich Söhne. The assignment covered its strategy, organizational structure and process-oriented operations. I spent an intense year in the company where I would go on to become CEO in 2006. In autumn 1996, I met Geistlich’s visionary pioneer, *Dr Peter Geistlich*, at the annual meeting. I was not working as a consultant for the company any more, but I had maintained contact. You could also call it an “after sales” service! This annual meeting met a need on both sides and very quickly became something of a tradition.

Peter Geistlich, the visionary who developed both these products and launched them on the market, died in 2014. Have you had cause to think of him during the jubilee?

Most definitely. In fact, the pioneering and entrepreneurial nature of what we do goes back to *Dr Peter Geistlich*. We are conducting research and working on projects today that he initiated with great energy and verve. His huge commitment still resonates to this day. The great success of guided bone regeneration as a gold standard method is in large part down to him. His vision of a strong pairing of products used in a surgical procedure has become and remains a reality.

The competition never rests. What makes you sure that you can stay number one?

People put their trust in Geistlich because for 30 years now, we have been providing proof of the scientific basis of our products, our professional competence and our quality. This year, we are celebrating the 1,000th scientific study on our biomaterials, which goes a long way to underpinning treatment predictability. We have worked hard to earn this status and the high opinion experts have of us. We are continuing along this same path.

Clinical research scientist Jan Lindhe recently went on record in an interview saying that Geistlich has made an essential contribution to peoples’ understanding of bone regeneration. Is this kind of applied research still one of the company’s interests?

On the one hand, we are conducting research for the purposes of examining clinical mechanisms. The specialist film we co-produced and recently released, “Cell-to-Cell Communication”, is the latest achievement to come out of this commitment. On the other hand, we are committed to materials

research, cell biology and translational development. Both these priorities support undertaking research the Geistlich way.

Geistlich maintains close contacts with opinion formers all over the world. In the next ten years, what developments in the sector come to mind?

After 30 years working in regeneration, I can say just one thing: There is still a lot to do! The need for action is probably even greater in soft tissue regeneration than it is in hard tissue regeneration. This goes hand in hand with an increased demand for education and practical training, which is also reflected in the expansion of our education group at Geistlich's head office. And we are supporting our two foundations – "Osteology" based in Lucerne and "Osteo Science" based in Philadelphia – which are concerned with research and education.

When you talk about education and training, do you have particular target groups in mind?

One of *Dr Peter Geistlich's* visions was, "The community of oral surgeons can make an even greater contribution to developments in science and clinical

research." The potential at the Osteo Science Foundation would therefore appear to be huge. The Osteology Foundation has been operating in its field for a long time now and is considered a competent partner by specialists.

Where will Geistlich be in ten years' time?

One of Geistlich's areas of activity is the further specialization of solutions. Another one comprises approaching and promoting wider user groups. For example, we are continuing to support disciplines such as periodontics. For their part, general dental practitioners have now reached a point where they carry out increasingly complex treatments with implants. We see ourselves as offering competent support on regeneration issues in an application-oriented way. Dental hygienists and dentists together play a major role in targeted interventions to eliminate oral cavity infections; we give these experts professional support. This kind of patient management has a huge potential.

Thank you very much, Mr Note, for your time and for this interview. ■

ethoss®



info@ethoss.co



www.ethoss.co



www.facebook.com/ethossco



"A paradigm shift in bone regeneration"

Available from:

Swallow Dental Supplies (UK)

+44 (0)1535 656 312

www.swallowdental.co.uk

Demedi Dent (GER)

+49 (0)231-4278474

www.demedi-dent.com

Ariston Dental (GRE)

(+30) 210 80 30 341

www.ariston-dental.gr

CPM Pharma (POR)

+351 22 463 8537

carlos@cpmpharma.pt

We are actively looking for new distributors. If you are interested email info@ethoss.co

Interview with Dr Christian Schmitt, Erlangen, Germany

Supporting the next generation

The support of upcoming talents, that is young scientists and practitioners, in the field of oral regeneration is one of the prime concerns of the Osteology Foundation. Dr Heike Fania spoke about the topic with Dr Christian Schmitt, Erlangen, specialist in oral surgery, member of the Foundation's Expert Council and himself a young scientist and practitioner.



Dr Christian Schmitt

Dr Schmitt, despite your young age, you have already had several years of professional experience and you have been involved in the Osteology Foundation for a number of years. What are your experiences as a young scientist and practitioner?

In my experience, research can certainly be a challenge for young scientists and career entrants. It was very helpful for me to be part of a research group with considerable experience. You automatically grow with your tasks and generate own research ideas. Meanwhile, I am very pleased to be able to pass on my knowledge to the upcoming generation.

Have you already benefitted from the activities of the Osteology Foundation yourself?

I participated in one of the first Research Academy courses and later on received a Researcher Grant to conduct my own research ideas. The national and international symposia are a fixed part of my educational activities. As a member of the Osteology Expert Council and lecturer at the Osteology Research Academy, I meanwhile significantly contribute to the further education of young scientists and I was able to participate in the development of The Box.

Please tell us a little more about The Box!

