



European Association of Dental Implantologists

Bundesverband der implantologisch  
tätigen Zahnärzte in Europa e.V.

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# EDI JOURNAL

European Journal for Dental Implantologists



## 41<sup>ST</sup> IDS IN 2025

Oral implantology as a central topic for  
an international specialist audience

**EDI News** | BDIZ EDI celebrates 20 years of the Expert Symposium | IDS—Implantology is a key theme | Looking back: This was IDS 2023 |

**Europe** | EJC: Selling through Amazon is illegal | A fools' errand | CED President Freddie Sloth-Lisbjerg re-elected | **Case Studies** | Single short  
implant in maxillary second molar area with low bone density | Digital workflow in guided immediate implant placement |

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# Come celebrate!



Dear colleagues,

What has the European Association of Dental Implantologists (BDIZ EDI) been doing in 2024—and, more important, what is it going to do in 2025?

For more than a quarter of century, BDIZ EDI, in cooperation with the University of Cologne, has been teaching young and interested dentists the basics of oral implantology. In October, Prof. Zöller and Prof. Nickenig started the 26<sup>th</sup> course at the University of Cologne. Due to high demand, the BDIZ EDI has started a second Curriculum in the south of Germany in September, which is being supervised by Prof. Zöller and Dr Markus Tröltzsch. Whereas the Cologne Curriculum has a permanent location at the University, the southern counterpart takes place alternately in Munich and in Ansbach. Its modern concept consists of both face-to-face events and online courses that can be accessed on demand. High quality, small groups, affordable fees—that is still our motto. We are happy to share our expertise on the structure of our Curricula modules with our partner associations if they see a need for their own Curricula Implantology.

In 2024 we have celebrated the 35<sup>th</sup> anniversary of our association. I have been involved from the very beginning—and I was around when oral implantology was just gaining scientific recognition in 1988. Today, our Curricula enable every dentist to work independently in implantology in their own practice. What our members appreciate most is the broad range of activities that goes far beyond science, practice, accounting and law. The BDIZ EDI looks beyond German national laws and regulations. Many EU regulations now affect the European dental practices. Exchanging ideas with European colleagues is not only exciting in itself, it also produces results—as we can clearly see with the Curricula.

BDIZ EDI is one of the few associations to formulate scientific statements. Since 2006, the European Consensus Conference

(EuCC), under the auspices of the BDIZ EDI, has annually issued guidelines that have the status of a recommendation to provide practitioners with support on current issues relating to implant therapy. At times, these guidelines far transcend implant surgery and implant prosthodontics and cross the line into the legal realm.

Let's take a look at the coming year. It's my pleasure to invite you to the 20<sup>th</sup> Expert Symposium in Cologne. On 1 and 2 March 2025, we will be celebrating 20 years of the renowned symposium discussing the "hot" topics in implantology. 20 years of the symposium means 20 years of the European Consensus Conference (EuCC) and 20 guidelines the EuCC produced. All guidelines you'll find on our website in German and in English language. In 2025 we'll be focusing on complications in implantology—why did it happen? We have slightly modified the concept to interest the next generation of implantologists. Since 20 years the Expert Symposium is being held under the proven scientific direction of Prof. Zöller—my dear friend Joachim. For many years he was the Director of the Department of Cranio-maxillofacial and Plastic Surgery and Interdisciplinary Department for Oral Surgery and Implantology at the Centre for Dentistry and Oral and Maxillofacial Surgery of the University of Cologne, Germany. He still is the President of Colognes oldest carnival society.

Come celebrate with us in Cologne. Come visit us at the end of March at the International Dental Show IDS in Cologne. As you can see: Cologne is the place to be in the year 2025.

Best regards,

A handwritten signature in blue ink, appearing to read "K. Berger". The signature is fluid and cursive.

Christian Berger  
President BDIZ EDI



BDIZ EDI celebrates 20 years of the Expert Symposium



41<sup>st</sup> International Dental Show (IDS) 2025—  
Implantology is a key theme



Selling through Amazon is illegal

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# Partner Organizations of BDIZ EDI



## Association of Dental Implantology UK (ADI UK)

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



## Ogólnopolskie Stowarzyszenie Implantologii Stomatologicznej (OSIS EDI)

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



## Sociedad Española 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 50<sup>th</sup> anniversary and the board is still emphasizing the importance of cooperating with other recognised and renowned professional societies and associations throughout Europe.



## Sociedade Portuguesa de Cirurgia Oral (SPCO)

SOCIEDADE PORTUGUESA DE CIRURGIA ORAL

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



## Udruženje Stomatologa Implantologa Srbije-EDI (USSI EDI)

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

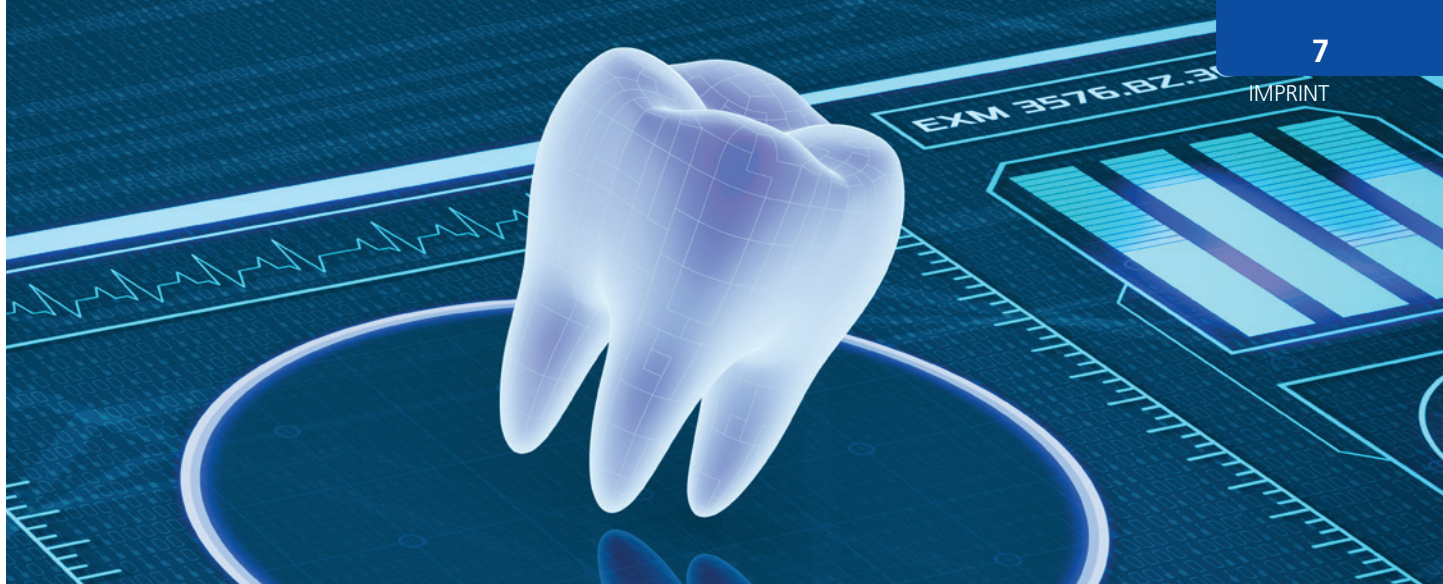


## EDI of Macedonia

The Association is Albanian Implantology Association of Macedonia—AIAM was founded in 2013 as a branch of Albanian Dental Society of Macedonia. The association was created to advance education in the field of dental implantology for the benefit of the population. The objectives of the association are:

- To promote the progress of education, research and development of dental implantology in Macedonia
- To encourage postgraduate education, study and research in dental implantology through:
  - Appointment of meetings, lectures, seminars and courses either individually or with others
  - Encouraging the publication of dental implantology articles!
  - To cooperate and make agreements with relevant, national, local, foreign and different institutions.

In 2017, AIAM & MAOS (Macedonian Association of Oral Surgeons) became EDI of Macedonia and signed a Cooperation Agreement with BDIZ EDI to cooperate in dental implantology!



## Scientific Board

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All case reports and scientific documentations are peer reviewed by the international editorial board of EDI Journal.

Chair is Professor Jörg Neugebauer.

## Imprint

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1 and 2 March 2025: Complications in implantology—why did it happen?

# BDIZ EDI celebrates 20 years of the Expert Symposium

The Expert Symposium will be held in Cologne for the 20<sup>th</sup> time. For this anniversary symposium on Sunday, 2 March 2025, the BDIZ EDI is offering a modified concept that is particularly aimed at the next generation of implantologists.

In addition to the experts, the speakers' assistants will present cases and discuss them with the main speakers and the participants. The topic of complications in implantology will therefore be back on the agenda after 2019.

In 2025, the European Consensus Conference (EuCC) under the auspices of the BDIZ EDI will again discuss complications in implantology in the run-up to the 20<sup>th</sup> Expert Symposium. The then 14<sup>th</sup> guideline, the EuCC consensus paper, summarised the 2024 results as follows:

*“Dental implants are reliable treatment options for restoring patient function and aesthetics. Careful case selection is necessary by considering not only the oral findings alone. Due to the great variation of implant designs and surgical and prosthetic procedures proposed, the individual suggested parameter should be followed to avoid complications. All procedures should be performed by treatment providers with the requisite up-to-date expertise and training.”*

The day before, on Saturday 1 March 2025, delegates will be treated to new technological and scientific evidence in four workshops hosted by industry partners. New to the programme is a presentation award, which will be presented at the end of the one-day symposium.

The 20<sup>th</sup> Expert Symposium will be held under the proven scientific direction of Prof. Joachim E. Zöller. Zöller, Vice President of the BDIZ EDI, has also been the President of the “Grosse von 1823”, Cologne's oldest carnival society, for many years. All participants are once again invited to the Great Sunday Session in Gürzenich Hall. For the second year in a row, the Expert Symposium will be held at the Pullman Hotel in Cologne's Helenenstraße.

The workshops will be held on Saturday between noon and 6 p.m. The latest information can be found on the BDIZ EDI website.

Register now for the Anniversary Symposium—it is more than worth it.  
Register online:

## 20<sup>th</sup> BDIZ EDI Expert Symposium

Pullman Hotel, Cologne

1 March 2025: Industry workshops

2 March 2025: Symposium

More information  
and registration:







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### Workshop day, Saturday 1 March 2025

Error prevention in the aesthetic zone versus complication management  
**Dr Amely Hartmann (Filderstadt, Camlog)**

Digital implantology: Ways to achieve more speed, better quality, and greater predictability today  
**Dr Detlef Hildebrand (Berlin, Megagen)**

Immediate implant placement in the aesthetic zone: frequent failures and how to avoid them  
**Dr Adriano Azaripour (Bad Soden, BEGO implant Systems)**

Navigation in oral implantology  
**Dr Markus Tröltzsch (Ansbach, Nobel Biocare)**

### Symposium day, Sunday 2 March 2025

09:00 – 09:15	Welcome 20 <sup>th</sup> Expert Symposium <b>Christian Berger and Prof. Joachim E. Zöller</b>
9:15 – 9:45	Major presentation Complications from a legal perspective <b>Prof. Thomas Ratajczak (Sindelfingen)</b>
10:00 – 10:45	Major presentation Deviations from 3D planning: always a complication? <b>Prof. Jörg Neugebauer (Landsberg am Lech)</b>
10:45 – 11:15	Coffee break Dental exhibition visit
11:15 – 11:30	Short presentation The learning curve in 3D-based implantology: Is everything really made easier? <b>Dr Paul Henn (Ölbrunn-Dörn), PhD student with Prof. Neugebauer</b>
11:30 – 11:45	Short presentation Complications in fully guided oral implantology <b>Nikolaus Ernst, assistant of Prof. Schlegel</b>
11:45 – 12:30	Major presentation Demographics—what is happening? <b>Dr Markus Tröltzsch (Ansbach)</b>
12:30 – 13:30	Lunch break Dental exhibition visit
13:30 – 13:45	Short presentation All-ceramics on implants—is stronger always better? <b>Dr Tobias Graf, assistant of Prof. Güth</b>
13:45 – 14:00	Short presentation Damage related to local anaesthesia <b>Ina Younan, assistant of Dr Hartmann</b>
14:00 – 14:45	Major presentation Avoiding complications in implant prosthetics <b>Prof. Jan Güth (Frankfurt am Main)</b>
14:45 – 15:15	Coffee break Dental exhibition visit
15:15 – 16:00	Major presentation Why neurophysiological changes get on your nerves <b>Dr Amely Hartmann (Filderstadt)</b>
16:00 – 16:15	Short presentation <b>TBA</b> <b>VFwZ award winner</b>
16:15 – 17:00	Major presentation Complications in augmentative implantology <b>Prof. Andreas Schlegel (Munich)</b>
17:00 – 17:30	Results of the European Consensus Conference (EuCC): Updates on complications in oral implantology <b>Prof. Jörg Neugebauer (Landsberg am Lech)</b>
17:30 – 18:00	Discussion, award ceremony <b>Christian Berger and Prof. Joachim E. Zöller</b>

# ANNIVERSARY ADDRESSES

We will soon be celebrating the 20<sup>th</sup> anniversary of the Expert Symposium in Cologne. 20 years ago, our Vice President Prof. Joachim E. Zöller developed and implemented this special one-day symposium. Since then, the BDIZ EDI Expert Symposium has continued on its successful path. Joachim Zöller was able to make the current topic of the year in oral implantology into the top topic of the Expert Symposium. At peak times in Cologne, we had over 300 participants on a single day.

And what makes it so special: The Expert Symposium is held on the last weekend of carnival—in the middle of the city centre, when fools and jesters dominate the streets of Cologne. Hardly anyone would think of organising a scientific congress at this time of year—let alone on a Sunday.

So why are we doing it? Because our Scientific Director has also been the President of the “Grosse von 1823”, Cologne’s oldest carnival society, for many years. The “mother of all carnival societies” celebrated its 200<sup>th</sup> birthday in 2023, having passed on the values of the traditional Cologne carnival through eight generations to the present day. Anyone who has experienced carnival in Cologne will be aware of its importance here—it is the 5<sup>th</sup> season in the cathedral city. We will be there during the day to discuss a serious topic, and in the evening, we will celebrate with the participants in Cologne’s top venue, Gürzenich Hall. Don’t miss this anniversary event!

**Christian Berger**  
President



The topics we have dealt with in recent years are those that concern us in our daily implant practice: immediate loading and immediate restoration, ceramic materials, ceramic implants, peri-implantitis. Artificial intelligence was our topic in 2024—and we continue to discuss possible complications that need to be avoided in a predictable way.

Over time, guidelines have been developed as recommendations for practitioners that are still valid today or have been updated. For example, the ABC Cologne Risk Score, first introduced in 2012 and updated in 2022, allows the clinician to assess upcoming implant treatments using the ABC system, visually represented in different colours. In 2013, the Cologne Classification of Alveolar Ridge Defects (CCARD) for standard bone augmentation cases, which we have divided into three categories, was used for the first time to classify bone loss in the maxilla and mandible.

The aim of our Expert Symposium is to prevent potential complications during implant treatment and to provide recommendations for the management of existing complications. Each symposium is supported by a guideline drawn up by the European Consensus Conference under the auspices of the BDIZ EDI.

The 20<sup>th</sup> Expert Symposium is also dedicated to the many potential complications and their causes: Why did it happen? On 1 and 2 March 2025, our experts will cover the various areas of complications—for the first time supplemented by a specific case presented by young speakers. We look forward to seeing you!

**Prof. Joachim E. Zöller**  
Vice President and Scientific Director



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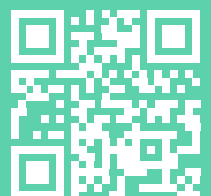
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## 26<sup>th</sup> Curriculum Implantology kicked off in Cologne

# Impressions from the start

The 26<sup>th</sup> Curriculum Implantology of BDIZ EDI at the University of Cologne started with the first module, "Fundamentals of Implantology". Many new attendees gathered in the large auditorium to witness the start of the renowned training series. The Scientific Director of BDIZ EDI, Prof. Joachim E. Zöller, moderated the event together with Prof. Hans-Joachim Nickenig. Both have been leading and moderating the curriculum together with Prof. Matthias Kreppel for many years. The curriculum is regarded as a sound introduction to implant dentistry, with a high practical component. This year, the organisers were

again pleased to see a high proportion of young dentists among the participants. Newly licenced dentist Xenia Lambidou sums it up: "The implantology curriculum is the perfect opportunity to learn the basics of implantology." Between now and the summer of 2025, she and the other participants will have the opportunity to acquire in-depth knowledge and practical skills that will enable them to work as experts in the field of implant dentistry in the future.



MIF

Joachim E. Zöller addressing the audience.



Participants listen attentively to the presentation.



Joachim E. Zöller in a direct exchange with the participants.



The Scientific Director of BDIZ EDI, Joachim E. Zöller, in action.



Using the breaks to ask questions.



Joachim E. Zöller handing over to Hans-Joachim Nickenig.



Hans-Joachim Nickenig asking about the professional background of the participants.



Hans-Joachim Nickenig is in a good mood during his presentation.



An audience member is taking notes during the presentation.



Hans-Joachim Nickenig is pleased with the active participation of the audience.



Attendees using the breaks to ask questions.

Implant care instructions brochure for patients

# Implant maintenance is a team effort

The European Association of Dental Implantologists (BDIZ EDI) has published an English edition of its implant maintenance brochure. In easy-to-understand language, the brochure entitled “Implants—longer-lasting and longer beautiful” offers well-illustrated instructions and general information about oral health.



Teamwork of patient and the dental office is the most important aspect of the brochure. The maintenance brochure is intended for distribution to patients by dental practices and was written to assist them in teaching their patients take care of their dental implants in the appropriate manner. The 24-page patient information brochure in A5 format consists of a general section about oral hygiene and a main section on implant maintenance—all about the right cleaning tools and their use with single-tooth implants as well as fixed and removable implant-



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supported restorations. "Good to know" provides background information on choosing the right toothbrush and using the proper brushing technique, describes the process of professional tooth cleaning and educates readers about risk factors. A checklist intends to alert implant patients to possible changes in the mouth and around the implant. This is the first English edition of the brochure, which has been completely redesigned with large images and short texts in easy language that patients can understand. The preface states: "It is up to you to ensure careful oral hygiene, and this is a prerequisite for a long implant life. Teamwork is of the essence!"

AWU

## Bibliography

Implant care brochure of BDIZ EDI for patients  
*Long-lasting implants for long-lasting beauty*

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Contact BDIZ EDI in Munich/Germany  
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**INTRODUCTION**

### Why is normal oral hygiene not good enough?

**The threat of bone loss**

Dental plaque is home to numerous bacteria. As long as the plaque deposits are removed at regular intervals before they cause damage to the teeth or gums, the biological balance in the oral cavity will be maintained. But as soon as the plaque bacteria multiply, there will be an increasing risk of tooth decay and periodontal disease. Severe inflammatory conditions such as periodontitis (inflammation of the gums around a tooth) or peri-implantitis (inflammation of the gums around an implant) pose a significant risk for bone loss and may cause the loss of the tooth or implant.

**What tools can and cannot do**

- ▶ Toothbrushes (even the most futuristic electric ones) cannot clean the teeth everywhere because they do not get into the interdental spaces.
- ▶ Dental floss, interdental brushes or toothpicks are essential (there is even "thick" dental floss especially for use around implants). They are the only way to remove the bacterial plaque between the teeth.
- ▶ Oral irrigators are of limited use around implants and certainly not a substitute for proper tooth cleaning.

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**INTRODUCTION**

### Why do implants need particularly intensive care?

There is a natural protective barrier between each natural tooth and the surrounding gums. The transition zone between an implant and its surrounding gums can be passed more easily, so the risk is greater that bacteria can penetrate it and cause inflammation of the mucous membrane around the implant (peri-implant mucositis).

gressing, attacking the supporting jawbone and breaking it up or destroying it. The implant may work itself loose or even to fall out.

The many different types of bacteria in the mouth (in the oral cavity) will colonize implant roots in the same way as natural tooth roots.

But if you follow a few simple rules, things will not have to come this far. Proper maintenance is the be-all and end-all of implant care. You should invest a bit more time and effort than with "normal" tooth care. In this guide we show you how to maintain your implants carefully and gently.

Since implant surfaces are usually rough and may be designed in screw form (depending on the system), invading bacteria can settle down easily and will be difficult to remove even by an experienced professional. Unless it can be stopped, the inflammation will keep on pro-

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## 41<sup>st</sup> International Dental Show (IDS) 2025

# Implantology is a key theme

In 2025, the International Dental Show (IDS) will once again consolidate its position as the world's leading trade fair for the dental industry. More than 1,300 exhibitors have already registered for the 41<sup>st</sup> edition, which will take place in Cologne from 25 to 29 March 2025. In addition, country pavilions from all continents will be staffed by about 500 representatives.

The trade fair will once again aim to cover the entire spectrum of the dental world, from dentistry and dental technology, infection prevention, maintenance, all the way to services and information, communication and organisational systems.

### Digital techniques in implant dentistry

In recent years, digital procedures have made oral implantology easier and more reliable. In the future, this development will accelerate, expand and make its preventive potential even more apparent. IDS in Cologne will show how today's dental practices are preparing for tomorrow's implantology therapies.

Oral implantology is becoming increasingly important in dental prophylaxis. Digitally supported techniques, especially backward planning, are an essential part of the future of dental implantology.