The Box is an online platform, a unique "all-round package" – focussed on oral regeneration, as well as being independent, international and free of charge. For example, it is possible to document clinical cases with the Case Box, to discuss them or to publish them. In addition, you can find abstracts, posters and videos of past congresses. I was mainly involved in the development of the "Research Wizard". It shows young researchers what they have to take into consideration when planning a research project and it points out important information, such as the Osteology Re-

search Guidelines, which are also available in The Box. And currently, we are working on additional content.

As part of the DGI Congress in Hamburg at the beginning of December, there will be a jointly organized symposium of the Osteology Foundation and the Next Generation Committee of the DGI. Together with your colleague Ilja Mihatovic, Düsseldorf, you will be acting as a moderator for this event. What is the programme about?

The idea is to introduce science into practice. Under the title "Science meets everyday practice", relevant insights from research will be transferred to daily practice routine. The subsequent interactive discussion will show which questions are still open. The audience will be able to ask questions via The Box and thus participate directly in the discussion.

Thank you for the interesting interview, Dr Schmitt.

A report on the joint symposium of the Osteology Foundation and the DGI will be published in the next issue of EDI Journal. More information and registration: www.osteology.org

Dr Heike Fania ■



A first-class event for Piezosurgery users

With great pleasure, Mectron announces its first Continuing Education Spring Meeting, patronized by the International Piezosurgery Academy.

The event will take place on Friday, 23 June 2017, in the spectacular city of Venice, one of the quaintest places in the world. Four internationally renowned speakers, *Professor Tomaso Vercellotti*, *Professor Leonardo Trombelli*, *D. Claudio Stacchi* and *Dr Rosario Sentineri*, will introduce different surgical techniques, such as ultrasonic implant site preparation, crown lengthening, split crest and sinus lift by crestal and lateral approach. Each application will be demonstrated in detail by the clinicians who developed it, with particular attention to relevant clinical protocols and illustrated by a wide range of clinical cases, arising from great experience and continuous scientific research. This innovative event offers a unique chance to get the most out of Piezosurgery techniques for the daily practice in one day. ■



Photo: Fotolia/Frank

Picturesque venue: Palazzo Franchetti in Venice, situated right at Canale Grande and dating back to the 16th century.

■ **More information and registration**

www.mectron.com/spring-meeting

Straumann and maxon motor announce partnership

Straumann has entered a partnership with maxon motor to develop ceramic components for dental implant systems that are produced by ceramic injection moulding (CIM) instead of conventional cutting techniques. The partnership includes a joint venture company, maxon dental GmbH, based near Freiburg in Germany, which will develop and produce CIM components for Straumann.

maxon motor has 20 years of experience in CIM for mechanical precision parts. During the past ten years, the company, headquartered in Switzerland, has broadened the application of its CIM technology to include dental implants, and owns various patent applications and patents. The partnership provides Straumann with access to this exciting technology and corresponding expertise.

Marco Gadola, CEO of Straumann, commented: "There are few – if any – technology providers in the world that can equal maxon motor with regard to innovation, expertise and reliability in CIM. Combining our strengths in dentistry with their

technology leadership, the initial goal of our joint venture is to make ceramic implant treatments easier for dentists and more affordable for patients who want highly aesthetic, metal-free solutions. We expect to launch our first CIM components in the near term – providing that the outcome of laboratory and clinical programmes and regulatory applications are favourable." ■

■ **More information**

www.straumann.com

Nobel Biocare launches free online course

The secrets of the All-on-4 treatment concept

For those looking to learn more about the evidence-based All-on-4 treatment concept [1-4], Nobel Biocare's new free online course offers a way to build knowledge that is essential for a successful start with this proven protocol.

The training has been developed for any clinician looking to increase their understanding of this established concept. The perfect complement to hands-on and classroom training, the free three-hour online course introduces the concept and covers the key considerations, from diagnostics to planning, implementation and follow-up. The course is initially available in English and Spanish, with German, Italian, French, Russian and Chinese versions to follow in the coming weeks.

Key elements of the course include:

- Seven diagnostic factors for the All-on-4 treatment concept;
- Considerations before treatment;
- Critical surgical and restorative factors;
- Surgical and prosthetic workflows;
- How to successfully implement the All-on-4 treatment concept in your practice;
- Patient communication and marketing.

Over nearly two decades, the All-on-4 treatment concept has been used to treat hundreds of thousands of edentulous patients and those with a failing dentition. It offers unique advantages over

traditional treatment options for both patient and clinician and is backed by 34 clinical studies published in peer-reviewed journals featuring over 2400 patients. The launch of the online training comes following the publication of the e-book, "How you can start with the All-on-4 treatment concept", which has already been downloaded over 10,000 times since its launch in early October.

The course has been developed in cooperation with *Dr Saj Jivraj*, a leading prosthodontist, and *Dr Hooman Zarrinkelk*, an experienced, board-certified oral and maxillofacial surgeon, who host the videos that make up the training. As colleagues in California, USA, the two experts have been successfully treating patients with the All-on-4 treatment concept for ten years, and are experienced educators in the required techniques.

For *Dr Jivraj*, the advantages for the patient are what makes developing proficiency in the All-on-4 treatment concept a rewarding achievement for implantologists. "Patients have the option to receive fixed temporary teeth the same day", he explains. "It truly is a life changer for many out there and gives the clinician great satisfaction."

This is echoed by co-trainer *Dr Zarrinkelk*: "Obtaining the knowledge and skills to perform the All-on-4 treatment concept will transform your practice by removing the typical obstacles patients face when considering full-mouth rehabilitation." On completion of the course, participants will earn three CE credits* and a certificate from Nobel Biocare. ■

*Not applicable in all countries.

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

The free online course is designed for surgeons, restorative dentists, and general practitioners as well as for dental and medical support teams of practices that offer the All-on-4 treatment concept.



More information and registration

www.nobelbiocare.com/all-on-4course

Ultrasonic implant site preparation technique using Piezosurgery

Studies confirm advantages of UISP

Piezosurgery implant site preparation, more commonly known as UISP technique, was born from an intuition of Professor Tomaso Vercellotti, followed and developed within the “International Piezosurgery Academy” and in collaboration with different university research groups.

The method offers significant advantages in the healing process, preserving trabecular bone architecture and allowing both to reduce cortical and cancellous bone trauma with respect to the rotating instruments, and to leave the bone surface thoroughly cleaned from milling residues.

Analysing site preparation techniques from the mechanical point of view, it becomes clear that the cutting action is promoted by a variable number of bumps of a cutting disk on the bone structure; the main difference between ultrasonic preparation and preparation with the drill consists precisely in the frequency of the impacts of the working part of the instrument on the bone mineralized structure.

In the ultrasonic technique, there are about 30,000 micro-shocks per second, whereas with drills these are a few dozens or hundreds. This is confirmed by the high micronization of the chips with ultrasonic preparation, and allows better control of the surgical instrument during osteotomy.

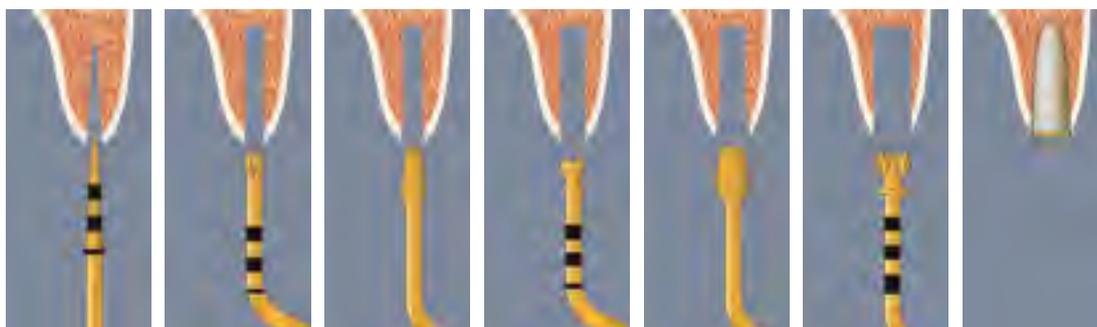
As in the traditional preparation with drills, the piezoelectric implant site preparation involves the use of a sequence of inserts with an increasing diameter with internal and external irrigation, to allow the placement of each type of implant; however, it is also possible to carry out one or more steps with drills in the case of particular geometries or implants with particular anatomical or clinical needs (Figs. 1 and 2).

The development of the UISP technique has led in a few years to the realization of many biomolecular, biomechanical, histological and radiographic studies, of which there is extensive bibliography available at www.piezosurgeryacademy.com.

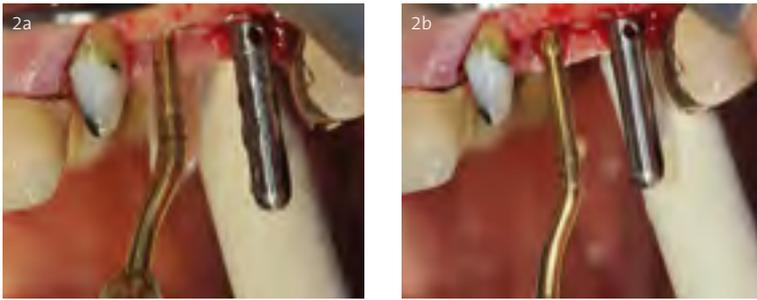
The first clinical results on the UISP technique applications have led to the publication of favourable case studies, including one published in 2014 on the International Journal of Periodontics and Restorative Dentistry: a multicentre work carried out on 3579 implants with three years of follow-up which was conducted on mature edentulous ridges, as well as on regenerated, post-extraction sites and on advanced reconstructive surgery with simultaneous placement of implants.

Another milestone in the history of the UISP technique was in 2011 in Lugano during the 1st International Congress of the International Piezosurgery Academy, where the definition of “ultra-osseointegration” was introduced and discussed to explain the biomolecular effects that ultrasonic preparation has made possible, as proven by a major study of the University of Turin, published by *Professor Preti et al.* in the Journal of Periodontology in 2007.

These results have also been confirmed in several in-vitro and in-vivo studies, which analysed the anatomical features of the bone after site preparation and the consequent healing physiology, showing a



1 | Protocol for the implant site preparation with piezoelectric technique.