This involves matching 3D radiographs with intra-oral scans to an accuracy of typically  $\pm 250$  microns. This tolerance is displayed to the dentist in colour, along with the alveolar nerve and the dimensions of and distances to the neighbouring teeth. Finally, the pre-planned prosthetic restoration is displayed on the screen to enable optimal alignment of the implants.



Conversely, especially for immediate implants, the prosthetic restoration can be virtually displayed on the finalised implant treatment plan (implant positions, implant angles, straight or angled abutments).

Based on this, a healing abutment is fabricated, and the crowns or other superstructures are made by subtractive manufacturing (milling/grinding) or by additive manufacturing (3D printing).

### Surgical aspects

While implants can be placed using the classic freehand method, this approach does not take advantage of the key benefits of backward planning. Computer-guided surgery allows smaller tolerances in positions and angles. Bone drills are continuously displayed on the screen in real time and in relation to one or more radiographs.





An alternative option is static guided surgery using a drilling template made in the laboratory. Again, there is a choice between subtractive manufacturing (milling/grinding) and additive manufacturing (3D printing). Depending on the manufacturer, additional navigation tools may be available in the form of drilling sleeves, keys and other guidance tools to define drilling directions and angles.

Static guided surgery offers a choice of drilling templates supported by the bone, mucosa or teeth. They offer specific advantages when treating edentulous patients, in flapless surgery, etc. At IDS you can quickly get an overview of all the options available today.

### The future: AI and more

In future, artificial intelligence (AI) software is expected to get better and better at identifying structures, even suggesting preferred implant positions and angles to dentists. Magnetic resonance imaging (MRI), which is already an accurate method used in other medical fields (e.g. breast cancer screening), could become a common method in dentistry as a radiation-free alternative to conventional 2D radiographs.

The trend is towards 3D printing for the fabrication of implant prosthetics and drilling templates. One of its advantages is the sustainable use of materials, as the additive process produces virtually no waste.

### Materials used

In addition to the most established material, titanium, other materials such as zirconia (gingiva-friendly) or plastics (amenable to additive manufacturing) are available. These offer the opportunity to create more natural-looking designs, such as fibreglass posts that are inserted into an existing zirconia implant and act as a cushioning element with dentin-like properties. Such two-piece implants have shown good results in a long-term study (causing no peri-implantitis and exhibiting high implant survival rates). "In view of this dynamic development, I can hardly see any limits," said Mark Stephen Pace, Chairman of the Executive Board of the Association

of the German Dental Industry (VDDI). "The combination of several digital tools should simplify implant prosthetics and help to increase its prophylactic potential on a broad basis. The International Dental Show (IDS) in Cologne from 25 to 29 March 2025 will show how dentists and their teams can prepare for this future today."

IDS is held in Cologne every two years and is organised by the GFDI, the commercial arm of the Association of the German Dental Industry (VDDI). It is staged by Koelnmesse GmbH, Cologne.

BDIZ EDI will be there again, too—opposite the German Dental Association (BZÄK) in hall 11.2, booth O69/N60.

Source: Koelnmesse/EB

### Tickets

Tickets for IDS 2025 are personalised and only available online. Visitors will benefit from the flexible ticket management of IDS, tailored to their individual needs. The ticket can be managed via the official IDS app, loaded into a smartphone wallet or printed on paper. Tickets have been available online since mid-November.

For example, a free VRS/VRR ticket for local transport is available in conjunction with the admission ticket. There are also exclusive train and flight offers from Deutsche Bahn and Lufthansa. Exhibitors and visitors can also use Koelnmesse's hotel booking portal to book up to five rooms online at the same time and benefit from special rates. IDSconnect, the online platform accompanying the trade fair, will offer extended networking and preparation opportunities from the beginning of March 2025.

## Metal and ceramic, analogue and digital—joint success

# Dynamic transition picks up speed

Established and innovative methods—impression material and intra-oral scans—analogue, fully digital and partly digital workflows—from digitally supported to AI-supported orthodontics—metals interesting again due to additive manufacturing—IDS 2025 will be presenting the entire spectrum, says the organiser.

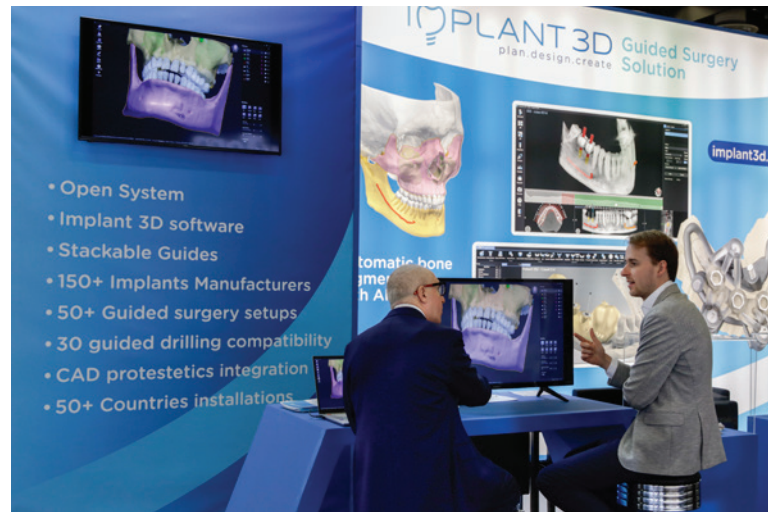
In dentistry and dental technology a new method or material rarely completely replaces an existing one in one fell swoop. It is much more often the case that practices and laboratories offer both the established and innovative methods and those able to combine these optimally in individual cases are the most successful. The International Dental Show (IDS) in Cologne from 25 to 29 March 2025 offers a complete overview of all options to an extent like no other industry event.

### Digital impression becoming more precise

For example, in the case of impressions: The digital impression offers sensitive patients the feeling that they can breathe more freely. However, at present the analogue and digital methods exist in parallel. Digital impressions are indeed becoming more and more precise, but in some cases and especially for complex implant prosthetics many people still prefer the classic method. Others don't follow a purely digital workflow after taking a digital impression, but instead switch over to an analogue method in between. For example, a physical model is made using 3D printing and further processed. Which of the very many processes possible is best in each individual case is decided based on the clinical situation, economic considerations and preferences of the dentist and responsible dental technician.

The developments in implantology are at a similar level: intra-oral scans, 3D X-rays, computer tomography and above all the matching together of digital information from different sources create the foundation for today's backward planning. Regarding the implants themselves, one has remained pretty conservative over the past decades—but not completely! For example, research and development departments of the dental industry have continually worked in the direction of retaining bones and soft





tissue in the peri-implant region. This has led to platform switching for instance. Today, the shoulder area of the implant more frequently features a microthread and a special surface design. This all secures long-term success (also aesthetically speaking), reduces adjustments after provision of the respective implant and saves the patient post-treatment. The implant material titanium certainly remained unrivalled for decades. Today, one additionally encounters the option “ceramic implant” and—a current development “plastic implant”, for example made of fibre-reinforced polyether ether ketone (PEEK).

The therapy options for orthodontics are on the same wavelength: Metal-based and thus well-visible braces and brackets coexist with “concealed” ortho-

dontic appliances in the sense of the lingual technique and “invisible” aligners made of plastic. Classic methods are being enhanced and partly replaced by digital methods. Today, even people can recognise hidden structures, which for example allows an accurate answer to the following question: Will a certain child develop a class III malocclusion in the course of its development?

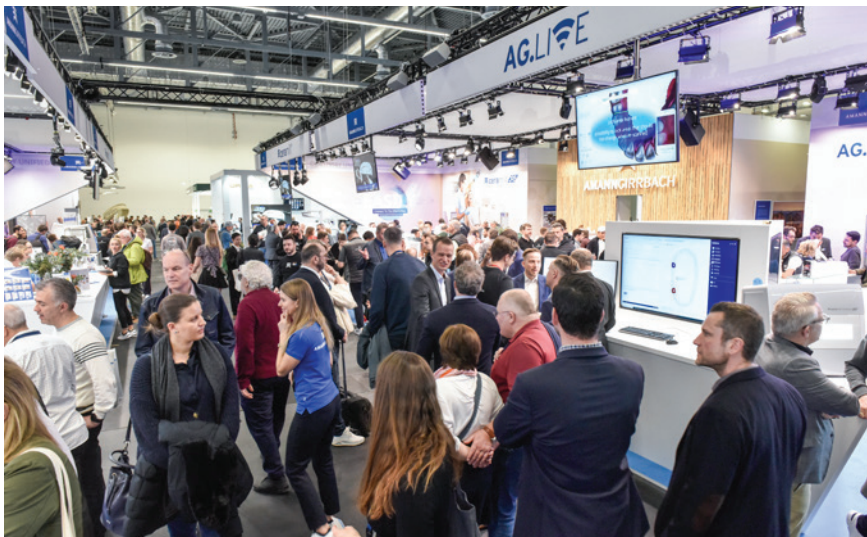
Chrome-nickel alloys and also ceramics have established themselves as materials for permanent or removable orthodontic devices, alternatively so have cold-curing resins that are processed in the pressure curing unit, completely light-curing plastics and silicones for removable devices. Functional and aesthetic considerations determine which material and which processing method is applied in a patient’s

concrete case as well as the special wishes of the patient concerned.

“In dentistry trusted and innovative methods enhance each other in practically all areas,” said a delighted Mark Stephen Pace, Chairman of the Executive Board of the Association of the German Dental Industry (VDDI). “For example metallic materials can be processed in different ways today, which means new materials gain high flexibility making classics attractive again in a different way. Substructure ceramics come in many translucencies through to the possibility of implementing them unveneered; on the other hand dental engineers have developed glass ceramics of high mechanical strength and have thus made it possible to produce crowns and bridges out of the material. Dentists, dental technicians and their teams inform themselves about today’s possibilities in all areas of dentistry at the International Dental Show (IDS) in Cologne from 25 to 29 March. There are more possibilities than ever before and I am eager to find out which will become more popular among the IDS audience next year.”

IDS takes place in Cologne every other year and is organised by the GFDI Gesellschaft zur Förderung der Dental-Industrie mbH, the commercial enterprise of the Association of the German Dental Industry (VDDI). It is staged by Koelnmesse GmbH, Cologne.

Source: VDDI/GFDI





Endodontic treatment is one of the main topics at IDS

## Rapid change over the past decades

Endodontics is becoming more and more successful thanks to consistent therapy methods with trusted and innovative techniques. The International Dental Show (IDS) in Cologne will be presenting the entire spectrum: fast and minimally invasive file systems, consistent torque control, single-use files vs instrument disinfection, sustainability and artificial intelligence.

Hardly any other specialised field within dental medicine has undergone such rapid change over the past decades compared to endodontics. Both the increasingly more profound scientific findings and a host of technical innovations make it possible to preserve teeth that it wouldn't have been possible to save years ago. Fundamental, important correlations that are essential for the therapy are outlined below and possible modifications in the treatment protocol that are closely linked to the scientific and technical developments of the past years described.

### Difficult cases becoming easier?

In general, in the field of endodontics solving the "difficult" cases is becoming easier and even the cases that were still "too difficult" a few years ago are becoming treatable. Studying the scientific pub-

lications of the past years, there is a clear trend towards less invasive techniques while the biological targets of the endodontic therapy are at the same time maintained. The dentist exploits all opportunities of current endodontics to ensure the highest probability of success: highly-flexible nickel-titanium instruments, magnifying glasses, an operating microscope and digital volume tomography (DVT), optional warm filling techniques, bioceramic sealers, activated rinse liquid and modern obturation materials.

The file sequences during the treatment are gradually becoming easier—up to the usage of just one single file for cases that are not too complex. The selection of a specific system is made according to the requirements of each respective case, depending on whether the priority lies for instance on a substance-preserving technique (also with a view to



possible retreatments) or the speed (i.e. at the request of the patient). At IDS visitors have the opportunity to choose future file systems or several systems from a large selection.

The rinse liquid can be activated using Erbium YAG laser-induced shockwaves (PIPS, photon-induced photo-acoustic streaming) or it is achieved by ultrasound or sound wave activation of the rinse liquid. The success can meanwhile be measured in the scope of studies using microbiological methods (qPCR/quantitative polymerase chain reaction).

Beyond this, more attention is being paid to the theme "Sustainability", indeed in many respects. For instance is the single-use file sustainable? It still has to be weighed up: From a therapeutic point of view in comparison to files used several times the risk of breakage is reduced which in turn increases the chances of success. To further lower the risk of breakage, endodontic motors with torque control are recommended. The files that are used



several times appear to be more environmentally-friendly at the first glance. On the other hand the amount of disinfectant needed and the hygienic residual risk increases. A tour round IDS shows the visitors the pros and cons and thus helps them make the right decisions as to which instruments are the best recommended option for their practice.

Furthermore, artificial intelligence is becoming the highly regarded impulse for innovations in the endodontics sector. Because this specialised field is predestined for being supported by artificial intelligence (AI). During the treatment a large amount of data is gathered and artificial intelligence is suitable for precisely that: analysing large amounts of data, recognising patterns in the data and coming to the resulting relevant conclusions. The dentists can make use of this

information for example when opting for or against a specific therapy.

Today, among others the degree of restoration, existing root fillings, X-rays (2D/3D), intra-oral images, endodontic length measurements and torque recordings belong to the endodontic data pool.

At present, artificial intelligence still reaches its limits as far as predicting treatment results and the final assessment of the treatment quality are concerned. The large amounts of data collected possibly do not yet suffice here. For example, whereas AI knows the torque value during every stage of the treatment, the angle of insertion of the files remains unknown. However, it is important to know this in order to map the treatment procedure pretty accurately.

Source: GFDI/VDDI



## Looking back: International Dental Show celebrated 100 years of IDS

# This was IDS 2023

Two years ago, the 40<sup>th</sup> International Dental Show (IDS) celebrated 100 years of IDS with a ceremony on the eve of the opening day and the obligatory ribbon-cutting by the Lord Mayor of Cologne, Henriette Reker. The general mood in Cologne was—after Corona pandemic had just ended—very good. After five days of the fair, the organisers were satisfied with the number of exhibitors and visitors. Digital workflows and sustainability were the trending topics at IS 2023.

This report describes some of the innovations presented at the show—although it is limited to a few, given the wealth of innovation in the dental field.

### New developments in direct restorative therapy

Direct restorative therapy plays a key role in many dental practices, which is why developments in this field featured prominently at IDS and attracted a great deal of interest. Current technological developments revolve around glass-ionomer cements, compomers and composites, especially special bulk-filling and hybrid composites. How many different shades should a practice work with? The choice is immense and of particular interest because of the different pigmentation in the composite materials and the so-called chameleon effect.

An alternative to using pigments for colouring is to use the intrinsic structure of the material. The solution to a practical problem was presented at IDS 2023: bubbles that form in flowable composites. Newly designed syringes prevent bubble formation by allowing air to escape through the plunger.

### New products for oral prophylaxis

Nutritional aspects are figuring prominently in oral prophylaxis. Probiotics play a significant role and are supported by scientific results. A toothpaste and a mouthwash enriched with pre- and probiotics were presented, which ensure that these active ingredients are administered “on the fly” during daily oral care.

A new type of hydrogel based on a mineral salt solution with low surface tension

was designed to specifically combat periodontitis. The gel’s action is based on its high redox potential; the physical charge of 850 mV has a membrane-destroying effect on pathogenic cells. Once applied and effective, the gel dissolves into its original components (water + salts) without leaving any residue.

### Endodontics: minimally invasive and regenerative

Endodontic files have become more flexible and fracture-resistant over the years, leading to changes in concepts and procedures. Less hard tissue is now removed in the coronal region during tooth preparation while still providing sufficient space in the apical region for effective irrigation. Reciprocating Instruments have made it possible to prepare many root canals with a single file. A new endo-motor has taken



Board member lady power: Dr Nathalie Khasin, Dr Renate Tischer and Kerstin Salhoff (from left). The latter is in charge of the BDIZ EDI billing hotline.



High-ranking visitor: Prof. Dr Ihsane Ben Yahya (2<sup>nd</sup> from left) from Morocco, acting president of the Federation Dentaire Internationale (FDI) visited the BDIZ EDI with her colleague (left). Also in the photo: Dr Wolfgang Neumann and Anita Wuttke.

reciprocating technology to the next level. Treatment is simplified by combining patency, glide path creation and shaping using the same operating mode. The motor also features an improved OTR (Optimum Torque Reverse) mode, which also prevents file breakage.

### New intra-oral and image plate scanners

In all areas of dentistry, imaging systems—such as intra-oral scanners—are increasingly aiding treatments. They have been used for years as an alternative to physical impressions using elastomers—and now it is getting even better. Known challenges associated with this technology, such as those related to reflections, saliva, and translucency, can be overcome by solving the mathematical problem of generating three-dimensional shapes in a four-dimensional space.

In future, intra-oral scanners could also assist in the initial dental examination. For example, a working group at the University of Copenhagen is proposing a method for the automated detection of occlusal caries using a fluorescence-detecting intra-oral scanner.

Diagnostic radiographs are used as a complementary imaging source. Advanced image plate scanners already rely on arti-

ficial intelligence (AI) today. AI-based software makes the daily workflow more efficient for the entire team: automatic image rotation, AI-assisted tooth recognition, automatic dose calculation and automatic image plate quality checks save valuable time. And the unit is “made in Germany” using a CO<sub>2</sub>-neutral process.

Existing software could even be used as platform technology to integrate third-party imaging data or clinical information about the patient. In the long term, the aim is to move from diagnosis, to prognosis, to AI support in treatment decisions.

A new extra-oral scanner can scan two casts at once. This is three times faster

than scanning two casts one after the other. It can scan impressions as well as casts, and each impression scan takes just 45 seconds.

The simultaneous scanner uses two optical light units and eight cameras. The scanning accuracy is specified as 5 µm (according to ISO 12836) and further processing takes place within the familiar digital workflows, both in terms of software and materials.

Dental 3D printing is also gaining in speed and efficiency, through the intelligent nesting of multiple components on a single build platform. Objects are automatically placed in their optimum positions. This feature is built in the software and does not require data export. A new printer with compatible post-processing units was also shown at IDS.

The delivery of prosthetic restorations could become easier after this IDS, as a self-adhesive luting composite reduces the number of components required. The original MDP monomer (10-methacryloyloxydecyl dihydrogen phosphate) and the original silane for a strong adhesive bond are already included. This means that only a single component is needed—and no separate primer. This makes clinical use extremely efficient and minimises the potential for errors when permanently cementing zirconia, lithium disilicate, hybrid ceramic or metal alloy crowns and bridges.

In implant prosthetics in particular, a thin (60 µm) single-use pressure sensor with a



BDIZ EDI says bye-bye to Brigitte Nötzel (middle), who has been with us for many years. Also in the picture: Helga Karanikas (right). She is in charge of the office in Munich.

red colour coating now makes it possible to detect incorrect loading. The distribution of the patient's chewing forces is digitally recorded at 256 pressure levels and transmitted via Wi-Fi to an iPad app for further evaluation. As a result, complications associated with unbalanced occlusal pressure during chewing or due to bruxism can be prevented from the outset.

### Help is close where space is at a premium

Developments in orthodontics are largely driven by the integration of digital components—right up to through to the use of bending robots. Many other details make treatments easier, such as new retainers for a customised, patient-specific fit. The digital design also takes into account space constraints. After approval, the retainer is milled 1:1 from a titanium blank. This ensures maximum wearing comfort due to the high accuracy of lingual fit and smaller adhesive surfaces, which in turn allows for improved and easier oral hygiene. The material (titanium grade 5) is also suitable for patients with nickel allergies.

For acute CMD symptoms, immediate relief is now available in the form of a temporary splint that can be directly inserted. They relieve mandibular movement



“Making of”: The perfect technical support for the live interviews was provided by Christian Neumann and Dr Stefan Liepe.

restrictions or compensate for occlusal interferences, tackling the root causes of problems that originate in the jaw but can quickly spread through the rest of the body.

The splint also serves as an initial diagnostic tool. If symptoms are significantly reduced within 24 hours, a neuromuscular cause can usually be assumed.

In the field of aligner therapy, a new composite material with just the right amount of flowability facilitates the precise filling of templates—no excess, no voids, correct positioning. Fluorescence in UV-A light helps. Artefacts, excess mate-

rial and residues are visualised and quickly removed without damaging the enamel.

In their final report, the organisers provided figures that do not quite reflect the fact that medical device manufacturers are facing major bureaucratic hurdles as a result of the EU's Medical Device Regulation (MDR). With 1,788 exhibitors from 60 countries and 120,000 trade visitors from 162 countries, IDS is returning to the “old” or pre-COVID days. According to the organisers, the “world's largest leading dental trade show” again covered the entire field of dentistry and dental technology in 2023.

So how do the organisers, the Association of the German Dental Industry, the Society for the Promotion of the Dental Industry and Koelnmesse, sum up the impact of IDS 2023? “This year's claim, ‘100 years of IDS—shaping the dental future’ is synonymous with the outstanding significance of the trade fair today and in the future,” said Mark Stephen Pace, Chair of the Association of the German Dental Industry (VDDI). Oliver Frese, COO of Koelnmesse, added: “For five days, we experienced an IDS that more than lived up to its claim as a leading international hub. [...] The outcome of the event is all the more remarkable given the current challenging geopolitical environment.”



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### A drug-free approach for infections

## A patch against germs?

Researchers at the University of Chicago and San Diego have developed a bioelectronic patch that could pave the way for a drug-free approach to treating infections, reports zm. The study shows how programmable electrical stimulation can effectively reduce the harmful effects of *Staphylococcus epidermidis*, a bacterium known to cause hospital-acquired infections. The device delivers gentle electrical signals to the bacteria based on the pH value of the skin, causing temporary changes in behaviour and preventing the formation of biofilm clusters, the University of Chicago said in a press release. This electrical stimulation significantly reduces the activity of harmful genes in the bacteria and slows down their growth.



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In preclinical tests, the patch showed remarkable results, achieving an almost ten-fold reduction in bacterial colonisation on pig skin. “We discovered action potentials in bacterial biofilms almost ten years ago and have since worked to show that bacteria, which are not normally thought to be excitable, in fact are excitable and even perform similar functions to neurons in the brain”, said Professor Gürol Süel from the San Diego School of Biological Sciences. The innovative approach addresses the urgent need for new methods to combat antibiotic-resistant infections, which are a growing problem for patient safety and healthcare systems worldwide. The researchers see their innovation as an important step in bioelectronic medicine and are optimistic that this device could soon be used in clinical settings, particularly for patients with chronic wounds or who have medical implants.

Source: zm, 5 November 2024; The University of Chicago, 24 October 2024

Kim S, Eig E, Yue J, et al. Bioelectronic drug-free control of opportunistic pathogens through selective excitability. *Device*. 15 Nov 2024; 2(11): 100596. doi: 10.1016/j.device.2024.100596UR.  
[https://www.cell.com/device/fulltext/S2666-9986\(24\)00542-8](https://www.cell.com/device/fulltext/S2666-9986(24)00542-8).



### EU commission took office on 1 December

## After a tough fight



The new EU commission under President Ursula von der Leyen took office on 1 December 2024. Almost six months after the European elections, the European Parliament in Strasbourg voted to confirm the 26 commissioners, following bitter disputes. The European Parliament in Strasbourg voted 370 out of 688 votes in favour of the team, which consists of 10 women and 16 men from all member states in addition to the German President. This step was crucial for future EU policy: the commission is the only institution in the European Union that can propose Union laws. It also monitors compliance with EU law.

Source: Various

EU health commissioner  
designate

## Várhelyi presents his goals

Olivér Várhelyi, the EU Commissioner-designate for Health and Animal Welfare, presented his priorities for the first hundred days in office to European Parliament committees in November. One issue he mentioned was the continuation of the Critical Medicines Act, which had already been negotiated by the previous legislation. He intends to make significant progress on this as soon as possible. Another was an action plan to be drawn up to improve the cyber security of hospitals and healthcare providers.

A third pressing issue was better implementation of the Medical Devices Regulation. The commissioner-designate told the hearing that in the short term he wanted to take action to simplify regulation within the existing framework. In particular, he wants to address two areas where there are major bottlenecks— orphan medical devices for small patient groups and paediatric medical devices. He also wants to speed up the evaluation of existing legislation, a task that should be completed next year. At this stage, he has no immediate plans to propose new legislation.

A Hungarian national, Várhelyi has served in various diplomatic positions since the early 2000s. He has had many years of experience in working at the European policy level. Among other things, Várhelyi helped negotiate Hungary's accession to the EU and was Hungary's ambassador to the European Union in Brussels for several years. He is an independent but is seen as a close confidant of Hungarian Prime Minister Viktor Orbán, which had led to criticism in advance. Parts of his portfolio are to be transferred to other commissioners—including those on sexual discrimination and self-determination, according to dpa.

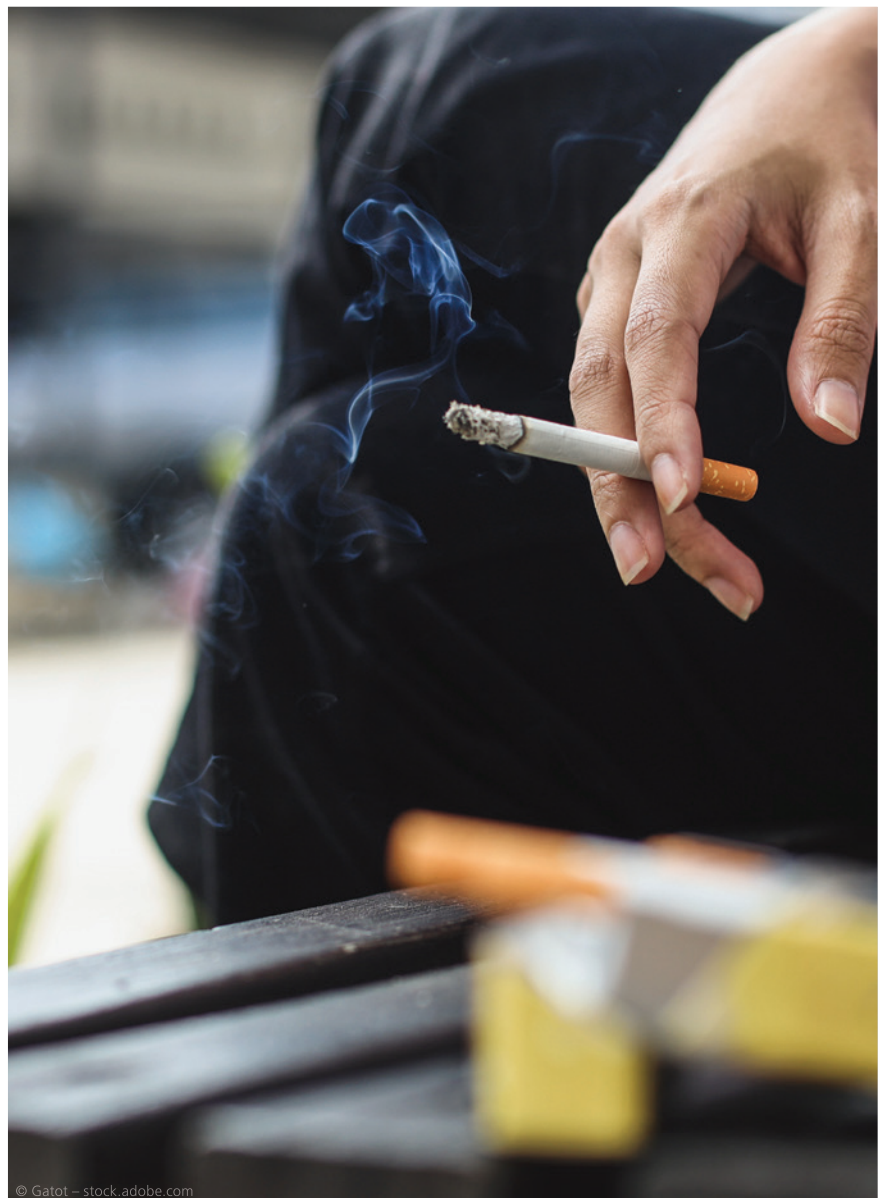
Sources: EU commission; various media

Recommendation from EU health ministers

## Outdoor smoking bans

The European Union health ministers have issued a joint recommendation on banning smoking outdoors. However, the recommendation is not binding. In addition to playgrounds and outdoor catering, amusement parks, swimming pools, beaches and zoos, bus stops, universities and open-air events are also in the spotlight for stricter regulations. The EU commission's stated aim is to reduce the proportion of smokers in the population to below five per cent by 2040.

In addition to traditional tobacco smoke, the recommendations also apply to tobacco heaters and electronic cigarettes. Non-smokers and children should also be better protected from their fumes. The decision follows the European Commission's proposal in September to revise the current recommendations on smoke-free zones. However, smoking bans remain a matter for national governments.



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Source: Bayerischer Rundfunk, 3 December 2024



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## ECJ on pharmaceutical retailing

# Selling through Amazon is illegal

The Court of Justice of the European Union (ECJ) has ruled, at the request of the German Federal Court of Justice (BGH), on the interpretation of the European General Data Protection Regulation (GDPR) in the context of breaches of the rules on the protection of personal data. According to the ruling, the current practice of a German pharmacy operator of selling pharmacy-only medicines via the online platform Amazon is illegal, even if this does not require a doctor's prescription.

The BGH was faced with a legal dispute between two pharmacists, one of whom sold pharmacy-only medicines via Amazon. Customers had to provide personal information when placing their order. The other pharmacist sought a ruling to the effect that online sales would have to be discontinued if it could not be guaranteed that customers would be able to consent to data processing in advance, based on German legislation on unfair commercial practices.

The courts of first and second instance had ruled in favour of the competitor, as the lack of customer consent led to the processing of health data, which is prohibited by the GDPR. The BGH referred the question to the ECJ for a preliminary ruling on whether the data entered by customers when purchasing non-prescription medicines online constituted health data within the meaning of the GDPR. The BGH also

questioned whether the German legislation was at all in line with the GDPR, which basically stipulates that national supervisory authorities are responsible for monitoring and enforcing the regulation, leaving it up to data subjects to assert their rights.

### Health data

In its ruling, the ECJ said that the data entered by customers when ordering pharmacy-only medicines online is health data under the GDPR. Whether the sale of medicines requires a doctor's prescription is irrelevant here. The relevant conclusion about the state of health of an identified or identifiable natural person is nevertheless possible, for example by establishing links between the person and their medication. It is also irrelevant in this respect that in the case of non-prescription med-

icines it is never absolutely certain that they are intended for the purchaser—even a probability of this is sufficient. A distinction at this point would therefore be contrary to ensuring a high level of protection, which is an objective of the GDPR. Therefore, the seller must provide customers with clear, complete and easily understandable information about the exact characteristics and purposes of the data processing and obtain their express consent. Furthermore, according to the ECJ, legal action based on unfair commercial practices is compatible with the GDPR and possible in addition to the exercise of rights by supervisory authorities and data subjects. This would prevent many infringements of the GDPR and strengthen the rights and protection of data subjects.

Sources: ECJ judgement of 4 October 2024, Case C-21/23



European Association of Dental Implantologists

Bundesverband der implantologisch  
tätigen Zahnärzte in Europa e.V.

20<sup>th</sup> EXPERT SYMPOSIUM OF BDIZ EDI

# ALL ABOUT COMPLICATIONS IN IMPLANTOLOGY

We  
celebrate  
our 20th  
anniversary with  
modernized  
concept

SAVE THE DATE

Sunday

**MARCH 02<sup>nd</sup>, 2025**

IN COLOGNE



Save the Date—June 2025

# 18<sup>th</sup> European Symposium of BDIZ EDI—up north

The 2025 BDIZ EDI European Symposium will be held in Stockholm. For the first time, Scandinavia—more specifically Sweden’s capital Stockholm—will be the destination for the one-day BDIZ EDI Symposium, which promotes the exchange of ideas between implant dentists in Europe.

Speakers will be coming from all over Europe—including, of course, members of the BDIZ EDI Board. The Symposium will be held in English. Topics will include implant surgery and implant prosthetics.

## Stockholm—then and now

Stockholm is probably named after the protective wooden poles (stock) that lined the sound of Lake Mälaren leading up to the islet (holme) which is today the central island called Stads-holmen or, more commonly, Gamla Stan. Its history of settlement dates back to the 11<sup>th</sup> century. Stockholm has been the royal residence since 1643.

Water covers about 30 per cent of the city’s area. The city still draws its drinking water from Lake Mälaren; the high quality of the water makes it possible to fish for salmon right in the city centre. The city is spread over 14 islands connected by 53 bridges. Much of the city is wooded.

The site of present-day Stockholm was first mentioned by the Icelandic poet and saga writer Snorri Sturluson (1179–1241) in his *Ynglinga saga*, where he describes a barrier of poles across today’s Norrström waterway, which he called Stokksunda. Excavations in the late 1970s uncovered the remains of water poles from the 11<sup>th</sup> century, which support this statement. Snorri also mentions a fortification tower from the 12<sup>th</sup> century, which

is said to have been located where the royal castle has stood since 1580.

A letter of protection for Fogdö Monastery, issued in July 1252, is the oldest surviving document in which Stockholm is mentioned. The Erik Chronicle (*Erikskrönikan*), written between 1320 and 1335, states that the founder of Stockholm, the regent Birger Jarl, wanted to build a fortress around 1250 to protect Lake Mälaren from pirate raids.

In the 15<sup>th</sup> century, its strategic and economic importance made Stockholm an important factor in the conflicts between the Danish kings of the Kalmar Union and the Swedish national independence movement. With the arrival of Gustav Vasa in 1523 and the establishment of a strong royal power, Stockholm became an important royal residence. The royal court also began to shape the cityscape, which had previously been dominated by merchants—often German—and craftsmen.

Sweden rose to become a great power in the 17<sup>th</sup> century. This was reflected in the development of Stockholm—between 1610 and 1680 the population increased sixfold. In 1713 and 1714, Stockholm was ravaged by the plague. After the end of the Great Northern War and the resulting loss of Swedish territory in 1721, the city began to stagnate and continued to do so throughout the early 19<sup>th</sup> century. Norrköping became the largest manufacturing city and Gothenburg, with its favourable location on the Kattegat, a straight opening to the Skagerrak and the North



Sea, became Sweden's most important export port. It was not until the second half of the century that Stockholm once again took on a leading role in the country's economic development. A number of important industrial companies were established here, with the result that Stockholm developed into an important centre for trade and services, as well as a transport hub.

### Places of interest

Stockholm's cityscape and architecture are shaped by its unique location on the shores of Lake Mälaren, a freshwater lake that runs from west to east; a ridge of glacial moraine that runs from north to south; and the central island in the middle of the river. The city has many small parks, including Tegnérunden, which is mentioned in Astrid Lindgren's work. The old town (Gamla Stan) on the city island (Stadsholmen) still has the medieval street network with the streets that cross the island from north to south (Österlånggatan and Västerlånggatan) and narrow alleyways sloping down to the water—which have become longer and longer over the centuries as the land has slowly risen following the disappearance of the heavy Ice Age glaciers, a process that continues to this day.



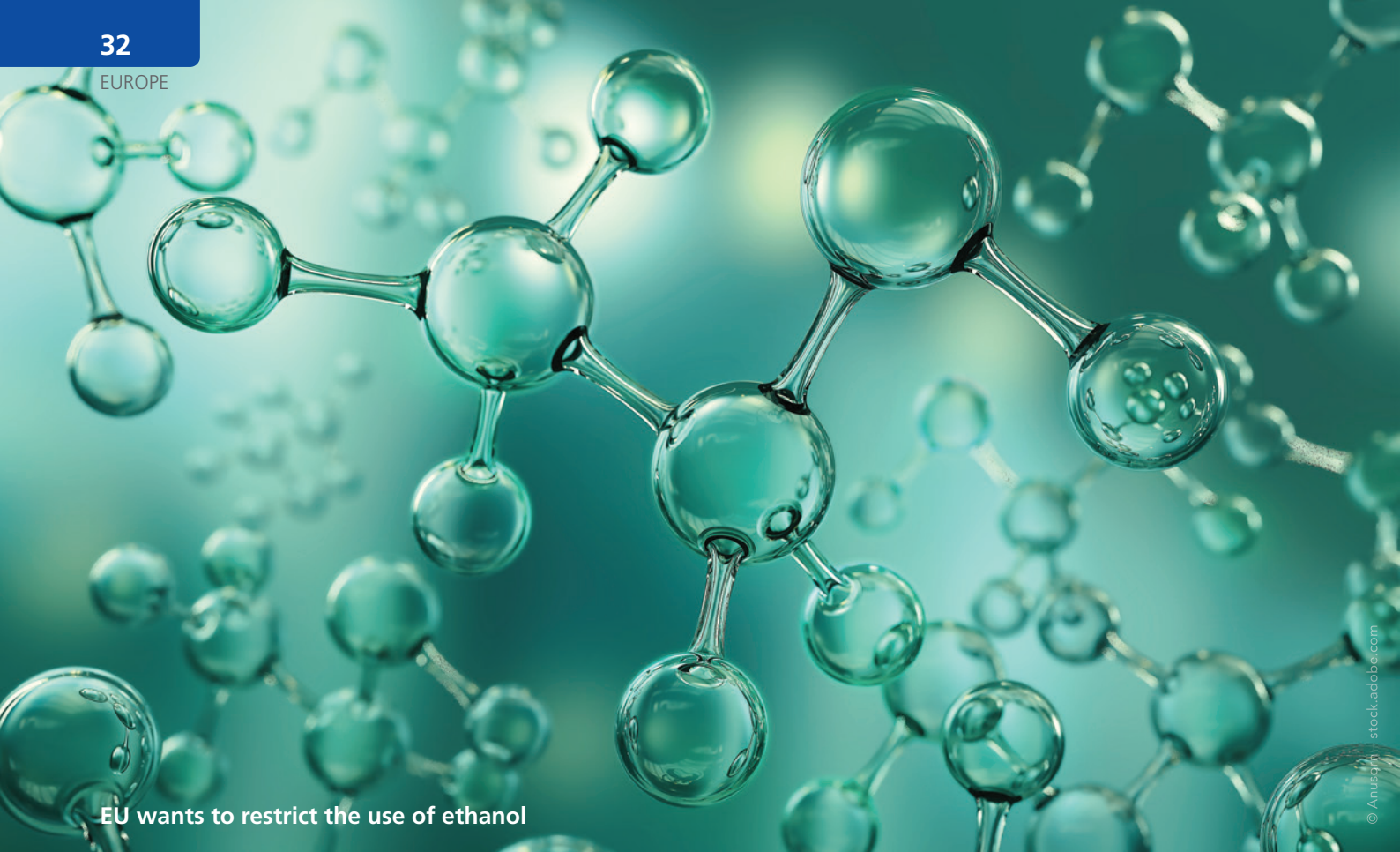
## Why the European Symposium?

Every day we face new and continuing practical challenges. Undoubtedly, innovations in implant dentistry come from scientific advances and are translated into products developed by the dental industry. The demand from practicing dentists for new products and procedures and improved treatment options has culminated in the remarkable variety of new applications we see on the market today—new approaches to bone grafting, new capabilities in laser technology, chairside CAD/CAM and new materials of all kinds.

Given that we have already achieved very high standards and high success rates in implant therapy, it is not easy to strive for even better results and shorter treatment times. Nature sets limits. This makes it all the more important for implantologists to continue their education to stay abreast of the latest scientific and technical innovations and materials for the benefit of their patients and their practices. Education and training must keep pace with developments.

BDIZ EDI has therefore always considered the exchange of ideas as part of its professional focus. For the 18<sup>th</sup> time, BDIZ EDI will be organising its European Symposium in 2025—and for the first time in Scandinavia. Demosthenes (384–322 BCE) already knew that “small opportunities are often the beginning of great enterprises.” This quote is characteristic of the BDIZ EDI's European Symposia. Humble beginnings and spurious opportunities have been consolidated into a comprehensive approach that allows communities of dentists to transcend national borders and to intensify the exchange of ideas within Europe. The 18<sup>th</sup> European Symposium in Stockholm is a good example of this. It will once again demonstrate how implant dentists from all over Europe can benefit from each other's experience.

**Christian Berger**  
President, BDIZ EDI



EU wants to restrict the use of ethanol

## A fools' errand

An ongoing review by the European Chemicals Agency (ECHA) concerning ethanol (commonly known as alcohol) could severely restrict its use in the future. This would have far-reaching consequences for hospitals, medical and dental practices and care homes.

The availability and use of ethanol could be severely restricted—or even banned—as a result of health and safety regulations. This includes essential products such as hand and surface disinfectants. One particularly drastic proposal is to classify ethanol as a reproductive toxin. Under German labour law, this would result in a blanket ban on women of child-bearing age handling the substance—a move that could effectively cripple the healthcare system.

“Just a few days ago, Deutscher Zahnärzte Tag, the German Dentists’ Congress, highlighted the bureaucratic madness choking medical practices and called for a radical reduction in red tape. This latest farce from Brussels is emblematic of the relentless bureaucratic overreach,” said Konstantin von Laffert, Vice President of

the German Dental Association (BZÄK), commenting on the EU’s plans.

In order to guarantee access to safe and hygienic medical care, stakeholders in the German healthcare system unanimously agree that the classification of alcohol (ethanol) as a CMR substance (carcinogenic/mutagenic/reprotoxic) must be avoided at all costs.

Such a classification would be both disproportionate and unfounded, as it is based solely on studies of the (abusive) oral consumption of ethanol mixtures—in other words, drinking alcohol. Interestingly, the consumption of alcoholic beverages would remain perfectly legal.

“Ethanol is effective, safe, and indispensable when used as a disinfectant, medication, or medical product,” emphasised von Laffert. “Without it, the protection

of vulnerable patient groups, especially in hospitals, outpatient care, and during pandemics, could no longer be guaranteed. Possible exemptions would likely prove ineffective given the immense regulatory and bureaucratic hurdles involved.”

“A scientifically unfounded ban on ethanol would compromise health care and undermine hygiene standards,” he continued. “The use of expensive alternatives would only increase the financial burden on the health system. After the recent attempt by the health authorities to ban so-called ‘final wipe disinfection’, this is yet another bureaucratic obstacle thrown at medical practices already suffering from severe staff shortages.”

*Source: PR of the German Dental Association, 28 November 2024*





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# GIORNATE VERONESI

IMPLANTOLOGY  
AND GENERAL  
DENTISTRY

27./28. JUNI 2025

VILLA QUARANTA VALPOLICELLA (IT)

OEMUS  
EVENT  
SELECTION

## Results from the CED General Meeting in Brussels

# President Freddie Sloth-Lisbjerg re-elected

The Council of European Dentists (CED) members, affiliate members and observers of national dental associations met in Brussels, Belgium, for their biannual General Meeting under the chairmanship of CED President Dr Freddie Sloth-Lisbjerg.