2a and b | Ultrasonic site preparation.

reduction of bone damage in sites prepared with the UISP technique compared to traditional drills.

These studies have demonstrated the positive effects of the microsurgical precision cutting of ultrasounds and those of intensive cleaning by piezo-electric cavitation which frees the site from preparation drilling residues.

In addition, other studies have shown, after the UISP preparation, a minor loss of stability of the implants in the early stages of healing (*Stacchi et al., Clinical Implant Dentistry and Related Research, 2013*) and a higher peri-implant radiographic bone density in the UISP sites compared to those prepared with drills, suggesting an increased bone formation near the implant (*Di Alberti et al., Quintessence International, 2010*).

Ultrasonic implant site preparation is particularly advantageous

- in situations where immediate loading is chosen and it is imperative to try to obtain and maintain the highest possible stability. As is known, it is necessary in these cases to search for the cortical bone on which to engage the implants; the ultrasound action allows to perceive the different vibration between cortical and cancellous bone.
- in post-extraction sites, in order to easily address the preparation axis as correctly as possible.
- to correct a site initially prepared on an incorrect axis.
- in the presence of poor bone quality or of a very thin cortical as is often the case in the maxillary.
- when it is necessary to preserve delicate tissues, such as the sinus membrane or the alveolar nerve that the ultrasonic vibration does not damage, unlike a rotary drill.

In summary, ultrasounds determine less trauma to the bone structure, a more favourable healing response and a very low inflammatory phase with earlier reparative neobone apposition.

Dr Alberto Rebaudi, Dr Claudio Stacchi ■

More information

www.mectron.com

Periodontitis treatment with Curolox technology

In cooperation with the Zurich University of Applied Science (ZHAW) and the University of Zurich, credentis presented the first promising in-vitro data for the treatment of periodontal defects with the patented Curolox technology at the Swiss MedTech Day 2016.

Supported by the Swiss Commission for Technology and Innovation (CTI), the project team developed a tissue engineering model mimicking a periodontal defect for testing of the different candidates of the Curolox technology library. "The development of this model is in line with the current trend for in-vitro models and shows its enormous potential for predicting the effectiveness of a product. At the same time, it allows us to expand our expertise of three-dimensional soft tissue cultures such as the skin to the periodontium", says *Dr Stephanie Mathes*, Section Head of Tissue Engineering at ZHAW Wädenswil.

The goal of the project is to use Curolox technology as scaffold for the regeneration of soft and hard tissue in periodontal defects. "This in-vitro model allows us to screen the existing Curolox technology library in a fast and efficient way for the best candidate – the first promising candidates have already been identified", says *Michael Hug*, CTO of credentis ag. ■

More information

www.credentis.com

Straumann invests in India

A rapidly growing market

Straumann announced that it has signed an agreement to acquire Equinox, a fast-growing dental implant company with a leading position in the value segment in India. The acquisition will enable Straumann to enter the emerging Indian market, where the need for reliable, effective and affordable tooth replacement solutions is huge. Straumann will provide Equinox with the resources to sustain its development and dynamic growth in the value segment and will benefit from Equinox' networks, infrastructure and local expertise to establish Straumann's premium brand in India.

Dynamic growth, solid profitability

Equinox is a privately-held company that manufactures and sells the Myriad Dental Implant System and has gained a significant share of the Indian market. Having grown very dynamically over the past three years, Equinox achieved a solid operating profit in 2015. A major portion of its revenue was generated in the Indian market with a small, growing contribution from distributor markets in Asia, Africa and the Middle East.

The company owes its success to the entrepreneurial, visionary leadership of its founding owner and CEO, *Dr Shahvir Nooryezdan*, who has agreed to remain with the company and to join Straumann. *Dr Nooryezdan* combines his experience as a practitioner, his expertise in education and his insights into the Indian market to make simpler implant solutions more affordable to a broader population.

Local expertise, networks and partners are key

Without local business expertise, distribution channels, dental networks and a product offering specifically tailored to local needs, most international companies have not been able to address the Indian market effectively. Equinox on the other hand has successfully built a customer network in more than 180 cities across the country to become a leader in the value segment.

India – one of the most exciting growth opportunities for implant dentistry

While several million Indians have access to, and are able to afford premium tooth replacement solutions, they are a small minority in a huge population that does not have access to good quality implant treatment due to cost and the lack of trained

specialists. As a result, only 220,000 implants were placed in India in 2015, making it one of the least penetrated markets with just two implants placed per ten thousand people, in contrast for example to Brazil and the US, where the respective rates are 114 and 75. However, the standard of dentistry is rising and with organizations like Equinox, Straumann, and the International Team for Implantology offering training and education, the provider base will expand. In addition, the availability of inexpensive solutions and increasing awareness of dental implants make India one of the most exciting opportunities for tooth replacement companies. ■

More information

www.straumann.com



Dentsply Sirona implant solutions

Improving patient results and growing the business

At the EAO congress in Paris, Dentsply Sirona Implants presented several innovations which complement the elaborate portfolio of the company. The new solutions help to improve patient quality of life through function and aesthetics while at the same time fostering the growth of dental implant businesses.