Board of directors with—among others—Dr Freddie Sloth-Lisbjerg, Dr Robin Foyle, Dr Anna Lella, Dr Romy Ermler.

The November General Meeting held its 2024 board elections. Following the outcome of the session, current CED President Dr Freddie Sloth-Lisbjerg was reelected by General Meeting delegates for a second term, to be carried out until November 2027.

CED delegates also proceeded to reelect for a three-year mandate Dr Robin Foyle from the Irish Dental Association and Dr Anna Lella from the Polish Chamber of Physicians and Dentists, as well as elect and welcome incoming Dr Romy Ermler, from the German Dental Association (BZÄK).

The General Meeting was addressed by guest representatives from the European Dental Students' Association (EDSA). Additionally, the CED welcomed guest delegates from the Israel Dental Association.

### Statement on corporate dentistry

During its General Meeting, the CED adopted its statement on corporate dentistry and the dental profession, outlining CED's stance and core principles in relation to the current and future corporate dentistry status quo.

In addition to the Statement, the CED also proceeded to adopt a document on supporting and informing young dentists in relation to corporate dentistry. This document highlights some of the main principles for ensuring that young dentists are informed and aware of the topic of corporate dentistry at their respective national levels. Access the CED document on supporting and informing young dentists in relation to corporate dentistry:



## Statement on Medical Device Regulation

The CED agreed to adopt an updated version of the CED statement on Medical Device Regulation (MDR) and chairside CAD/CAM procedures: right of dentists not to be defined as manufacturers. This updated document highlights the undeniable right of dentists to own and use CAD/CAM. Access the updated CED statement on Medical Device Regulation and chairside CAD/CAM procedures:



## Reduction of sugar consumption

CED delegates endorsed the World Dental Federation's (FDI) 2024 statement on the reduction of sugar consumption. This endorsement recognises the important work carried out by the FDI on highlighting the necessity to reduce sugar consumption considering its impact on oral and general health.



## At a glance

The Council of European Dentists (CED) is a European not-for-profit association representing over 340,000 dental practitioners across Europe through 33 national dental associations and chambers in 31 European countries.

Established in 1961 to advise the European Commission on matters relating to the dental profession, the CED aims to promote high standards on oral healthcare and dentistry with effective patient-safety centred professional practice, and to contribute to safeguarding the protection of public health. The CED is registered in the Transparency Register with the ID number 4885579968-84.

## Obituary

# Dr Frank Zastrow has left us

It is with great sadness that we bid farewell to Dr Frank Zastrow, an outstanding dentist and implantologist who enjoyed his in-depth training in oral surgery Schloss Schellenstein Dental Clinic. His professional career was marked by excellence, a spirit of innovation and an unparalleled passion for dentistry.

Frank was not only an excellent surgeon, but also a respected lecturer and a pioneer in the field of bone augmentation according to Prof. Khoury, with whom he enjoyed exchanging ideas whenever and wherever they met in the world. For many years he was an indispensable part of our BDIZ EDI symposia and a valued contributor to *BDIZ konkret* and *EDI Journal*.

His tireless commitment and drive for progress also led him into product development. His company developed an innovative system for effective bone harvesting that enhanced oral implantology.

However, Frank was not only an exceptionally talented professional, he also enriched the personal lives of all those who came to know him. His warmth, humour and ability to inspire and connect people made him a wonderful friend and colleague. He shared his knowledge and enthusiasm for dentistry with the whole world through social media and his international network.

Frank Zastrow left us far too soon and leaves a painful void. Our thoughts are with his family and friends at this difficult time. His legacy will live on in dentistry and in the hearts of those who knew him.

Rest in peace, dear Frank.  
You will be missed.

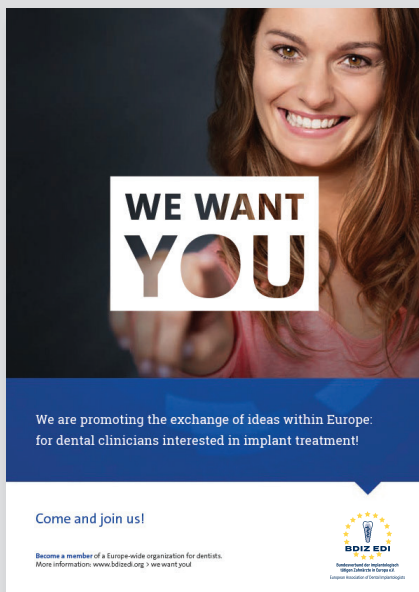
**Prof. Jörg Neugebauer  
(Landsberg am Lech)**



## BDIZ EDI and its multifaceted work

# We want YOU!

At IDS 2025 BDIZ EDI is relaunching its “We want you” information campaign. The aim is to interest young dentists from Germany and Europe in oral implantology and in the work of BDIZ EDI.



With the “We want you” campaign, the association wants to draw attention to the many different support services it offers for all dental practices, even beyond implantology, including continuing education for newcomers to the profession and seasoned practitioners alike.

BDIZ EDI is an active Europe-wide association that in 2002 went beyond the borders of Germany to forge collaborations, support partner associations and make its voice heard in EU politics. Of course, health policy interventions are also initiated at the federal level. BDIZ EDI is the only association to have presented its own draft law on combating corruption in the health sector. It is currently working intensively on the Medical Device Regulation (MDR) and its many problems.

With its information offensive, BDIZ EDI is highlighting its work in the field of continuing education:

- “Meet the Experts” allows newcomers to get in touch with experienced implantologists and top lecturers.
- An absolute must for anyone interested in implantology is the Curriculum Implantology, which is run in cooperation with the University of Cologne and recently started in the south of Germany. This eight-module course teaches the key building blocks of implant dentistry to small groups of participants. The curriculum takes place at the University of Cologne. It runs for one year and is designed to be affordable for newcomers to the profession. Some partner associations have adopted, and adapted,

the modules for their countries: Greece, Serbia, Poland and India.

- Each year, the BDIZ EDI Expert Symposium provides an update on a current issue in implant dentistry, and the associated European Consensus Conference (EuCC) provides guidance for practitioners.
- The Europe Symposium of BDIZ EDI provides an opportunity to look beyond the local dental fence and to appreciate the work of European colleagues and exchange ideas. This year’s Europe Symposium took place in Split/Croatia. Next will be in Stockholm.

### A wide field

The full scope of BDIZ EDI’s work is illustrated by the “BDIZ EDI informs” webinar series, which the association has been organising since the start of the COVID-19 pandemic in 2020. The continuing-education webinars feature top-notch presenters and cover dental topics (not just implantology!) as well as legal issues. The webinars are particularly suitable for strategic practice orientation for current and future practice owners. BDIZ EDI webinars are aimed at dentists and all members of the dental team. Participation is free of charge for members. On average, BDIZ EDI webinars are attended by between 150 and 400 participants. Members can view the recorded webinars in the seminar archive after the live broadcast.

AWU

# Did you know...

## ...that for many years BDIZ EDI

and its partner associations from Europe and beyond, as well as other associations from all over the world, meet once a year to exchange ideas? Mainly at the Expert Symposium in Cologne, the latest in oral implantology news from the different countries is discussed and strategies are developed to promote the discipline.



## ...that the BDIZ EDI

closely follows the Council of European Dentists (CED), which represents the dental associations of all EU member states, through its professional journals *BDIZ EDI konkret* and *EDI Journal*? The work, aims and results of the Brussels-based umbrella organisation of European dentists are regularly presented here.



## ...that the BDIZ EDI

makes the modules of its implantology curricula available to its European partner associations so that they can develop their own country-specific curricula? This has already been done in Poland, in Serbia and in Greece.

Our Munich office will be happy to tell you more:  
office-munich@bdizedi.org



## Certification as an EDA Expert in Implantology

# Qualification for experienced implantologists

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

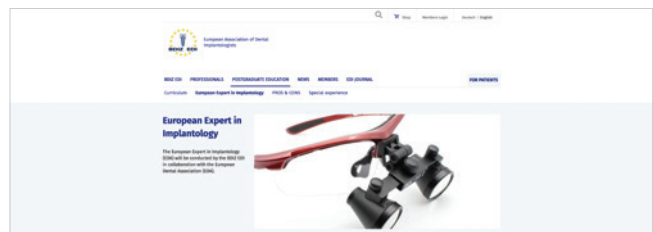
That quality is of paramount importance to BDIZ EDI is no secret. BDIZ EDI has demonstrated this in many different areas—legal and accounting, materials testing, postgraduate education, the annual guidelines of the European Consensus Conference (EuCC) on current implantological issues and finally the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

### Admission requirements for the certification exam

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

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

Specific experience and primary activity in the field of implantology must be documented by at least 400 implants inserted and



150 implants restored within the past five years. Candidates who already obtained qualifications in oral implantology (e.g. from other professional societies) may submit the appropriate credentials with their application for certification as EDA Expert in Implantology.

### The exam

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

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

### More information...

To register for the next certification exam, please go to [www.bdizedi.org](http://www.bdizedi.org) and select English > Professionals > Expert or write to the BDIZ EDI office in Munich at [office@bdizedi.org](mailto:office@bdizedi.org).



## Obituary for Prof. Antonio Felino

# Farewell to a good friend

It is with great sadness that the BDIZ EDI has learned that Prof. Antonio Felino, Faculty Professor from Porto, Portugal, and member of the European Consensus Conference (EuCC) and the European Committee of the BDIZ EDI since 2005, has passed away at the age of 70.

For many years, Prof. Felino has been an active member of the European Committee of BDIZ EDI (European Association of Dental Implantologists). Some milestones of his impressive career: He was President of the Scientific Committee of the APMD and the OMD from 1998 until 2009. Designated in 1999, he served as President of the College of Oral Surgery and since 2017 of the Constitutive Committees of the Oral Surgery Specialty of OMD. The ceremony to celebrate 20 years of the Ordem dos Médicos Dentistas (OMD) in the Parliament of Lisbon in 2018 was led by the chair of the General Assembly of the OMD, João Caramês, and included speeches by the current Minister of Health, Marta Temido, and two former portfolio owners, Maria de Belém Roseira and António Correia de Campos. Marta Temido stressed the importance of oral health and promised to continue the work that has been developed to integrate dental medicine into the National Health Service.

The Minister also made a point of leaving a few words of appreciation for the exemplary role of the OMD and its staff, always dedicated to patient service and oral health. At the end of the ceremony, the Gold Medal of the OMD was awarded to Prof. António Felino, distinguishing his paths, exceptional in the relevance of decades to the service of the profession.

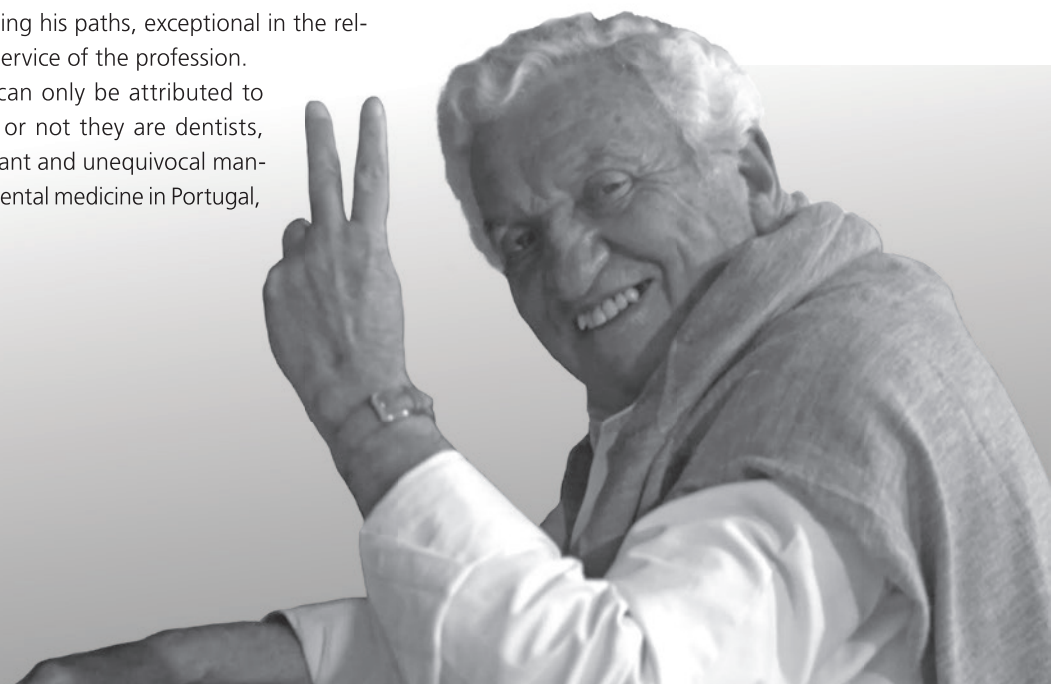
The OMD Gold Medal can only be attributed to individuals who, whether or not they are dentists, have contributed in a relevant and unequivocal manner to the development of dental medicine in Portugal,

whether at a technical and scientific level or for the benefit of Public Health.

He has been a friend of the BDIZ EDI and a regular participant in the European Consensus Conference since 2006. In the European Committee of the BDIZ EDI, he brought the situation of implant dentists in Portugal to the attention of the international committee. In 2011, he hosted the 5<sup>th</sup> European Symposium of the BDIZ EDI in Lisbon with the title: Clinical Challenges in Oral Implantologies. Thanks to the commitment of Prof. Felino and his team, the congress was a great success for both the SPCO and the BDIZ EDI.

Our thoughts are with his family. We will honor his memory and will never forget his humor, his kindness and his expertise as a colleague.

**Christian Berger**  
on behalf of the BDIZ EDI Board



## New BDIZ EDI implant pass

# Bigger, nicer, more useful

The BDIZ EDI has updated its implant pass. Now was a good time, coincident with the launch of the updated BDIZ EDI logo. The size of the implant pass has not changed—it still fits in any wallet. But thanks to a clever folding technique, it now covers a lot more ground.



A copy of the implant pass is included with this issue for your inspection.

The small implant pass has been with the BDIZ EDI for more than 30 years. As part of the relaunch of the association's logo and corporate identity, it has been completely renewed and adapted to the current needs of the implantology practice.

Its physical size has remained the same. When folded, the implant pass still matches the size of the standard check-

book for routine dental visits. Discreet on the outside, informative and expandable on the inside. The implant pass can be individually expanded with stickers to accommodate a greater number of implants and restorations. In addition to the patient's details and the practice seal, the following information is provided for the patient to sign: "I have decided to have den-

tal treatment with implants. I have been fully informed of the risks and benefits prior to the treatment. I understand that intensive oral hygiene and regular check-ups are necessary for long-term success. I agree to have at least two dental check-ups per year and will contact my dentist immediately if I notice even the slightest change in or around the implants."





## Details and ordering information

**BDIZ EDI implant pass** for dental practices (folded size: 73 × 98 mm)  
 16 pages, with images of all maxillary and mandibular teeth, surgery, prosthetics, diagnosis, patient information, signature and practice seal. Surgical and prosthetic stickers can be added.

### SURGERY

Implant	Charge/Implant
Implant	
Implant	
Implant	Charge/Implant
Implant	
Implant	
Implant	Charge/Implant
Implant	
Implant	

Implant surgery on: \_\_\_\_\_  
 Exposure on: \_\_\_\_\_

### PROSTHETICS

Implant	Charge/Abutment
Implant	
Implant	
Implant	Charge/Abutment
Implant	
Implant	
Implant	Charge/Abutment
Implant	
Implant	

Integration on: \_\_\_\_\_  
 Attachment/material: \_\_\_\_\_

“The new implant pass contains a lot of important information and is a useful tool for surgeons, prosthodontists and, of course, patients,” says Dr Wolfgang Neumann, BDIZ EDI Treasurer and board member. Together with Christian Berger, he contributed his dental expertise to the creation of the new implant pass.

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**Available in English: print-on-demand.**

More information is coming up soon.  
 Please check the BDIZ EDI’s online shop.

Scan this QR code to access the shop



# Single short implant in maxillary second molar area with low bone density

Dr Eduardo Anitua, Spain

The replacement of maxillary second molars with implants is a complex procedure, primarily due to the often limited residual bone height and the typically low bone density in the posterior maxillary region near the tuberosity.

When these molars are also replaced in a single unit, the situation is even more complex. In this article we present a series of clinical cases of maxillary second molars replaced with unitary implants.

## Introduction

The loss of residual bone height in maxillary posterior edentulism is a common issue. When teeth in direct contact with the maxillary sinus, or “antral teeth”, are extracted, the resulting alveolus undergoes partial healing, leading to a reduction in available bone height. Additionally, excessive pneumatization of the sinus, particularly in cases of long-standing edentulism, further complicates implant

placement. To avoid more complex regenerative procedures like sinus lifts, short implants have been developed as a viable solution.

Today, these implants are one of the rehabilitation techniques for the atrophic maxilla that can be considered routine, being a minimally invasive option and with survival rates of around 99%.<sup>1,2</sup> Many of the short and extra-short implants are rehabilitated as part of bridges or complete rehabilitations, with a smaller percentage being used for single crowns. The position in which these implants are inserted is also a fact to be taken into account, as the posterior maxillary areas have less bone density and therefore a worse situation for stabilising a short or

extra-short implant and allowing its correct posterior integration without micro-movements, especially when we replace a second upper molar, a fact which sometimes means that this molar is not even restored in some patients.<sup>7</sup> Furthermore, this area in particular (posterior maxilla) usually has a lower bone density, so that rehabilitation with dental implants in these sectors is complicated when the residual bone volume in height is very low and the bone density is also very low. In these cases, controlling all factors to achieve implant insertion with predictability is key. The protocol described by our study group highlights the importance of prior diagnosis of the residual bone (height, width, density and bone



**Fig. 1:** Initial X-ray of the case, where we can see in the second quadrant an edentulous section corresponding to tooth 27 that will be rehabilitated using dental implants.

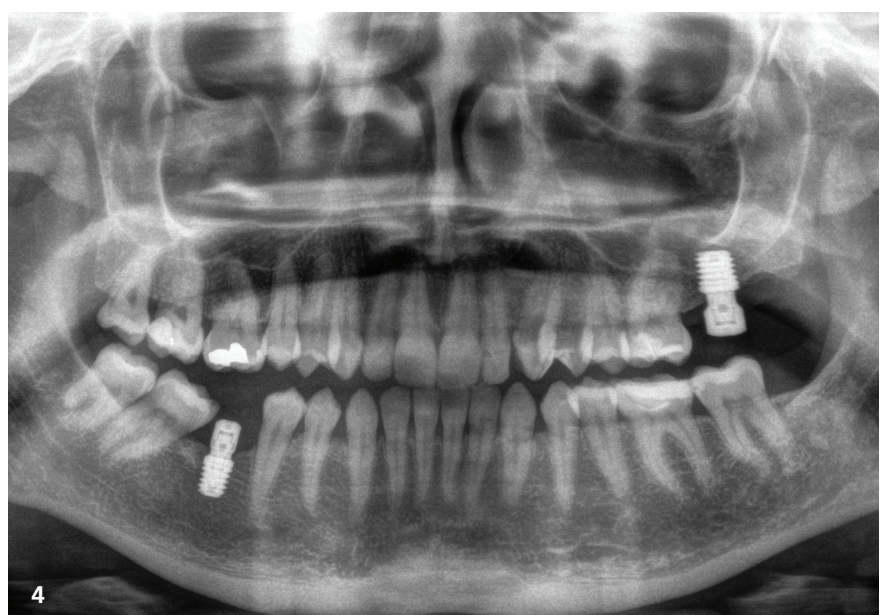
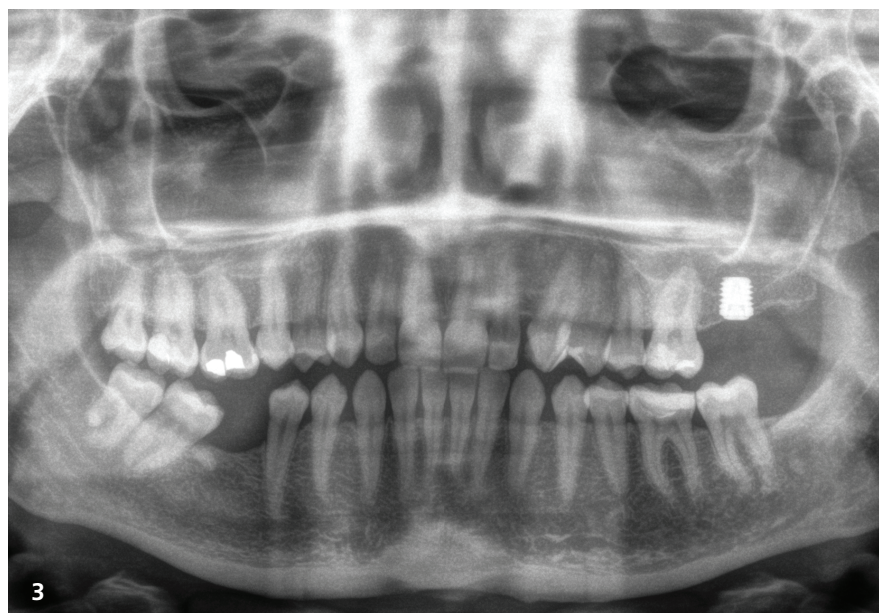
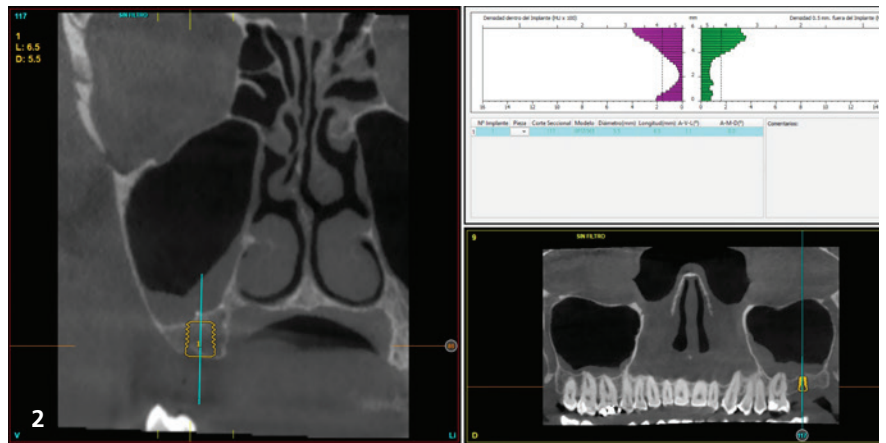
type) and the planning of the drilling to achieve three-dimensional stability of the implant and avoid micromovement in the initial phase of osseointegration.<sup>9,10</sup> In this sense, the use of implants of different diameters and lengths can provide us with a larger contact surface for osseointegration and different anchorage points that guarantee greater primary stability.<sup>7,11–13</sup> The factors that influence the achievement of primary stability in general and in these cases in particular are: geometry, length and macro-design of the implant, drilling pattern and bone density, mainly.<sup>16–18</sup> In the present work, we show a series of cases of short (7.5 mm) and extra-short (5.5 and 6.5 mm) single-tooth implants placed in the maxillary second molar position (teeth #17 and #27), rehabilitated in a single-tooth fashion with low bone density.

## Material and methods

A retrospective study was carried out selecting patients with short, extra-short implants located in maxillary posterior sectors, with a bone density between 200 and 300 HU, as measured in the planning tac using the software (BTI-Scan III, Biotechnology Institute), in a private clinic in Vitoria, Spain, during the period from January 2017 to December 2018.

## Surgical and rehabilitation protocol

In all cases, an accurate diagnosis of residual bone volume (height, width and bone density) was performed, measured using the specific software BTI-Scan III. Prior to implant insertion, antibiotic pre-medication consisted of amoxicillin 2 g orally one hour before surgery and paracetamol 1 g orally (as an analgesic). Subsequently, patients were treated with amoxicillin 500–750 mg orally every eight hours (according to weight) for five days and the necessary analgesia based on paracetamol on demand with a maximum of 3 g daily. All implants were inserted by the same surgeon using the biological drilling technique, at low revolutions<sup>14</sup>,



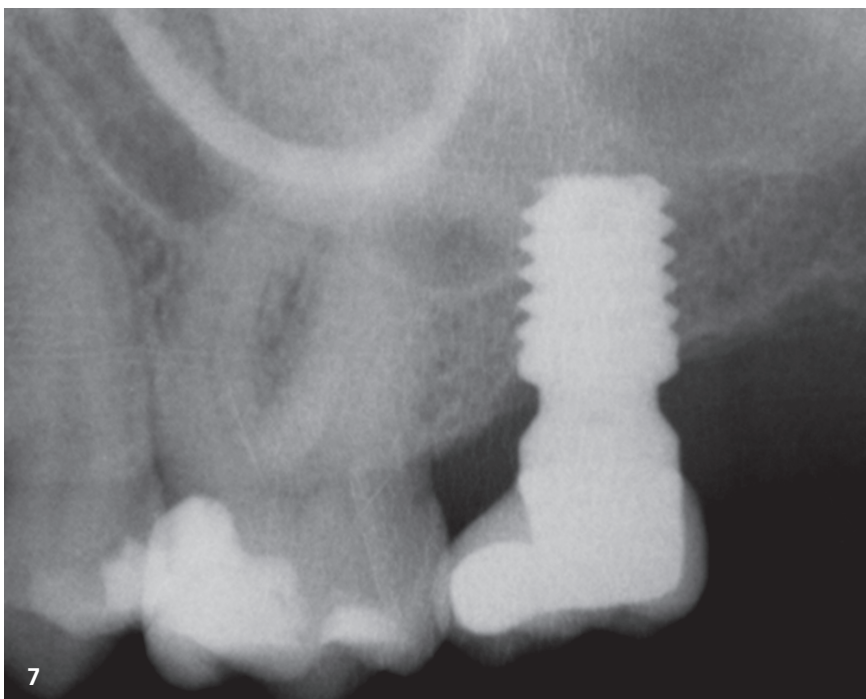
**Fig. 2:** Planning of the implant to be placed. – **Fig. 3:** Post-surgical panoramic X-ray with the recently placed implant. – **Fig. 4:** Placement of the unitary transepithelial after the second phase at five months for progressive loading of the implant.



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6



7

**Figs. 5+6:** Clinical images of the patient at the time of crown placement. – **Fig. 7:** Radiographic image after four years of follow-up showing the bone stability of the implant and the rehabilitation.

described by our study group, where the neoalveolus is widened using incremental drills in diameter.

Subsequently, patients underwent control panoramic radiographs every six months and the necessary measurements were taken on these radiographs to check bone stability. Easily reproducible periapical radiographs with a positioner were used to establish bone loss. At each of the visits, periapical radiographs are taken with a parallelisation device to estimate the crestal bone loss. Marginal bone loss was measured on the last periapical radiograph taken with a follow-up positioner. Once the X-ray was obtained in digital format, it was calibrated using specific software (Digora for Windows, SOREDEX Digital Imaging systems) through a known length in the X-ray, such as the dental implant. Once the calibration measurement has been entered, the software performs a calculation based on this measurement to eliminate the magnification, allowing linear measurements to be made free of this error. The crestal bone loss was measured at two points: mesial and distal to each implant.

### Statistical analysis

Statistical data collection and analysis was carried out by two different researchers. A Shapiro-Wilk test was performed on the data obtained to verify the normal distribution of the sample. The main variable evaluated was implant survival followed by crestal bone loss. Qualitative variables were described by frequency analysis. Quantitative variables were described by mean and standard deviation. Implant survival was calculated using the Kaplan-Meier method. Data were analysed with SPSS v15.0 for Windows (SPSS).

### Results

Thirty patients were recruited and 40 single implants with lengths of 5.5 and 6.5mm were inserted in upper second molar positions that fulfilled the inclusion criteria. Thirty percent of the patients included in the study were male and 70%

female, with a mean age of 62 (+/- 3.5) years. Implant position was 50% for tooth #17 and 50% for tooth #27. The diameter of the inserted implants was mostly 5 mm (56.42% of cases), followed by 5.5 mm (23.58%) and 4.5 mm in 20% of cases.

The length of the implants was mostly 6.5 mm (60% of cases) followed by 7.5 mm (30%) and finally 10% were 5.5 mm long implants. The mean densitometry of the implant insertion sites was 240 Hu (+/- 54; range 200–300 Hu). The mean insertion torque achieved for the implants studied was 40 Ncm (+/- 14.7; range 20–65 Ncm). The mean bone loss of the studied implants measured mesial to the implants was 0.5 mm (+/- 0.6) and measured distally was 0.3 mm (+/- 0.5). The mean follow-up of the studied implants was 60 months (+/- 34).

None of the implants failed during the follow-up period, resulting in 100% survival and no adverse surgical or prosthetic events were recorded. Figures 1–7 show one of the cases included in the study.

## Discussion

Rehabilitation with dental implants is one of the most widely used techniques in dentistry. These implants, with the modifications they have undergone in recent years, adapt to most bone atrophies, whether vertical, horizontal or mixed. Short and extra-short implants are safe and predictable alternatives for vertical atrophy, as in the cases of second molars discussed in this article, presenting fewer biological complications, lower economic cost and fewer surgical sessions for patients than the accessory techniques of bone augmentation or regeneration that would be used in the case of wanting to initially recover the lost bone volume.<sup>15–17</sup> Long-term survival rates of these implants are reported to be 98.9%, so they have a similar survival to longer implants placed without bone augmentation or to those inserted in augmented bone by different procedures.<sup>18, 19</sup>

One of the main drawbacks reported in the literature is the lower predictability

of these short implants when inserted in the posterior maxilla is the achievement of correct primary stability. This primary stability ensures that the newly inserted implant does not undergo micro-movements during the integration phase and that the treatment is successful. To achieve this, the three-dimensional images of the cone-beam in its sectional slices allow us to choose the point of greatest density where to strategically place our anchorage zone and to individualise the drilling sequence.<sup>8–10</sup>

If we achieve the desired stability, even if the torque is low, we can achieve treatment success if the implant is inserted conservatively without damaging the bone bed. Systematic reviews and prospective studies on the insertion torque of dental implants at different torques do not find statistically significant differences between high and low insertion torques in implant survival or crestal bone loss.<sup>20–23</sup> Another point to bear in mind in this type of restoration is the use of a prosthesis that transmits the load effectively and generates a seal that avoids implant-prosthesis microleakage, such as the single transepithelial prostheses used in the cases studied. In addition, the way this trans-epithelial works in the prosthesis laboratory through the interfaces allows us to make a screwed or cemented crown, avoiding the machined connection portion having to undergo excessive heating processes by entering the ceramic furnace several times. All the work can be fabricated on the burn-out portion of the interface and then cemented to it once all the finishing and adjustments have been made.

## Conclusions

Even with bone atrophy and low density in the area of the upper second molars, single implants can still be used. However, it's crucial that the rehabilitation follows a proper surgical and prosthetic sequence to ensure treatment success. Every step, from initial planning to crown placement, plays an essential role in achieving the desired outcome.

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References



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## Dual zone therapeutic concept

# Digital workflow in guided immediate implant placement

Dr Kalin Marinov, Bulgaria

The field of dental implantology has observed a paradigm shift in immediate implants becoming the preferred modality of treatment for replacing hopeless teeth. In the basic form, immediate implant placement means the insertion of the implants into fresh alveolar sockets at the time of tooth extraction.

Guided immediate implant placement utilises three-dimensional imaging and printing technology for fabrication of surgical guides used for precise positioning and placement of implants. A Randomised Controlled Clinical Trial (RCT) aimed to compare the accuracy of immediate implant placement with freehand and static guided surgery and concluded that immediate implant placement with static guided surgery demonstrated better accuracy than freehand surgery.<sup>1</sup> When immediate implant placements are performed with this digital planning and executed with computer guided surgical stents, it makes the surgery less traumatic with reduced surgical time, precise implant position and better aesthetic outcomes. Hence,

leading to improved patient overall satisfaction. A systematic review and meta-analysis were done to evaluate implant failure rates and their association with guided and free hand implant placement technique. The study concluded that both guided and free-hand implant placement techniques resulted in a high implant survival rate. However, implant failure rates were almost three times higher in the free-hand implant placement category. A guided implant placement approach is recommended for a successful outcome.<sup>2</sup> A common challenge clinicians encounter in implant dentistry are anatomical features such as the maxillary sinus in the upper arch and the inferior alveolar nerve in the lower arch. Additionally, complex scenar-

ios such as limited bone availability, infections in hopeless teeth, or periodontally compromised teeth requiring extraction further complicate the process. Achieving primary stability with an optimal prosthetic profile is a critical factor in case selection under such circumstances.

Hence, guided surgery is a major boon as it helps plan safe positioning of the implant prior to the surgery, boosting clinician's comfort and confidence for ensuring stable results in immediate implants.

The use of immediate guided implant placement along with grafting the jumping gap followed by immediate digital temporisation guarantees a better aesthetic outcome while reducing time, cost, and the number of clinical visits.<sup>3</sup> The dual



**Fig. 1:** Periapical abscess associated with the left mandibular first molar. – **Fig. 2:** Diagnostic periapical X-ray showing infected mesial root with furcation involvement.

zone refers to the tissue zone apical and coronal to the immediately placed implant shoulder, which could recede or collapse after tooth extraction. Dual zone technique consists of packing the bone graft material in the bone gap between the implant and the buccal plate until the free gingival margin. This is followed by prosthetic socket sealing using either a custom healing abutment or a provisional restoration to enhance aesthetics in the anterior region and preserve the peri-implant tissue after extraction and implant placement. A customised healing abutment is designed by modifying the size and transmucosal shape of the healing abutment to guarantee the creation of a soft-tissue profile similar to a natural tooth. Thereafter, it is connected to the implant on the day of surgery and left undisturbed until osseointegration and tissue maturation are achieved.<sup>5</sup>

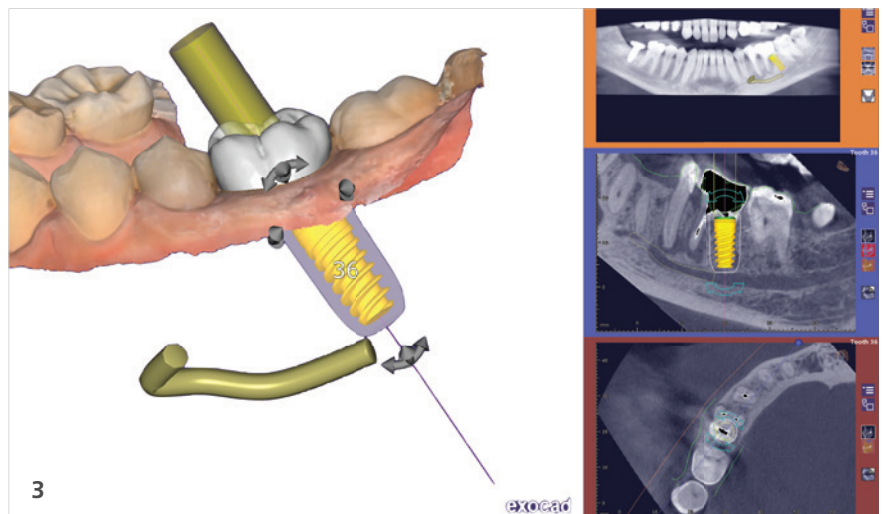
The following case report showcases utilisation of digital technology for precise planning in a challenging case of an immediate implant with dual zone augmentation and a custom healing abutment for streamlining treatment protocols to achieve predictable outcomes.

### Initial situation

A 42-year-old, non-smoker, male patient reported in our clinic with mild pain and discomfort when chewing from left side. Clinical and radiological examination revealed furcation involvement and periapical granuloma in the mesial root of lower left first mandibular molar. (Figs. 1+2) The tooth had a hopeless prognosis and was planned for extraction and immediate placement of implant after patient was informed about all the treatment options.

### Preoperative digital planning

A cone beam computed tomography (CBCT) for the area was done along with an intra-oral scan (Medit i500) and exo-plan software (exocad) was used for digitally planning the implant position and surgical guide fabrication. The furcal sep-

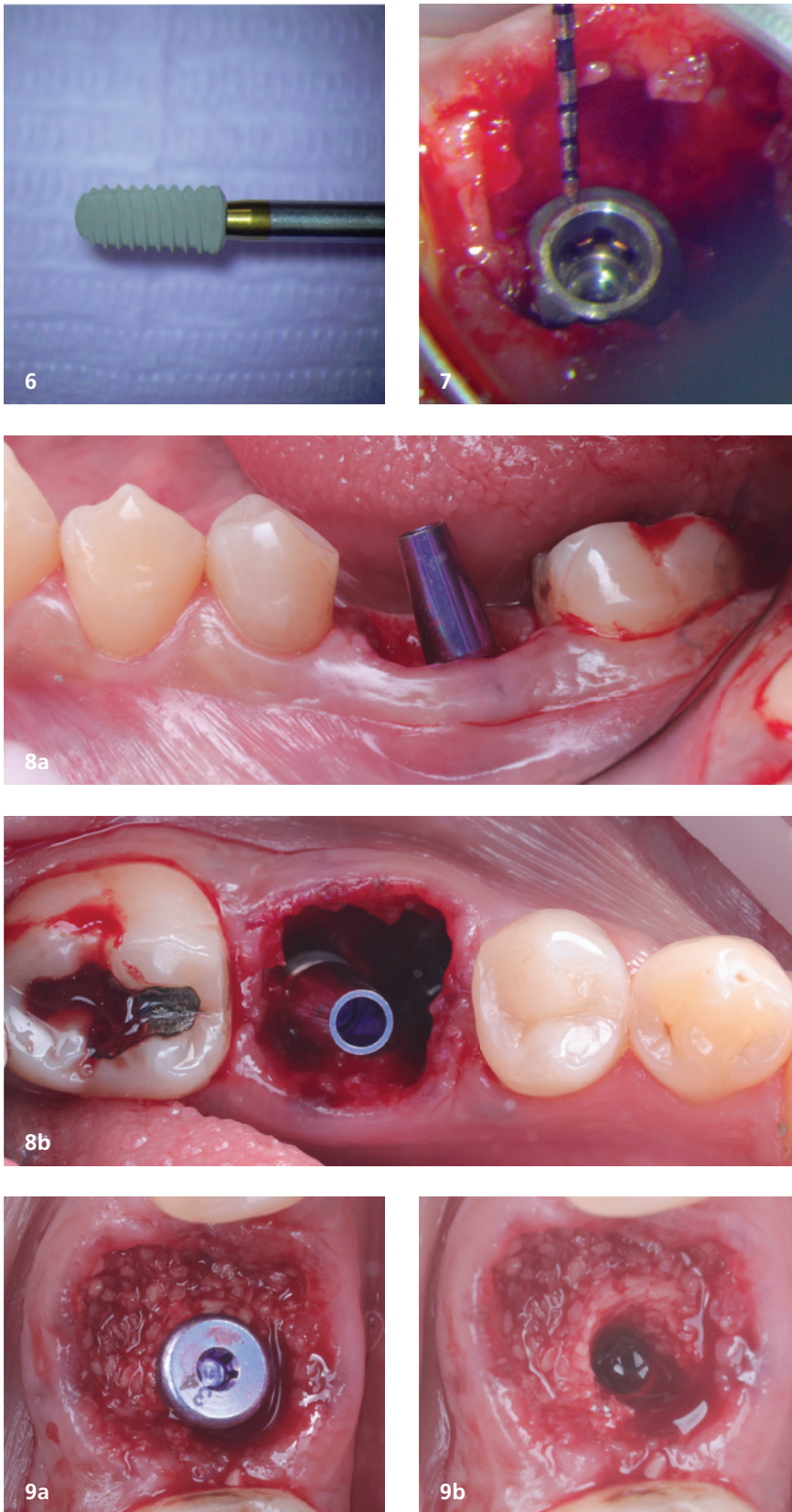


**Fig. 3:** Digital planning of implant size and position, with subsequent fabrication of the surgical guide. – **Fig. 4:** Atraumatic extraction of the tooth. – **Fig. 5:** CAD/CAM milled surgical guide positioned for osteotomy preparation.

tum was very thin and the mesial socket infected, hence the implant position was restricted to the distal socket. The copaSKY 4.5x10 mm (bredent medical) was selected as the fixture of choice for the case due to its unique morphological and surface characteristics for achieving high primary stability in immediate implants (Fig. 3).

### Surgical procedure

The procedure was performed under local anaesthesia with 1:100,000 lidocaine. The mandibular molar was atraumatically extracted (Fig. 4). The surgical guide was placed in position (Fig. 5) and the osteotomy was performed completely flapless as per the plan, during which the bone



**Fig. 6:** copaSKY 4.5x10 mm fixture ready for insertion. – **Fig. 7:** Subcrestal implant placement according to the digital plan, with torque >45Ncm. – **Figs. 8a+b:** Buccal view confirming implant angulation with copaSKY abutment (a). Occlusal view showing implant placement in the distal socket as planned (b). – **Figs. 9a+b:** Healing abutment placed and area around implant grafted (a). Dual-zone grafting completed up to the gingival margin (b).

chips collected in the drill (autograft) were preserved. A copaSKY 4.5x10 mm implant (Fig. 6) was placed subcrestally with a torque >45Ncm (Fig. 7). The three-dimensional implant position was verified with a titanium abutment (copaSKY; Figs. 8a+b). A healing abutment was placed on the implant prior to grafting to prevent the graft from entering the fixture. Dual zone grafting was done with 1:1 autograft and allograft (Puros Mix allograft, Zimmer Biomet) in the jumping gap up to the gingival margin (Figs. 9a+b). A custom healing abutment was fabricated chair-side by sandblasting the titanium abutment (copaSKY; used previously for the axial verification) and relining it with flowable composite (Nexcomp Flow, META BIOMED). This assembly was polished, abutment plugged with Teflon and finally screwed onto the implant (Figs. 10a+b). This custom healing abutment would aid in protecting the biomaterials in the socket as well as developing a favourable emergence profile for the definitive prosthesis. An immediate post-operative periapical radiograph was taken to confirm the complete seating of the custom healing abutment (Fig. 11).

### Definitive restoration

A digital scan was taken using an intra-oral scanner (IOS; Medit i500) after six months, and a screw-retained zirconia monolithic crown was fabricated on a Ti-base (Figs. 12a+b). An immediate post-operative X-ray was then taken to confirm the complete seating of the prosthesis (Fig. 13). Two-year postoperative follow-up radio-visuograph (RVG) showed stable crestal bone levels (Fig. 14).