Digital solutions

The Atlantis CustomBase solution combines an Atlantis abutment and an Atlantis crown with a screw access hole. The crown is cemented to the abutment extraorally and screw-retained into the implant, avoiding potential complications caused by excess cement. The crown can be fabricated in the customer's own software by ordering a unique digital file, with a screw hole indicated.

Atlantis CustomBase is a premium solution, available for single-tooth, screw-retained restorations on all major implant systems, and providing

- patient-specific design, as the VAD (Virtual Abutment Design) software takes the edentulous space, surrounding teeth and soft tissue anatomy into consideration to replicate natural tooth function and aesthetics;
- excellent fit between crown and abutment, due to design and manufacturing in the same process;
- flexibility of abutment materials and interface options.

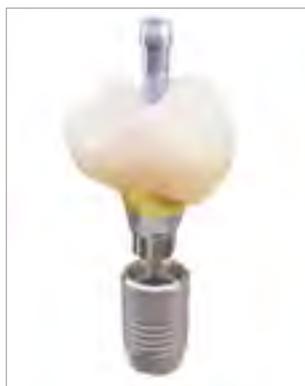
Additive manufacturing for fixed suprastructures

Additive manufacturing is a metal 3D printing technique which provides new possibilities for advanced geometries. It is available for Atlantis hybrids and bridges in cobalt-chrome and titanium.

The main advantage with additive manufacturing is individualized products with high precision and accuracy and limited need for further treatment before veneering with composite or ceramic material. In addition, additive manufacturing technology optimizes the retention for veneering. This unique increased retention promotes a better surface for ceramic or composite layering technique. Different retentive surfaces are available to fit the customer's needs. Additive manufacturing technology will continue to play a key role in the manufacturing at Dentsply Sirona.

Planning Service

With mySimplant Planning Service, clinicians have easy access to the benefits of computer guided implant treatment. Practitioners will have more time



Atlantis CustomBase solution for extraoral cementation.



Atlantis suprastructures in additive manufacturing.



OsseoSpeed Profile
EV implant.

to focus on and treat patients. This new outsourcing service from Dentsply Sirona Implants gives practitioners the possibility to rely on an experienced partner to build and grow their business while staying in control of their implant planning cases, and most importantly, without compromising the clinical outcome of their cases. mySimplant Planning Service can ease clinicians into the world of implant treatment, as well as facilitate their more complex cases.

Implant solutions

Newly published results* on OsseoSpeed Profile implants show optimized bone preservation, increased soft tissue volume and regain of keratinized mucosa in patients with compromised soft tissue conditions (width of less than or equal to 2 mm at postoperative visit).

PD Dr. Robert Nölken, co-author of the study, explains, "We have seen a great deal of improvement on the peri-implant soft tissue in our research follow-up. This allows us to achieve a good aesthetic outcome for patients with thin biotypes." The study – prospective, two-year, multicentre – investigates OsseoSpeed Profile implant survival rate, soft and hard tissue maintenance following placement in healed sites of the posterior mandible. 24 centres, 184 patients and 238 implants are included in the study.

Marginal bone preservation is an important factor to achieve excellent aesthetic results. OsseoSpeed Profile EV is a patented implant specifically designed for sloped situations. The implant is placed level with both buccal and lingual marginal bone, where the design supports the soft tissue by preserving marginal bone 360 degrees around the implant. ■

* Reference: Schiegnitz E, Noelken R, Moergel M, Berres M, Wagner W. Survival and tissue maintenance of an implant with a sloped configured shoulder in the posterior mandible – a prospective multicenter study. Clin Oral Implants Res 2016;E-pub May 13, doi:10.1111/clr.12869.

More information

Dentsply Sirona International Headquarters
Sirona Straße 1
5071 Wals bei Salzburg
Austria
contact@dentsplysirona.com
www.dentsplysirona.com

Hypro-Oss[®]

patented bovine
bone graft composite

each granule is a composite
of 30% Atelo-Collagen Type I
and 70% hydroxyapatite

conductive and inductive
properties

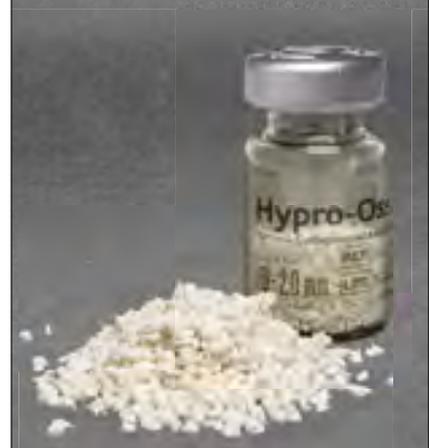
excellent handling

atelo-peptidized

lyophilized

haemostatic properties

bacteriostatic properties



bioimplon GmbH
Biotech Innovation Pioneers

Friedrich-List-Str. 27
35398 Giessen, Germany
+49 (0) 641 6868 1123
www.bioimplon.com

NobelProcera high translucent, multilayered full-contour zirconia

Strength meets aesthetics in full-contour zirconia

Full-contour zirconia restorations are growing in popularity [1]. Long-associated with high strength, advances in zirconia materials have led to substantial improvements in aesthetics and efficiency. A perfect example is the high-translucent, multilayered full-contour zirconia from NobelProcera.