### Discussion

In selected scenarios, immediate implant placement in molar extraction socket might be considered a predictable technique as demonstrated by high survival and success rates, with minimal marginal bone loss.<sup>6</sup> However, it is challenging to control the axial angulation during implant bed preparation in immediate implants for multi-rooted teeth. In posterior areas





**Figs. 10a+b:** Titanium abutment adjusted, plugged with Teflon, relined with flowable composite, and screwed onto the implant (a). Buccal view of customised healing abutment (b). – **Fig. 11:** Immediate postoperative X-ray.

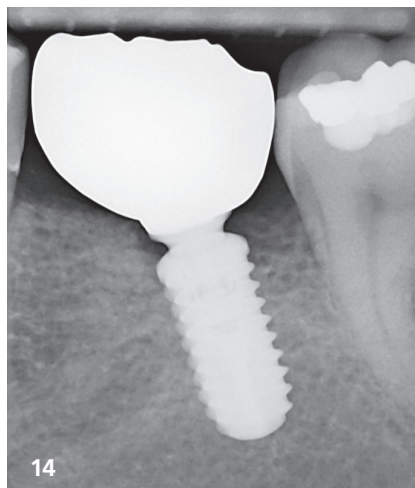
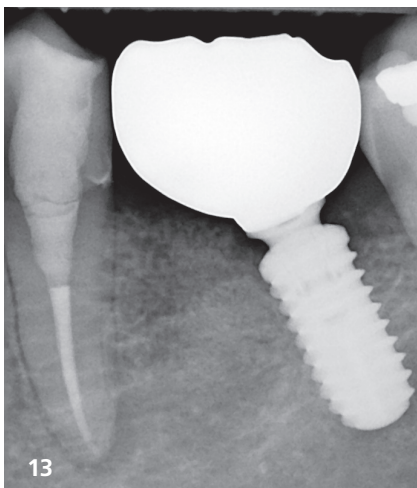
with a limited field of view, non-flap implant bed preparation can be challenging when considering the three-dimensional position of the implant preparation and the avoidance of damage to essential structures. Notably, the drill continually slips in the interradicular septum, resulting in inaccurate site preparation and, consequently, an unfavourable implant insertion. Such deficiencies may cause biomechanical and occlusal related complications.<sup>7</sup> The current case had a very thin inter-radicular septum with the inferior alveolar nerve in close proximity to the planned implant position. Hence a guided implant placement with a surgical stent was done for precise positioning of the implant. Static guided surgery has a high level of accuracy and control, in which osteotomy is pre-planned and executed through a surgery guide; depending on the complexity of the case and the patient's anatomy, it has a higher level of value than free hand surgery.<sup>8</sup> Computer-guided template-based implant placement showed high implant survival rates ranging from 91 to 100%.<sup>9</sup> A crucial factor is the correct selection of the macro-structure of the fixture. A self-tapping

conical-cylindrical implant was selected in this case. In Ciabattoni's study, it was observed that these types of implants with aggressive macro-design with self-tapping threads are advantageous where the density and effective residual bone volume are low, such as in extraction sites.<sup>10</sup>

A flapless approach was employed due to its benefit of uninterrupted blood supply to the implant site as the interdental papilla and periosteum remain intact. The flapless approach in implantology could also result in lesser marginal bone loss.<sup>11</sup> Divakar et al. concluded that flapless implant surgery results in lesser loss of marginal bone in addition to better patient comfort.<sup>12</sup> Pozzi and his colleagues observed that due to the frequent flap elevation associated with free hand surgeries, patients reported more postoperative pain and clinically observed swelling compared to flapless guided implant placements.<sup>13</sup>

Following implant insertion, dual-zone grafting was performed between the implant and the socket walls. Ridge preservation techniques reduce the morphological horizontal bone changes that occur, mostly in the coronal portion of the buc-

cal bone plate following tooth extraction, when compared to spontaneous healing.<sup>14</sup> A recent study concluded that, the Dual Zone Therapeutic (DZT) technique implemented with immediate implants in posterior extraction sockets showed promising peri-implant marginal tissue health results with no observed complications or implant loss over three years. This technique is easy to apply and depends on grafting the jumping gap to the free gingival margin using a customised healing abutment as a prosthetic sealing device.<sup>15</sup> This customised healing abutment bridges the gap between the anatomy present at the time of tooth removal and the anatomic characteristics of the site after osseointegration. An analysis demonstrated an overall survival rate of 98.26% of dental implants placed into fresh molar extraction sites using chairside fabricated immediate custom healing abutments. This outcome, which is equivalent to or better than other studies on immediate molar implant placement, verifies this technique as a viable approach with additional benefits of flapless socket sealing and immediate capture of the anatomic emergence profile.<sup>16</sup>



**Figs. 12a+b:** Final screw-retained monolithic zirconia crown on tooth #36 (a). Buccal view showing final crown in occlusion (b). – **Fig. 13:** Immediate periapical X-ray post-definitive restoration. – **Fig. 14:** Two-year postoperative follow-up X-ray showing stable bone levels.

A digital workflow was used for the definitive restorative phase and a custom restoration over a Ti-base was fabricated as a screw-retained crown. Nowadays, implant definitive restoration with digital workflows are achieved with CBCT segmentation, IOS, facial scans, CAD and 3D fabrication. Digital implant impressions offer advantages over conventional impressions including reduced risks of distortion during the laboratory phases; improved patient comfort and acceptance; and improved efficiency.<sup>17</sup> The digital technique emerges as the most preferred one

according to patient-centered outcomes and was more time-effective compared to conventional impressions.<sup>18</sup>

### Conclusion

Guided immediate implants have transformed restorative dentistry into a patient centric treatment approach with it being less invasive with reduced number of surgical intervention and chairside treatment time thereby improving overall patient satisfaction. Simultaneous socket preservation using grafts and custom healing

abutments in guided immediate implants not only expedites the treatment process by avoiding second stage surgery but also sculpts the emergence profile and maintains tissue volume during the osseointegration period. Thus, facilitating a solid peri-implant hard and soft tissue foundation for long term stable results. Digital workflows have evolved as the optimum standard of treatment for ensuring accuracy and predictability of procedures by evading complex anatomic situations in immediate implant dentistry and simplifying the planning, surgical and restorative stages. Advances in modern equipment and software promise even more streamlined predictable protocols for the benefit of patients and dental practitioners. If you have not started using digital workflows in your clinic, do give it a try!

### Acknowledgements

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References



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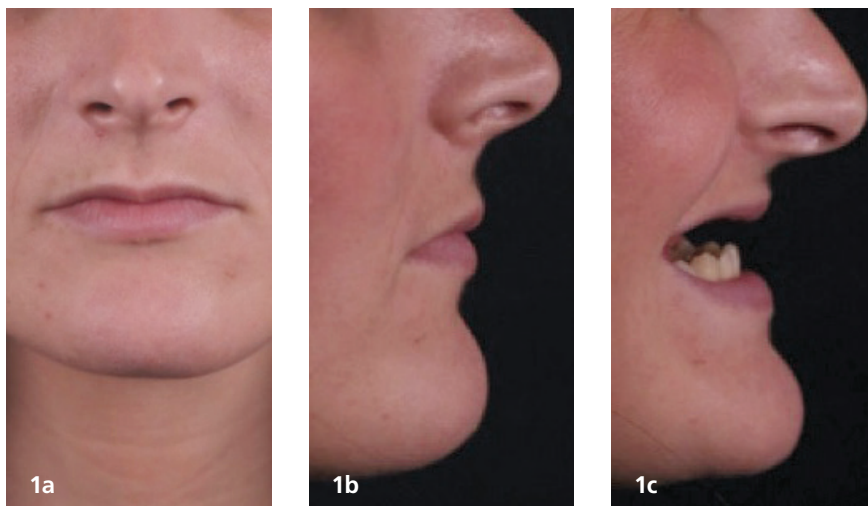
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## Full arch reconstruction of the edentulous maxilla

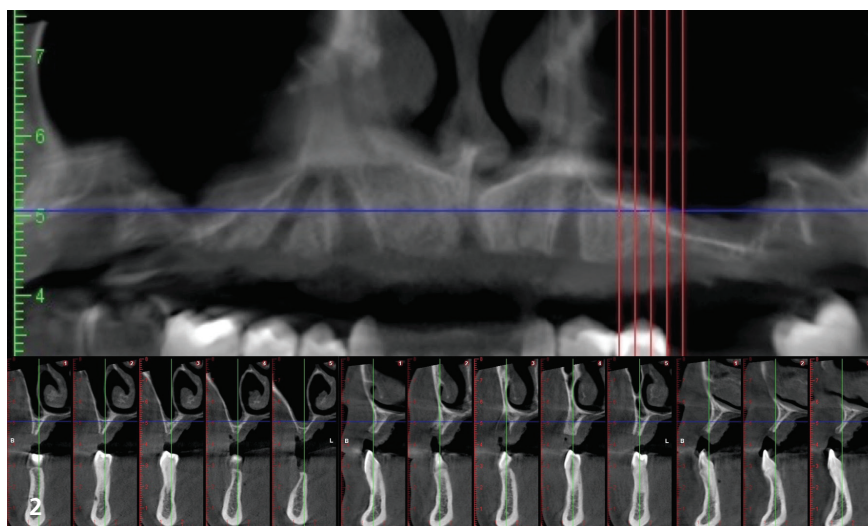
# From bone augmentation to final monolithic zirconia restoration

Prof. João Caramês, Portugal

Dental implant rehabilitation in young patients with severe alveolar bone loss poses a significant challenge, particularly when previous implant attempts have failed. This case report describes the treatment of a 20-year-old female patient who had previously undergone unsuccessful implant treatment and was reluctant to consider removable dentures as a permanent solution.



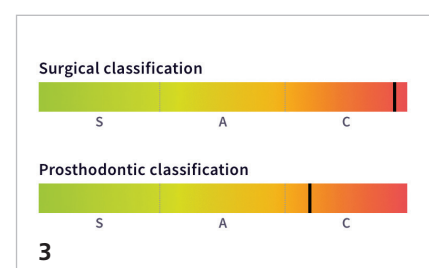
**Figs. 1a–c:** Missing maxillary teeth causing face flattening in a young patient.



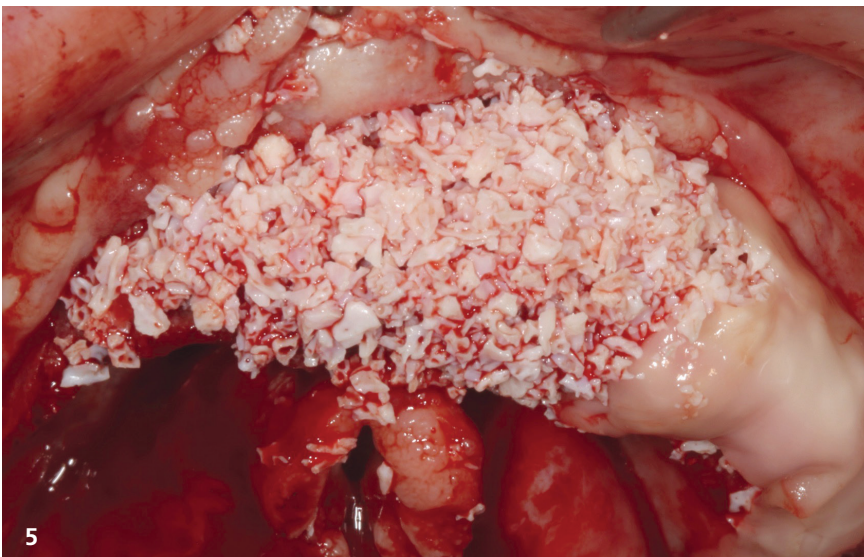
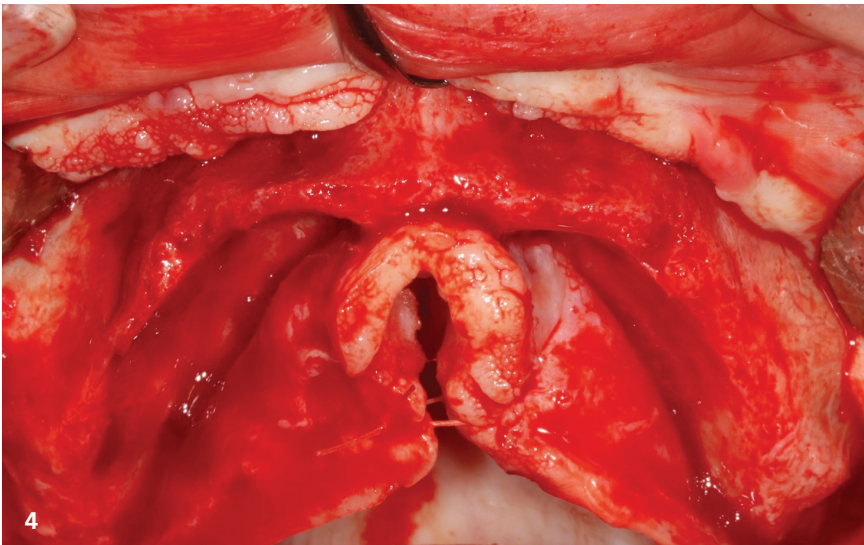
**Fig. 2:** Radiograph assessment showed limited bone availability.

The treatment plan focused on restoring function and aesthetics through a combination of bone augmentation, sinus lift, and implant placement using Straumann® Bone Level Tapered (BLT) implants. The surgical workflow included the use of Straumann® Xenograft for ridge augmentation, followed by digital planning for guided implant surgery. A temporary removable denture was provided during the healing phase, after which the patient received a screw-retained monolithic zirconia prosthesis.

The patient-centered approach prioritised the young patient's well-being and limited bone anatomy. A two-stage strategy was chosen to optimise conditions for standard implants, ensuring stable, long-term outcomes. After reviewing treatment options and their pros and cons, the patient selected this approach.



**Fig. 3:** Based on SAC classification, the case was categorised as complex.



**Fig. 4:** Full-thickness flap with crestal incision for surgical site exposure. – **Fig. 5:** Bone augmentation was done using Straumann® Xenograft®. – **Fig. 6:** After one month, soft tissue heals with no complications.

Beyond the clinical success of the procedure, the impact on the patient's quality of life was evident. Prior to treatment, the patient reported considerable difficulties with masticatory function, poor nutrition, and a decline in self-esteem due to the limitations of removable prosthetics. Following the full-arch rehabilitation, the patient experienced marked improvements in oral function, aesthetics, and psychosocial well-being. This case highlights the critical role that implant-supported restorations play in not only addressing dental health issues but also enhancing overall patient satisfaction and quality of life.

### Initial situation

A 20-year-old woman came to our clinic in good health, not taking any medication, and with no allergies. She told us that she had lost her teeth at a young age because of cavities. Although she had tried implants before, the treatment did not work out, and she could not imagine wearing removable dentures for the rest of her life. She wanted to find a fix solution using dental implants to restore her failing teeth.

The extra-oral examination showed a flattening of the lower third of the face, attributed to the lack of support from the missing maxillary teeth (Figs. 1a–c).

The intra-oral examination revealed an edentulous maxilla characterised by significant horizontal and vertical bone resorption. This considerable loss of bone structure presents substantial challenges for implant placement, as it may compromise the necessary stability and support for a successful prosthesis.

Additionally, the radiographic examination confirmed recent implant loss and demonstrated a critical deficiency of bone in both vertical and horizontal dimensions (Fig. 2). This imaging underscores the necessity for thorough evaluation and intervention to address the underlying bone deficiencies, highlighting the urgent need for a comprehensive treatment plan to effectively restore both function and aesthetics.

Based on the SAC classification, the patient's surgical and prosthodontic case was categorised as complex (Fig. 3).

### Treatment planning

The treatment plan was tailored to meet the patient's functional and aesthetic needs while ensuring long-term stability. It followed a structured approach, beginning with sinus lift and bone augmentation and digital planning, continuing through implant placement, and ending with the delivery of a final

screw-retained prosthesis. Each step was carefully planned to achieve a successful outcome.

The treatment workflow included:

1. Maxilla reconstruction: Bilateral sinus lift, vertical and horizontal bone augmentation with Straumann® Xenograft.
2. Temporary removable denture during the six-month healing period.
3. Digital planning for guided implant surgery and immediate loading protocol.
4. Insertion of eight Straumann® Bone Level Tapered SLActive® implants.

5. Delivery of screw-retained immediate prosthesis.
6. Monitoring during osseointegration period.
7. Finalisation with a screw-retained zirconia monolithic prosthesis.

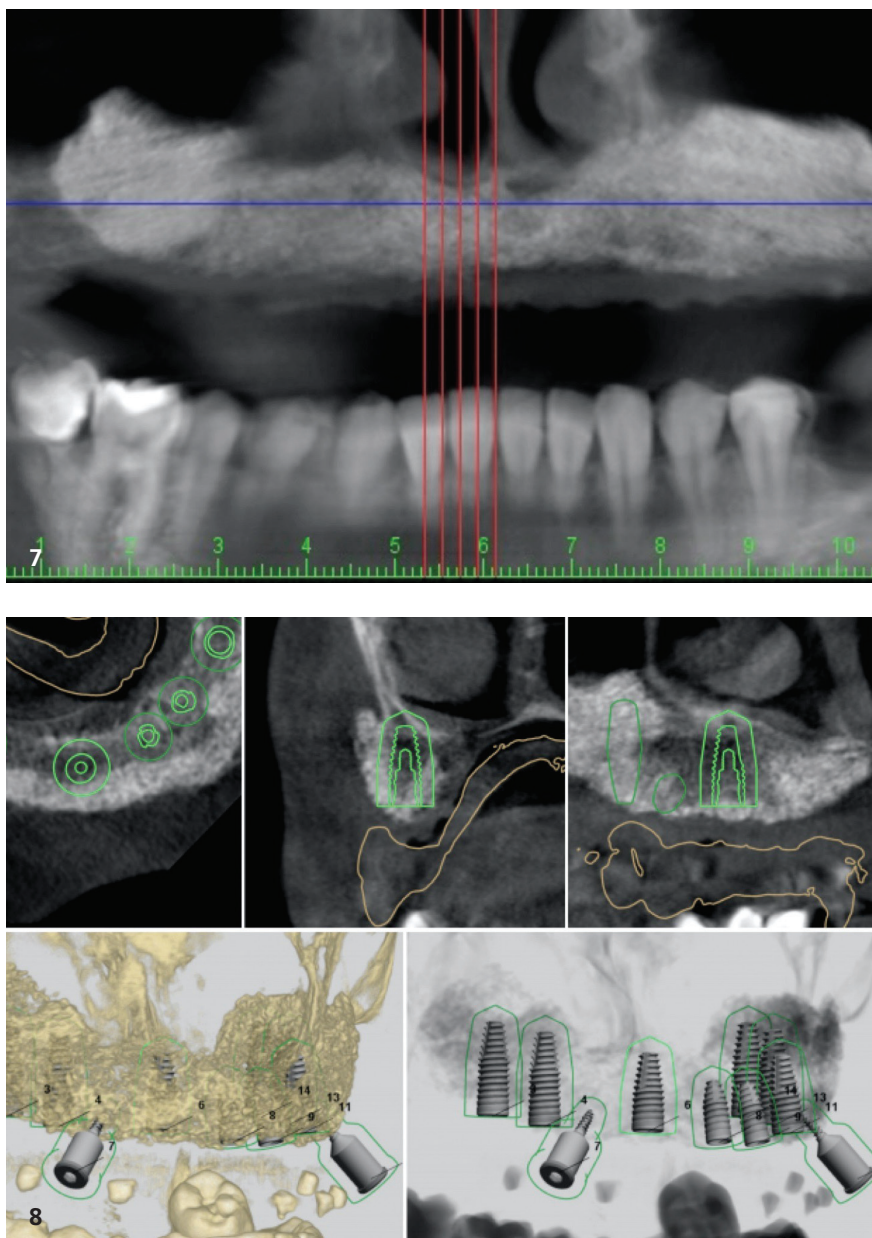
The decision was guided by the doctor's patient-centered approach, which emphasised the patient's overall well-being. Given the patient's young age and limited bone anatomy unsuitable for standard implants, the doctor adopted a thoughtful two-stage strategy. This approach, tailored to the patient's age, preferences, and healthy systemic condition, aims to enhance the anatomical foundation for standard implant placement, ensuring stable, predictable, long-term outcomes. Comprehensive information about various treatment options, including their benefits and drawbacks, was provided to the patient, who ultimately chose the current approach as her preferred treatment plan.

### Surgical procedure

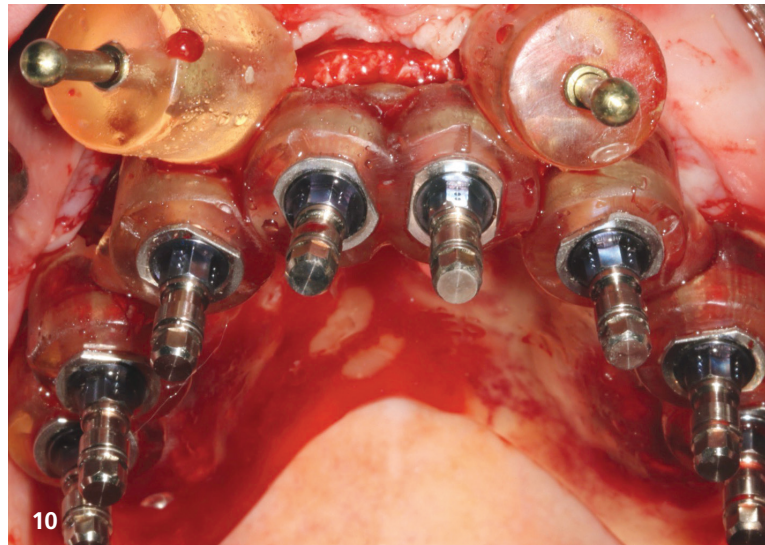
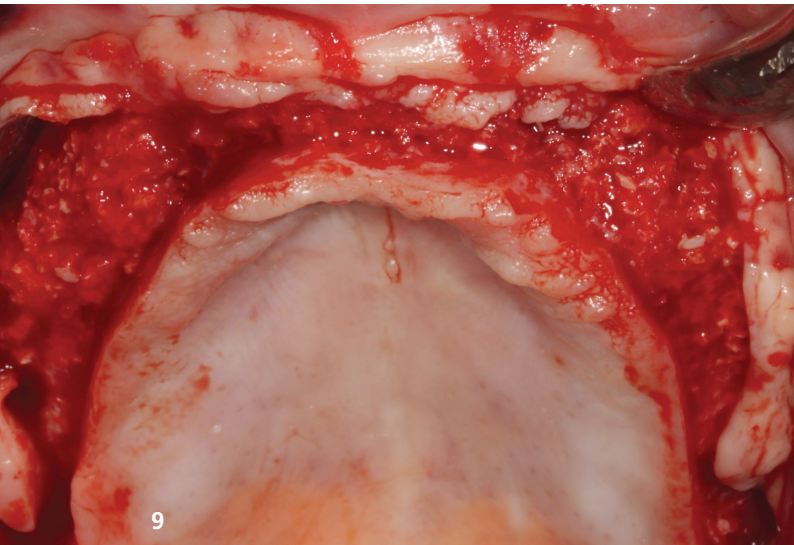
Local anaesthesia with lidocaine 2% with epinephrine 1:100,000 was administered. The surgical procedure began with a full-thickness flap created through a crestal incision to expose the surgical site (Fig. 4). Bone augmentation was performed using Straumann® Xenograft® to enhance the alveolar ridge and provide adequate support for future implants (Fig. 5).

One month after the procedure, the soft tissues exhibited good healing progress, showing a healthy appearance with no signs of complications (Fig. 6). This positive outcome reflects the effectiveness of the surgical technique and the patient's compliance to postoperative care instructions.

At the six-month follow-up, a CBCT scan revealed that the augmented bone had fully integrated, providing the necessary dimensions and stability for implant placement (Fig. 7). Using digital planning software, the 3D positioning of the implants was meticulously planned to ensure optimal placement (Fig. 8). This



**Fig. 7:** Six-month CBCT confirms successful bone integration for implant placement. – **Fig. 8:** Precise implant positioning with 3D digital planning.



**Fig. 9:** Surgical site preparation for implant insertion. – **Fig. 10:** Optimal implant placement with guided surgery.

meticulous planning ensures accurate angulation and depth of the implants, significantly improving both functional performance and aesthetic outcomes of the final prosthesis.

During the second surgery, the surgical guide was checked for proper fit. A full-thickness flap was again raised, the fixation pins were then drilled and inserted, and the implants were inserted using a fully guided technique to maximise accuracy (Fig. 9). Straumann® BLT implants were placed with precision aid of the handpiece in a clockwise direction with a speed of 15rpm and torqued at 35Ncm (Fig. 10).

### Prosthetic procedure

A temporary screw-retained prosthesis was delivered immediately, following the immediate loading protocol, to maintain function and aesthetics during the healing phase (Fig. 11). Oral hygiene instructions were given, and occlusion checked.

At the suture removal appointment, healing was observed to be uneventful. The patient was closely monitored throughout the osseointegration period, and treatment was finalised with the placement of a screw-retained monolithic zirconia prosthesis

### Treatment outcomes

The final outcome of the treatment emphasises the aesthetic excellence of the zirconia monolithic prosthesis (Fig. 12), which blends seamlessly with the natural dentition. Its functional durability ensures long-term stability, providing both visual appeal and enhanced performance. This result has greatly improved the patient's overall satisfaction and quality of life.

Additionally, lateral views taken at the end of the treatment offer a thorough perspective on the placement and fit of the prosthesis. These images confirm



**Fig. 11:** Immediate loading with temporary screw-retained prosthesis. – **Fig. 12:** Final restoration with zirconia monolithic prosthesis.

proper alignment with the surrounding tissues and occlusion, ensuring both functional performance and aesthetic harmony, further contributing to the overall success of the treatment (Figs. 13a–c).

A radiographic control performed one-year post-surgery confirms the successful integration and stability of the implants, providing further evidence of the long-term success of the procedure (Fig. 14). This imaging not only highlights the osseointegration achieved but also reassures the reliability of the implants in supporting the prosthesis, contributing to the patient's overall dental health.

The final outcome demonstrates the excellent health of both hard and soft tissues. The patient expressed great grati-

tude and satisfaction, saying she could now smile and be herself again, after what had once been a nightmare.

### Author's testimonial

Critical risk factors should be carefully evaluated prior to deciding the loading protocol. Different levels of bone atrophy should require different rehabilitation approaches. The Carames Classification system for full arch implant rehabilitation can support you in the choice of the optimal treatment. Regenerative procedures provide an added value for the patient's present and future rehabilitation needs. Cross-arch stabilisation is a key factor in full-arch immediate loading.

## About...

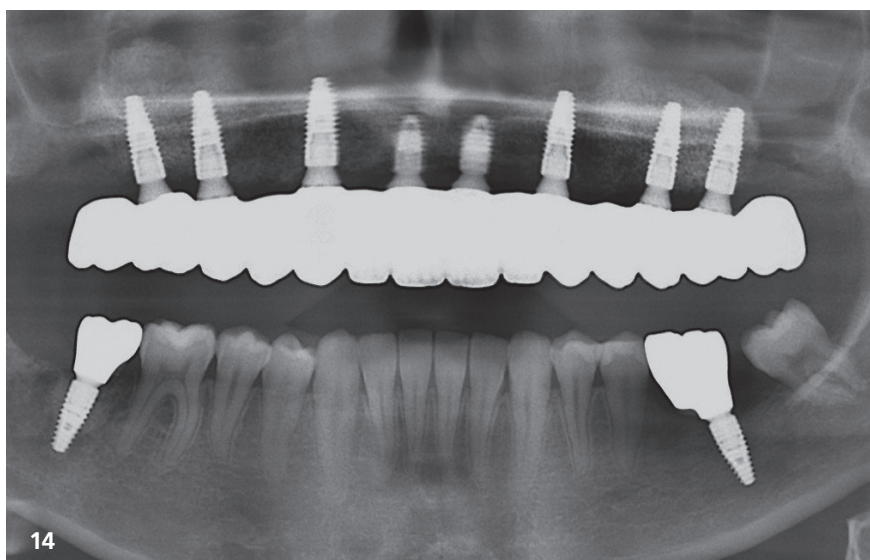
**Prof. João Caramês** pursued advanced expertise in dentistry at New York University, earning a postgraduate degree in oral rehabilitation and implantology and becoming the first non-American to receive its prestigious Alumni Award.

Back in Portugal, he founded the Instituto de Implantologia®, revolutionising dentistry with cutting-edge knowledge acquired abroad.

Currently, he is a guest professor and International director for NYU's continuing education department and leads the implantology research line at the Oral and Biomedical Sciences Research Unit (UICOB). With over 30 years of experience and more than 50,000 implants placed, he is a global authority in implantology and the creator of the widely adopted "Caramês Classification", a system tailored to individual patient needs.



**Figs. 13a–c:** One year after final restoration, the patient was highly satisfied with stable results.



**Fig. 14:** One-year radiograph confirms implant success and stability.

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**All-on-4® hybrid concept**

# Maxillary fixed full-arch rehabilitation

Drs Armando Lopes, Diogo Santos & Carlos Moura Guedes, Portugal

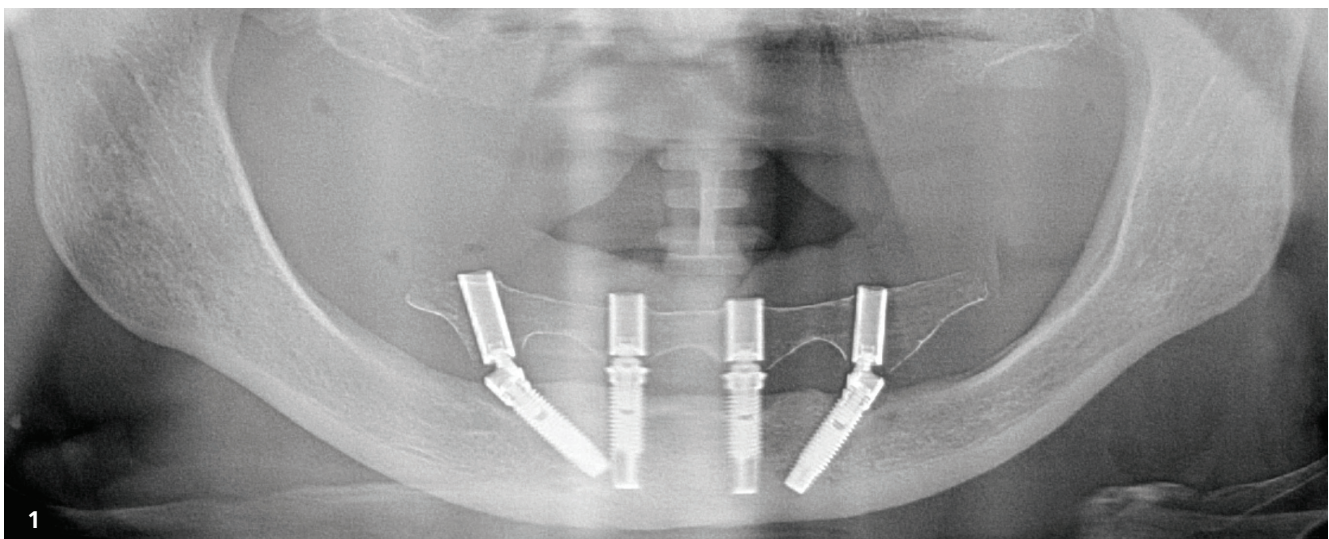
The use of zygomatic implants inserted in immediate function through the extra-maxillary technique presents a viable solution for patients with insufficient bone volume in the maxilla. This article presents a clinical case of an upper maxillary implant-supported fixed rehabilitation in a woman with atrophic maxilla, employing the All-on-4 hybrid concept. This rehabilitative approach offers numerous advantages over alternative therapeutic strategies, including enhanced predictability, increased simplicity, and a superior success rate.

## Introduction

The use of zygomatic implants has become a good treatment alternative for the rehabilitation of the severely atrophic maxilla,<sup>1-3</sup> eliminating donor graft site morbidity, and reducing the overall cost of surgical and prosthetic treatment while maintaining excellent patient satisfaction outcomes.<sup>4,5</sup>

There is generally a low frequency of complications reported in the literature with the use of zygomatic implants: the most prevalent complication seems to be sinus infections,<sup>1,2,6-10</sup> followed by mechanical complications<sup>10,11</sup> and, to a smaller degree, functional complications.<sup>12,13</sup> This group of complications may have a connection to classical surgical techniques for inserting zygomatic implants.<sup>14</sup> For example, the internal technique<sup>15</sup> consists in the insertion

of the zygomatic implant intra-sinus, with a potential increased probability of sinus complications and a bulky prosthesis caused by the palatal emergence. The extra-maxillary surgical technique aims to overcome these limitations, by placing the zygomatic implant extra-maxillary (external to the maxillary sinus before anchoring in the zygomatic bone, covered only by soft tissue along its lateral maxillary surface)<sup>16</sup> providing the preservation of the Schneiderian membrane and a decreased vestibular-palatine width of the prosthesis due to the more crestal emergence of the zygomatic implant. The aim of the present case report is to describe the short-term outcome of a fixed prosthetic rehabilitation of the atrophic maxillae supported by standard and zygomatic implants placed through the extra-maxillary surgical technique.



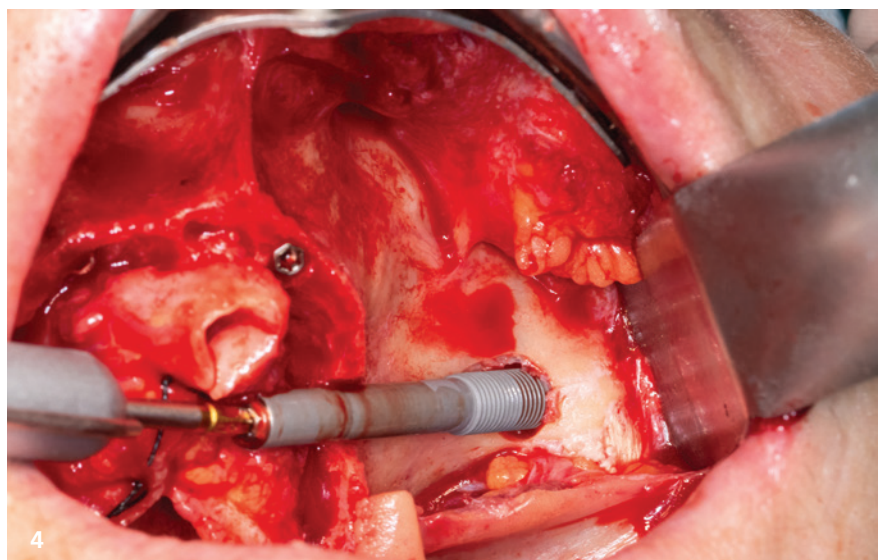
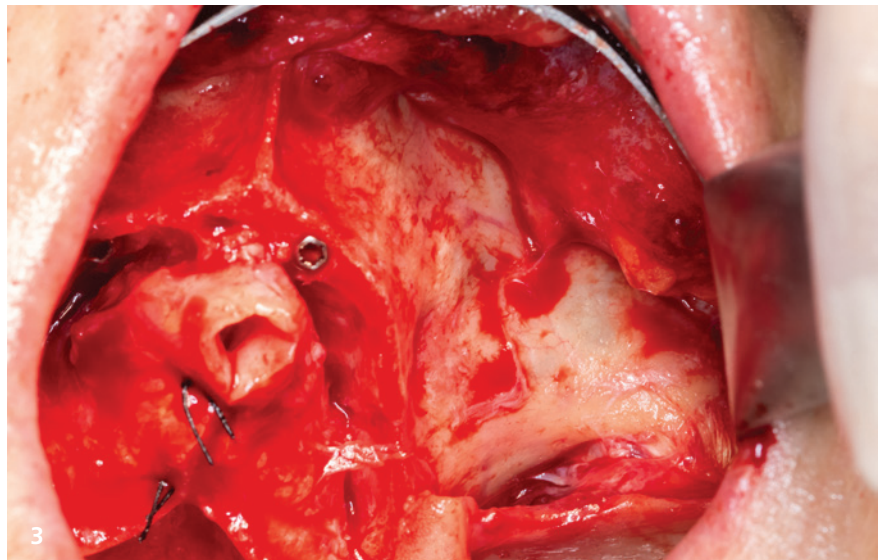
**Fig. 1:** Preoperative orthopantomogram.

## Case report

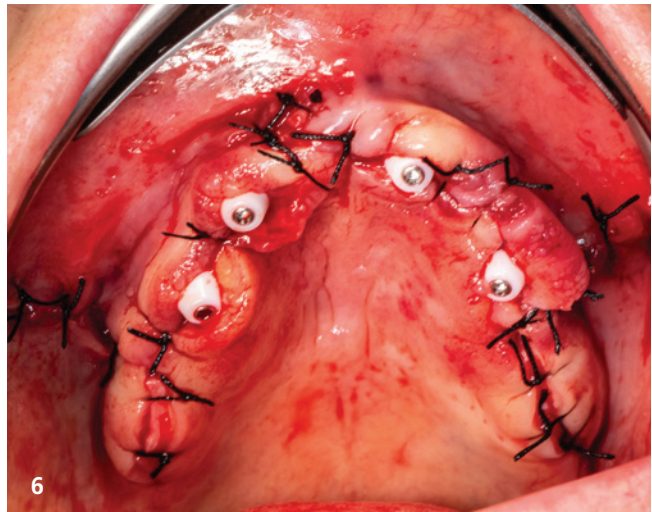
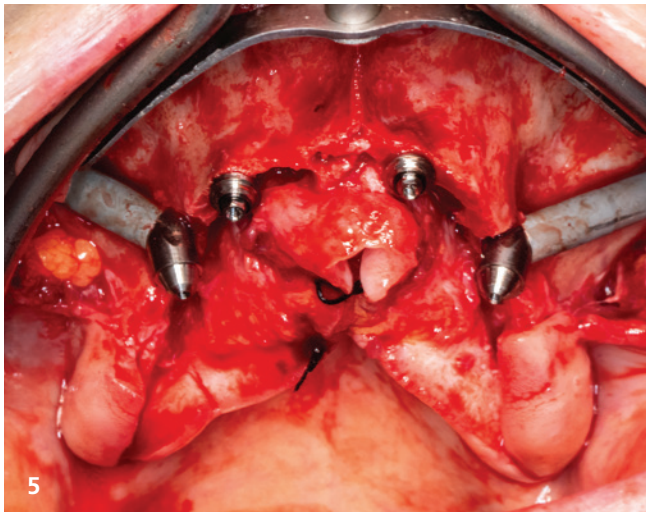
A 64-year-old Caucasian woman has been under our care since 2004, following the successful placement of an All-on-4 implant in the mandible (Fig. 1). She had been completely edentulous in the upper arch for over 30 years and expressed a strong motivation to undergo surgical intervention to restore her upper jaw. Her primary objectives were to secure fixed prosthetic teeth and to restore both masticatory function and aesthetic appearance (Fig. 2).

The proposed treatment plan entailed total rehabilitation of the upper jaw with the All-on-4 hybrid technique and was presented in February 2024. The surgical procedure in the upper jaw began with a mucoperiosteal incision performed along the crest of the ridge, slightly palatal (in each quadrant) from the region corresponding to the second molar to the canine. Relieving incisions were done in the first molar area to access the corresponding zygomatic bone. Full thickness flap reflection was performed, and the flap was stabilised using a full arch retractor (Carl Martin) exposing the inferior edge of the zygomatic bone and the insertion of the masseter fascia in the zygomatic arch (distal limit). A second retractor, the zygoma retractor (Carl Martin) was used to access the zygomatic bone body and reflect the soft tissues in this higher level (Fig. 3). The zygomatic implant site was then prepared using a round bur as posterior as possible on both sides, to reduce the cantilever to a minimum. This was followed by 2.9mm drill (Nobel Biocare), a depth indicator to verify the correct length of the implant, and drills of 3.5mm, 4.0mm, and 4.4mm (Nobel Biocare) used sequentially. During preparation, the soft tissues were reflected and protected, with particular attention being paid to the base of orbit to prevent damage to its contents.

One zygomatic implant (Nobel Zygoma 0°, Nobel Biocare) measuring 5 mm in diameter and 42.5 mm in length was placed with an insertion torque of >50Ncm in each quadrant in the position of the sec-



**Fig. 2:** Intra-oral preoperative occlusal photograph of the maxilla. – **Fig. 3:** Intra-oral photograph capturing the inferior view of the zygomatic bone. – **Fig. 4:** Intra-oral occlusal photograph demonstrating the placement of a 42.5 mm zygoma implant at 0° in the second quadrant, with flap retraction supported by a zygomatic retractor and a full arch retractor (Carl Martin).



**Fig. 5:** Intra-oral occlusal photograph displaying implants and abutments positioned according to the All-on-4<sup>®</sup> hybrid protocol. – **Fig. 6:** Intra-oral occlusal photograph following suturing.

ond premolar (Fig. 4). To compensate for the slope of the implants, 45°/6 mm angulated abutments were used (Multi-Unit Abutment, Nobel Biocare) with a torque tightened at 30 Ncm.<sup>17</sup> Two straight implants (Nobel Speedy Groovy, Nobel Biocare) measuring 3.3 mm in diameter and 11.5 mm in length were placed with an insertion torque >50 Ncm in the anterior region (13 and 21) and two straight abutments of 3 mm (13) and 2 mm (21) were used (Multi-Unit Abutment, Nobel Biocare) with a torque tightened at 25 Ncm (Fig. 5). The flap was repositioned and sutured (4/0 silk; B. Braun Medical; Fig. 6).

The patient's existing PEEK denture was captured directly in the mouth and converted into an immediate fixed prosthesis. The provisional bridge was finished in the dental laboratory and delivered to the patient's mouth 90 minutes after the surgery ended, achieving immediate function (Figs. 7+8).