Achieve aesthetic results in less time

With NobelProcera's full-contour restorations, aesthetics and efficiency have been considered at every step. At the start of the process, powerful CAD tools in the NobelDesign software make it straightforward to design an aesthetic restoration. At the production stage, the restorations are produced with the consistent quality and precision of fit which NobelProcera production is known for.

NobelProcera full-contour restorations do not require veneering or sintering, so less labor is needed to finalize the restoration. Excellent occlusal details and surface finish mean the technician only needs to apply subtle staining, if desired, before polishing and glazing.

The multilayered nature of the zirconia also helps to save time. By mirroring the natural color variations between the cervical margin of a tooth, the dentin and the enamel, the technician has less work to do to achieve an aesthetic result. Aesthetics are further enhanced by the high translucency of the material, making NobelProcera full-contour zirconia restorations suitable even for anterior cases.

In cases where the technician feels that traditional ceramic layering is required to achieve the desired aesthetic result, a partial cut-back of the material is easy to do in the NobelDesign software. The ceramic can then be layered on top to cre-

ate an optimized blend of high-end aesthetics and high-strength monolithic zirconia.

There are aesthetic advantages for the clinician when it comes to placement of the restoration, too. Due to the fact that the color runs throughout the material, final adjustments won't cause color variations or white spots on the restoration.

Chosen for strength that lasts

Strength remains a key benefit of monolithic zirconia and NobelProcera's full-contour zirconia exhibits strength at a level that helps prevent remakes.

NobelProcera's full-contour zirconia has been selected for properties that support outstanding durability. It has been shown to undergo minimal monoclinic shift, meaning its structure resists changes caused by pressure and moisture over time, making the material highly durable [2]. Plus, with full-contour restorations, the risk of veneer chipping is removed.

NobelProcera will expand its range of full-contour zirconia solutions over time, increasing choice and flexibility, with each option designed to address the patient's long-term functional and aesthetic needs. Given the benefits in terms of strength, durability, aesthetics and ease of use, NobelProcera full-contour zirconia restorations are set to be a popular choice for clinicians and dental technicians alike. ■

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



NobelProcera full-contour zirconia restorations possess well-defined occlusal details, helping reduce the time it takes for the technician to achieve the desired result.

More information

www.nobelbiocare.com/crown

Implant restorations with Cerec

Enhanced range of TiBases for more implant systems

Aesthetics, quality and, above all, fewer treatment sessions – thanks to Cerec, these patient wishes can now be realized in a reliable and modern way. The range of Cerec TiBases has been expanded to encompass important implant systems, including those from Dentsply Sirona Implants.

At the 25th Annual Scientific Congress of the European Association of Osseointegration (EAO) in Paris, Dentsply Sirona presented Cerec's enhanced range of TiBases: Together with the corresponding scanposts, these enable hybrid custom abutments and/or screw retained crowns to be delivered in a single patient visit.

With the new TiBases, further implant systems are now supported in Cerec, in particular those from Dentsply Sirona Implants with Ankylos, Astra Tech Implant System EV and Xive, which, up to now, were not part of the Cerec portfolio. TiBases and scanposts have been introduced for these as well as for BioHorizons (internal connection) and Osstem TS: "These new Cerec TiBases allow dentists to treat patients not only in a single visit, but potentially with a workflow from a single source", explained *Roddy MacLeod*, Group Vice President CAD/CAM at Dentsply Sirona. "The advantage of this is fewer treatment sessions for the patient and fewer suppliers needed for the dentist."

A base for many Cerec restorations

TiBases form the basis for two-part customized abutments. These can be used for a wide variety of applications: As part of a hybrid abutment, the Cerec TiBase is an alternative to a multitude of standard abutments which differ in terms of gingival heights, lengths and angulations. Hybrid abutments with a TiBase can be used as a screw-retained crown, as a provisional restoration and as a customized healing abutment. They can be processed and inserted directly in the dental practice. Moreover, the dentist has the advantage of being free to choose the material for the abutment to be produced with Cerec. Hybrid abutments with a mesostructure made up of zirconium dioxide boast,



The range of TiBases from Dentsply Sirona has now been expanded, which means that even more implant systems can be treated with Cerec.

compared to those made of titanium, improved ap-
position on the gingiva and enable better aesthet-
ics to be achieved. In addition to zirconium oxide,
further materials from Cerec material partners can
be used, such as IPS e.max from Ivoclar Vivadent.

Live demonstrations at the trade fair booth

Dentsply Sirona presented at the EAO Annual Con-
gress with a joint booth for Implants and CAD/CAM.
This offered dentists, scientists and other experts
from the dental industry the chance to find out
more about the extended product range and also
experience the live demonstrations first hand.

The new TiBases require the Cerec SW 4.4.4 which
will be available in the very near future. ■

More information

www.dentsplysirona.com

NobelDesign: powerful CAD tools without complexity

Familiar friend, powerful ally

For decades, Nobel Biocare has been redefining the work of dental technicians around the world with NobelProcera. Now, Nobel Biocare introduces the next step forward, the NobelDesign software, which combines advanced CAD tools with an intuitive and adaptive interface.

The intuitive NobelDesign interface supports a simplified workflow that allows dental technicians to create, scan and manage multiple cases with ease. Best of all, it adapts to each user's preferred way of working, increasing workflow efficiency over time.

For many dental technicians, NobelDesign will seem familiar and fresh at the same time. NobelDesign integrates well-known exocad CAD tools for the efficient design of cemented and screw-retained restorations, accessed via the NobelDesign Cockpit.

There is real power in the NobelDesign toolbox: Numerous robust and automated applications are included in the base module, assisting dental technicians with the design of crowns, abutments, and bridges as well as providing insight into how their restorations will look and function in patients' mouths. Libraries filled with archetypal teeth, crowns, bridges and implants provide excellent starting points from which dental technicians create their own patient-specific restorative solutions.

Another way to accelerate the design workflow is NobelDesign's Mirror Tooth function. The dental technician uses a mirror image of the shape and

anatomy from the contralateral quadrant of the target tooth. This copy forms the basis upon which he or she designs the patient-specific restoration.

A focus on function

Aesthetics are important, but function is the ultimate goal. For testing function in the virtual environment, NobelDesign offers the Virtual Articulator feature. This application allows users to view their designs in a patient's complete dentition. Articulated movements visualize and predict occlusion, helping dental technicians confirm prosthetic fit.

During the design process for screw-retained restorations, the screw access hole is typically predetermined based on implant placement. However, in cases where aesthetics would be sacrificed or fixation of the restoration could be difficult, a dental technician can adjust the angulation of the screw access hole within the restoration. With this option, screw access can be angulated from 0° to 25° in a 360° radius. This can enable the use of a cement-free restoration in situations where it might have been impossible previously.

Another tool allows users to create a cutback for the restoration in order to aid with veneering. With NobelDesign's Shrinking feature, the user can easily select which area to cut back, depending on whether he or she wants to fully or partially veneer the restoration.

During the final stages of restoration design, dental technicians can employ the exocad TruSmile technology which renders restorations with photographic realism, displaying final tooth shape and fissure design. ■



The TruSmile feature visualizes fissure design and tooth shape in photorealistic renderings.

More information

www.nobelbiocare.com/nobeldesign

Bioimplon Hypro-Sorb X

Product
Hypro-Sorb X

Indication
Alveolar ridge preservation/haemostasis

Distribution
Bioimplon GmbH
Friedrich-List-Str. 27
35398 Gießen
Germany
www.bioimplon.de



Hypro-Sorb X is a root-shaped cone of pure, crystalline, bovine atelocollagen type I. It is indicated to stop the bleeding after tooth extraction and to help preserve the alveolar ridge.

The Hypro-Sorb X cone is made of 99.9 per cent atelocollagen type I, a modified collagen from which immunogenic telopeptides have been biochemically eliminated which ensures highest biocompatibility and safety. Thanks to Bioimplon's lyophilization processing technology, the natural collagen structure with all its bioactive elements is preserved in the cones without alteration. This unique product has an approved bacteriostatic effect and is strongly hydrophilic. All these advantages make Hypro-Sorb X a powerful haemostatic which ensures accelerated wound healing, optimal cell adhesion and blood absorption. In addition to that, Hypro-Sorb X features an excellent handling, because its special shape and soft consistence fit precisely into the extraction socket and can be cut to size, if needed. ■

THOMMEN
Medical

CLEAR. OVER.

**THE OPTIMALLY DESIGNED
ABUTMENT SCREW:
DISTINCTLY THOMMEN.**



**"AN INTELLIGENT DESIGN
FOR LONG-TERM
PROSTHETIC STABILITY."**

DR. RINO BURKHARDT,
ZURICH



SWISS CRAFTSMANSHIP FOR DENTAL PROFESSIONALS
www.thommenmedical.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**.



Get it!

EDI JOURNAL

Fax +49 8243 9692-22

Yes, I sign up for a 1-year subscription to EDI Journal (4 issues) for only € 40,- (incl. shipping and VAT in Germany). For readers outside Germany the annual subscription is € 58,-. The subscription period will automatically renew for a successive one (1) year unless cancelled by the subscriber 8 weeks before the end of the related subscription term.



teamwork media GmbH
Hauptstr. 1,
86925 FUCHSTAL
GERMANY
Phone +49 8243 9692-0
Fax +49 8243 9692-22
service@teamwork-media.de
www.teamwork-media.de

Name

Street

Country / Post Code / Town

Phone / Fax

Date / 1. Signature

I am aware of having the right to cancel this subscription order up until two weeks upon receipt of the order confirmation. In order to cancel it is sufficient to send a written note to: teamwork media GmbH, Hauptstr. 1, 86925 Fuchstal, Germany. I confirm being aware of it with my 2. signature.

Date / 2. Signature



MEMBERSHIP REGISTRATION FORM

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

Name:

First Name:

Country:

Zip code / City:

Street:

Phone:

Fax:

E-Mail: @

Homepage:

Date of Birth:

Practicing implantology since:

Member of other Societies:

ICOI BDO DGI DGZI DGMKG EAO

Continuing education Courses:

Fellowship status / diplomate status in implantology

Yes No Organization

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

The annual membership fee for:

FULL MEMBERSHIP

- | | | | |
|--------------------------|--|--------|------|
| <input type="checkbox"/> | Full member - clinical | 345,00 | Euro |
| <input type="checkbox"/> | Assistant dentist / young professional
(up to 5 years after graduation) | 172,50 | Euro |
| <input type="checkbox"/> | Second membership / family member | 172,50 | Euro |

EXTRAORDINARY MEMBERSHIP

- | | | | |
|--------------------------|---|------------------|------|
| <input type="checkbox"/> | Co-operative Member
(Professionals without practice
and dental technicians) | 165,00 | Euro |
| <input type="checkbox"/> | Students | non-contributory | |
| <input type="checkbox"/> | Supporting Membership
(Companies etc.) | 530,00 | Euro |

Payment

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

Commerzbank Bonn

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

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

City / Date :

Seal / Signature:

Please return the completed registration form to:

European Association of Dental Implantologists e. V.
An der Esche 2 • D - 53111 Bonn
Fon: + 49 (0) 228-93592-44
Fax: + 49 (0) 228-93592-46
E-Mail: office-bonn@bdizedi.org
Homepage: www.bdizedi.org

Calendar of Events

	Event	Location	Date	Details/Registration
2/2017	Dentsply World Summit Tour 2017	Tokyo Japan	18 – 19 February 2017	Dentsply Implants www.worldsummittour.com
	Chicago Dental Society Midwinter Meeting	Chicago USA	23 – 25 February 2017	Chicago Dental Society (CDS) www.cds.org
	12th BDIZ EDI Expert Symposium	Cologne Germany	26 February 2017	BDIZ EDI www.bdizedi.org
3/2017	ADI Team Congress	London Great Britain	2 – 4 March 2017	Association of Dental Implantology UK www.adi.org.uk/events/congress17
	AO Annual Meeting	Orlando USA	15 – 18 March 2017	Academy of Osseointegration www.osseo.org
	37th International Dental Show	Cologne Germany	21 – 25 March 2017	Koelnmesse GmbH www.ids-cologne.de
4/2017	Dental Salon	Moscow Russia	17 – 20 April 2017	Dentalexpo www.dental-expo.de
5/2017	ITI World Symposium	Basel Switzerland	4 – 6 May 2017	International Team for Implantology www.iti.org/worldsymposium2017
	Global Symposium 2017	Miami USA	4 – 6 May 2017	BioHorizons www.biohorizons.com
6/2017	Mectron Spring Meeting 2017	Venice Italy	23 June 2017	mectron dental www.mectron.com/spring-meeting
8/2017 9/2017	FDI Annual World Dental Congress	Madrid Spain	29 August – 1 September 2017	FDI World Dental Federation www.fdiworldental.org
10/2017	EAO Annual Scientific Congress	Madrid Spain	5 – 7 October 2017	EAO European Association for Osseointegration www.eao.org/eao-congress

EDI Journal – Information for authors

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

- Original scientific research
- Case studies
- Product studies
- Overviews

Manuscript submission

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

Manuscripts

Pages should be numbered consecutively, starting with the cover page. The cover page should include the title of the manuscript and the name and degree for all authors. Also included should be the full postal address, telephone number, and e-mail address of the contact author.

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

Illustrations and tables

Each article should contain a minimum of 20 and a maximum of 50 pictures, except in unusual circumstances. Our publishing house attaches great importance to high quality illustrations. All illustrations should be numbered, have a caption and be mentioned in the text.

The photos should have a size of 10x15 cm, the image or graphic files must have a resolution of 300dpi. Tiff, eps and jpg file formats are suitable. Radiographs, charts, graphs, and drawn figures are also accepted.

Captions should be brief one or two-line descriptions of each illustration, typed on a separate page following the references. Captions must be numbered in the same nu-

merical order as the illustrations. Tables should be typed on a separate page and numbered consecutively, according to citation in the text. The title of the table and its caption must be on the same page as the table itself

References

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

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

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

Review Process

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

Page Charges and Reprints

There are no page charges. The publisher will cover all costs of production. The journal will provide the primary author with a PDF file of the article and a free copy of the journal issue in which the article appears.

Editors office:

teamwork media GmbH
Hauptstr. 1
86925 Fuchstal/Germany
Phone: +49 8243 9692-0
Fax: +49 8243 9692-22
service@teamwork-media.de
www.teamwork-media.de

NEW!

Geistlich
Biomaterials

GEISTLICH BIO-GIDE® COMPRESSED
FEEL THE DIFFERENCE.

ALTERNATIVE
HANDLING

EASIER
TO CUT

FIRMER
FEEL



www.geistlich-biomaterials.com

Example is not shown in real dimensions

 **swiss made**

LEADING REGENERATION



NEW!
2017

The Evolution of the BEGO Semados[®] S-Line

BEGO Semados[®] S implants have become
SC and SCX implants.*

www.bego.com/scx

*For more information on our new products and their
availability, please visit www.bego.com/scx

Partners in Progress