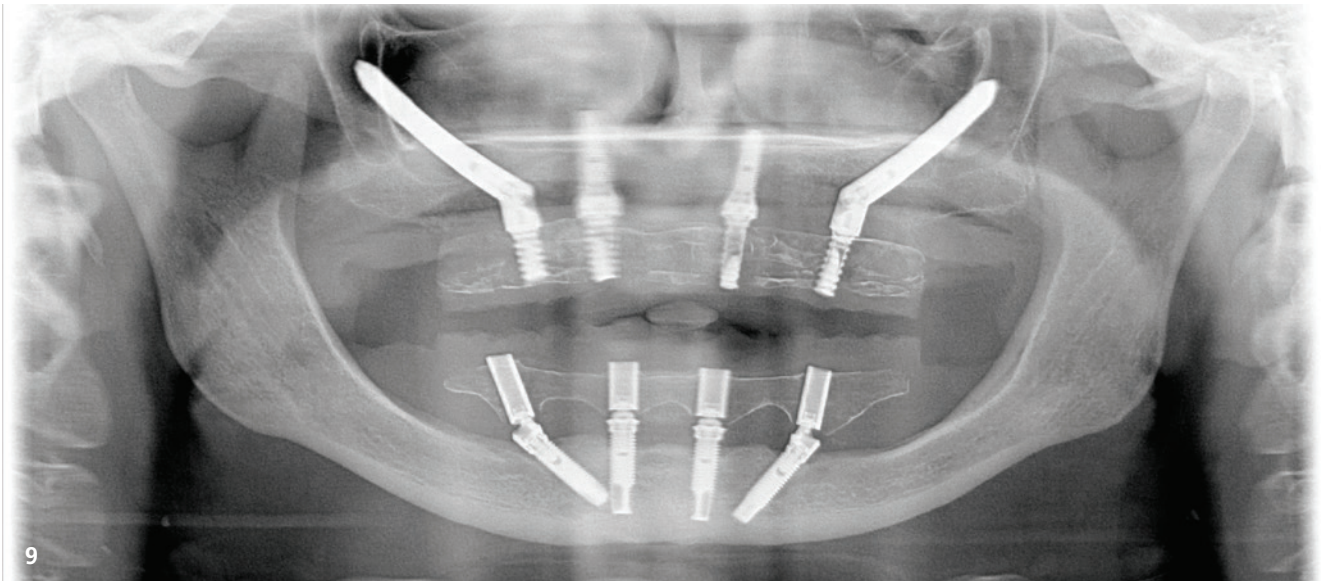
On day ten postoperation, the patient was seen in the follow-up clinic for removal of sutures; the wound was noted to be healing well and a system for patient follow-up at two, four and six months post-surgery was established (Fig. 9).

## Discussion

The present clinical case reports the short-term outcome of a fixed prosthesis supported by immediate function zygomatic implants inserted extra-maxillary with 45-degree angulated abutments in conjunction with standard implants for the rehabilitation of a severely atrophic maxillae, with high success rates for prosthesis, implants, and abutments. This concept of rehabilitation has several advantages over other therapeutic strategies, namely bone grafts: higher predictability, more simplicity, higher success rate, higher



**Fig. 7:** Intra-oral occlusal photograph of the provisional fixed prosthesis post-delivery. – **Fig. 8:** Extra-oral smile photograph showcasing the provisional fixed prosthesis after delivery.



**Fig. 9:** Postoperative orthopantomogram.

patient comfort and aesthetics, and the possibility of immediate function through provisional low-cost prostheses.<sup>6,18,19</sup> The biggest advantage of applying the All-on-4 extra-maxilla hybrid technique over other techniques lies in the high success rate it can achieve, in contrast to bone grafting techniques (from iliac crest, for example). Using extra-long implants placed externally anchored into the maxilla and zygomatic bone allowed overcoming the anatomical limitations posed, thus opening a new approach to use fixed implant-supported rehabilitation in extreme situations.<sup>6,20</sup>

The importance of planning in advance the rehabilitation of totally edentulous cases with implants must be stressed: whether carried out pre-surgically (using anamnesis, clinical examination and imaging), surgically (through non-guided or guided surgery—static or dynamic) or post-surgically (using an appropriate follow-up regimen).

## Conclusion

This case study illustrates that the All-on-4 hybrid concept is a viable treatment option for patients with significant atrophy in the upper jaw. Despite the challenges posed by extensive bone loss, this innovative approach enables effective

rehabilitation, providing patients with a functional and aesthetically pleasing solution. The All-on-4 protocol utilises only four strategically placed implants to support a complete arch of prosthetic teeth, which minimises the need for bone grafting and other invasive procedures.

Literature



## About...

**Dr Armando Lopes** graduated from the University of Lisbon in 2003 and joined MALO CLINIC in 2004 as Director. He specialises in oral surgery and implant rehabilitation, particularly in MALO CLINIC and All-on-4 protocols. He holds a Master's (2013) and PhD (2019) from the University of Granada and has published several scientific works.

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### Long-term retrospective case series

# Laser-assisted protocol for the treatment of peri-implantitis

Drs Gary M. Schwarz, David M. Harris & Gregori M. Kurtzman, USA

Pulsed Nd:YAG dental lasers are surgical tools used to obtain specific surgical objectives as defined in the LANAP (laser-assisted new attachment procedure) for periodontitis and the LAPIP (laser-assisted peri-implantitis procedure) for peri-implantitis.

The LANAP using the PerioLase Nd:YAG laser (Millennium Dental Technologies) was introduced in 1998 as Laser ENAP,<sup>1</sup> and in 2004, the LANAP gained US Food and Drug Administration 510(k) clearance (No. K030290) for the claim “laser-assisted new attachment procedure (cementum-mediated periodontal ligament new attachment to the root surface in the absence of long junctional epithelium)”. Subsequently, human histology studies<sup>2,3</sup> established that the LANAP resulted in “periodontal regeneration—true regeneration of the attachment apparatus (new cementum, new periodontal ligament, and new alveolar bone) on a previously diseased root surface” (2016 510[k] clearance No. K151763).

The LAPIP emerged from the LANAP as a stand-alone procedure.<sup>4-7</sup> The indication for the LANAP is moderate to advanced periodontitis,\* whereas the LAPIP is indicated for peri-implantitis treatment.\*\* The basic steps in the two protocols are the same and have adjustments for the whole mouth versus a single site, the responses to irradiation of root cementum versus implant titanium, and differences in surgical objectives.

A recent review of published studies of peri-implantitis laser treatment concluded that laser treatment enhances bone growth, but a quantitative analysis of bone-level changes is limited.<sup>9</sup> The authors called for greater relevance and translation of the research findings to

the clinician. This report addresses those concerns with a detailed analysis of the clinical outcomes and a quantitative description of changes in radiographic density two to five years after undergoing a LAPIP in a private practice setting.

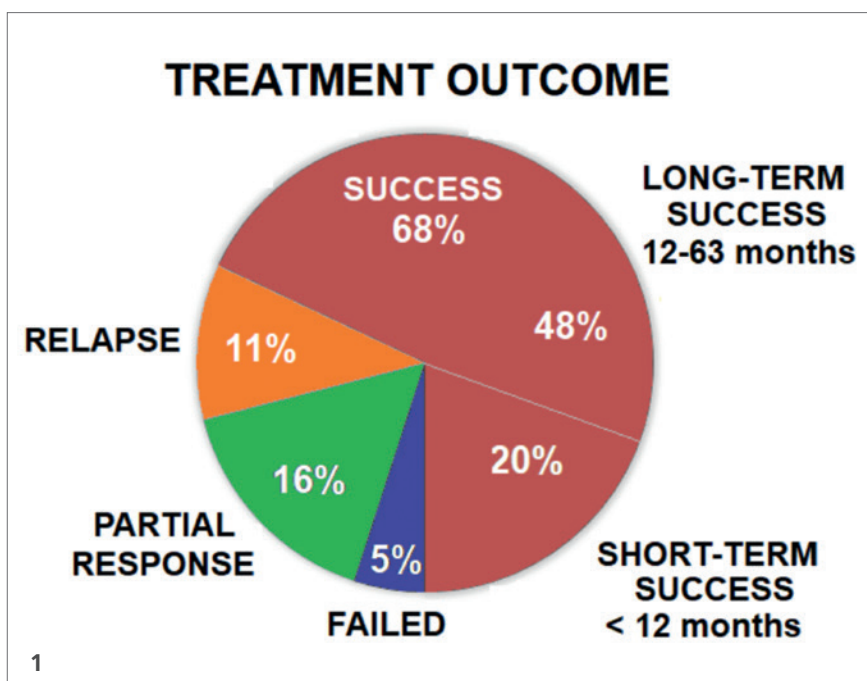


Fig. 1: Proportion of dental implants in each clinical treatment outcome category.

\* Periodontitis: “Inflammation of the periodontal tissues resulting in clinical attachment loss, alveolar bone loss, and periodontal pocketing.”<sup>8</sup>

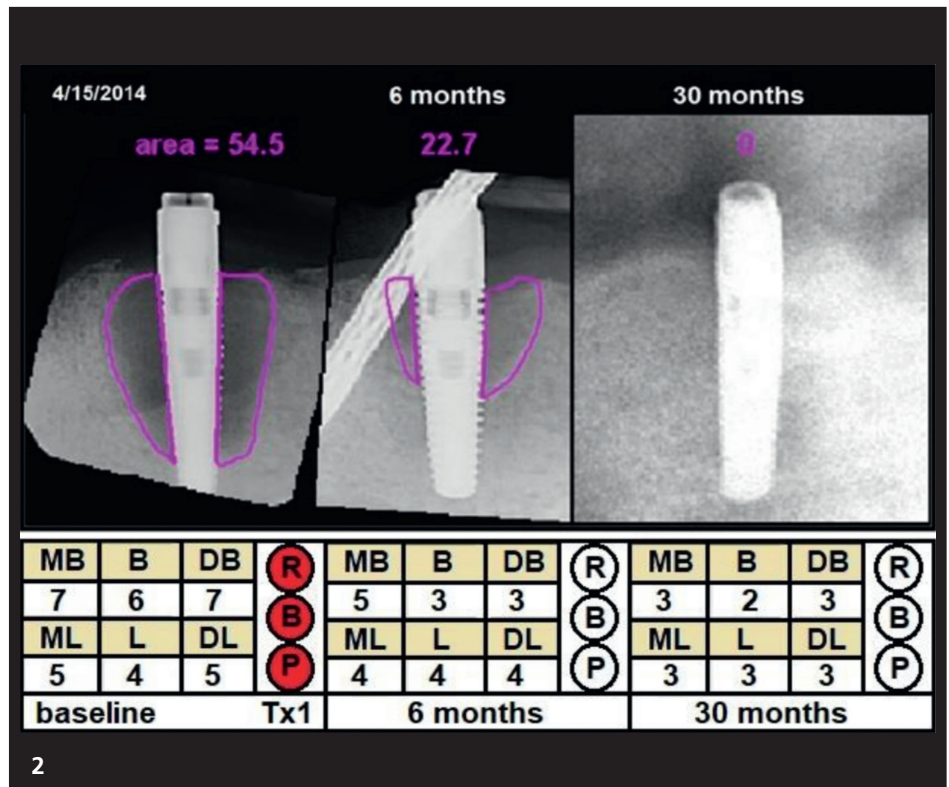
\*\* Peri-implantitis: “An inflammatory process around an implant which includes both soft-tissue inflammation and loss of supporting bone.”<sup>8</sup> Clinical signs include inflammation, bleeding on probing and suppuration. It progresses from peri-implant mucositis, which is confined to the soft tissue, to include PD > 4mm and evidence of bone loss. Peri-implantitis often leads to progressive loss of osseointegration and eventual loss of the implant.

Dr Schwarz completed training in the LAPIP in September 2013. A retrospective analysis of the 222 sequential patients with 437 failing dental implants that were treated during the following three years was performed.<sup>7</sup> That study was focused on the short-term efficacy of the LAPIP. A statistically significant reduction of clinical signs of erythema, bleeding and suppuration and reduced probing depth (PD) at the first follow-up visit (median period: 7.6 months;  $P < 0.001$ ) was noted. The survival rate, the percentage of intact implants, was 94% over the longest follow-up period (median: 13.1 months) among those in the analysis.

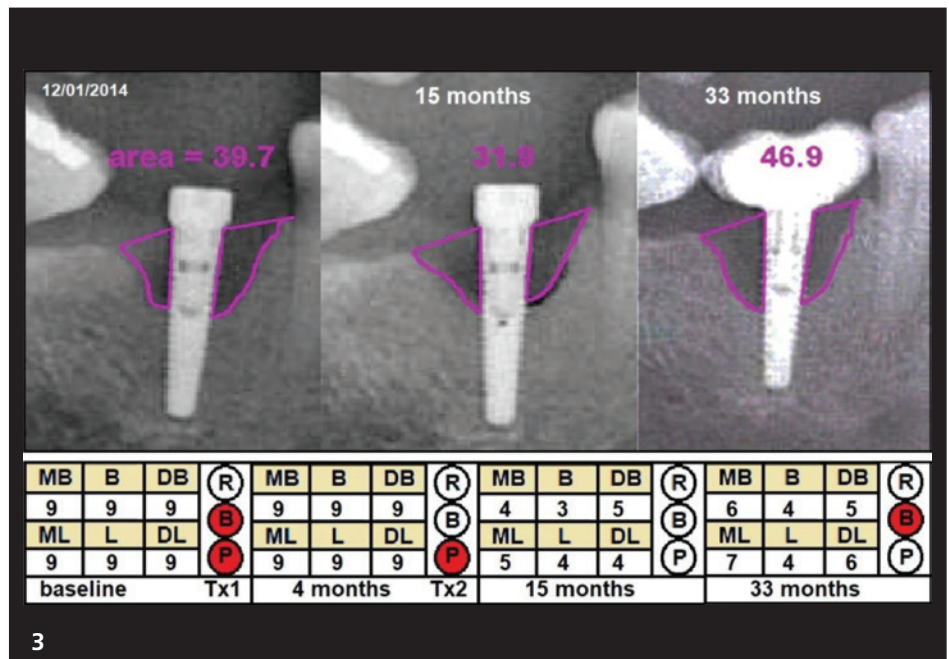
Long-term clinical and radiographic data are presented from the same group of 222 patients. There was a continuum of responses, including long-term successes, partial responses with intact implants and implants lost after two years of maintenance with multiple treatments, as well as cases of successful treatments that relapsed after one to two years. Analysis of radiographic data from a sample of successfully treated implants provided a time course for bone regeneration.

**Methods**

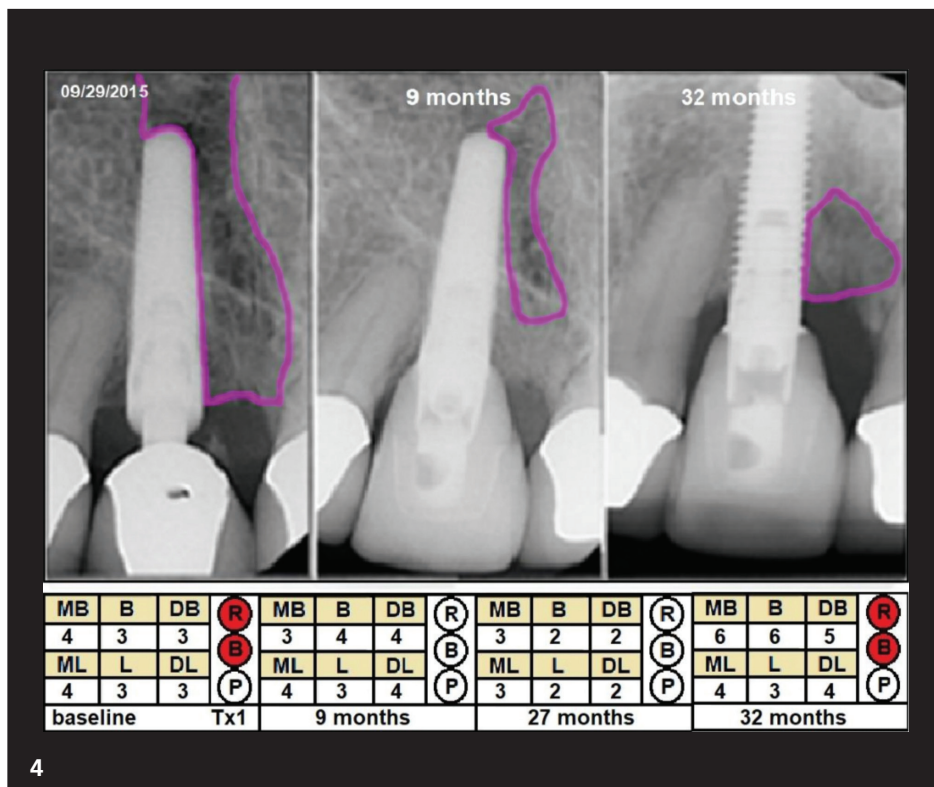
Collection and analysis were performed of retrospective data, wherein patient records were sorted to find all patients in the practice who had undergone LAPIP treatment within the 37-month interval from the first treatment (October 2013) until the date of institutional review board approval (October 2016). A private institutional review board (Quorum Review) granted a waiver of informed consent and approved the retrospective data collection and analysis protocol. Later, the institutional review board approved the retrospective analysis of the long-term follow-up data that is included in this report. The original study was conducted according to standards established by the Declaration of Helsinki and Good Clinical Laboratory Practice Guidelines. Research standards established in



**Fig. 2:** Example of a successful treatment (Case 1), showing changes in radiographic defect (mm<sup>2</sup>), probing depth (PD; mm) and clinical signs from baseline to 30 months later. Violet = cross-sectional area; MB = mesiobuccal PD; B = buccal PD; DB = distobuccal PD; ML = mesiolingual PD; L = lingual PD; DL = distolingual PD; R = redness; B = bleeding; P = suppuration; Tx1 = first treatment.



**Fig. 3:** Example of a partial response to treatment (Case 2), showing changes in radiographic defect (mm<sup>2</sup>), probing depth (PD; mm) and clinical signs from baseline to 33 months later. Violet = cross-sectional area; MB = mesiobuccal PD; B = buccal PD; DB = distobuccal PD; ML = mesiolingual PD; L = lingual PD; DL = distolingual PD; R = redness; B = bleeding; P = suppuration; Tx1 = first treatment; Tx2 = second treatment.



**Fig. 4:** Example of a successful single treatment that was without clinical signs for over two years, and then the implant presented with signs of reinfection (Case 3), showing changes in radiographic defect (mm<sup>2</sup>), probing depth (PD; mm) and clinical signs from baseline to 32 months later. Violet = cross-sectional area; MB = mesiobuccal PD; B = buccal PD; DB = distobuccal PD; ML = mesiolingual PD; L = lingual PD; DL = distolingual PD; R = redness; B = bleeding; P = suppuration; Tx1 = first treatment.

the original study were maintained in the current study.

The purpose of the original study was a precise statistical analysis of the initial clinical outcome of a single treatment, seeking to determine whether there was improvement or a lack of improvement at the first follow-up visit. A review was conducted of patients who received the treatment in the three years after the LAPIP training. All patients were included to eliminate selection bias. A staff member went through the medical records of each LAPIP patient and copied data into case report forms. Any identifying information was excluded, and the case report forms were sent electronically to the statistician for data entry and analysis. Data captured included laser settings, demographics, medical history, implant information, adverse events, PD (mm; for six pockets) and the presence of clinical signs (bleeding, erythema and/or suppu-

ration). Panoramic and/or periapical radiographs were available for analysis. The statistician excluded patients with missing data from the various analyses. The original group included 222 patients with 437 implants. That study enrolment closed in October 2016. Exclusion of patients with incomplete data resulted in 116 patients with 224 implants available for analysis, including 47% men and 53% women with a mean age of 65.8 years (range: 23–98 years).

Two years later (September 2018), a second look at the original group of patients was performed. Several patients had follow-up visits beyond the closing date of the original analysis. Case report forms of additional follow-up visits were collected, uploaded and added to the original data set. This resulted in 155 patients with 299 implants who had sufficient baseline and follow-up data to determine implant survival and clinical outcomes.

## Laser dosimetry

The dental laser was a 6 W pulsed Nd:YAG laser (PerioLase MVP-7, Millennium Dental Technology) utilising an optical fibre that delivered high-energy pulses of light to the tissue. For the LAPIP, the fibre tip is inserted into the periodontal pocket. Parameters that are set on the control panel are energy per pulse up to 300 mJ; pulse duration, variable from 100 to 650 μs; and pulse repetition rate from 10 to 100 Hz. The duration of exposure is controlled with a foot switch.

The LAPIP details have been published elsewhere<sup>4–7</sup> and are only summarised as follows for the protocol specifying surgical end points. Achieving those end points is what determines the dosimetry. In Step 2 of the protocol, the distal fibre tip is inserted into the periodontal pocket and passed around the implant several times to initially open the sulcus and then to remove the diseased pocket epithelium and disinfect the tissue, constituting Pass 1 with the laser.<sup>10</sup> In Step 4 of the protocol, the fibre tip is inserted into the pooled blood within the sulcus and again passed around the implant, heating and congealing the blood and forming a fibrin clot, constituting Pass 2 with the laser.<sup>11</sup>

Hence, real-time dosimetry is based on these clinical conditions. With a constant laser power (output), the time spent lasing within the sulcus determines the total energy delivered. In other words, a prescribed laser dose does not determine the treatment end point; rather, achieving the surgical end point determines the total joules. The surgeon understands that clinical conditions determine the precise laser parameters and the total energy delivered. However, exceeding the recommended dosimetry increases the risk of possible adverse effects.

The hard copy printout of the laser dose for Pass 1 and Pass 2 was available for 138 implants, and the mean total energy per implant was 285.8 J. This was divided between the two laser steps. Pass 1 mean total energy was 181.8 J, and Pass 2 mean total energy was 104.0 J. Energy was delivered according to the following formulas,



and sizable case-to-case variance was required to achieve the surgical end points:

- Pass 1 total joules delivered = 130 + (10 × aPD)
- Pass 2 total joules delivered = 85 + (4 × aPD)

These two formulas are not a prescription; they merely define the dosimetry used in this study. On average, Pass 1 required an initial 130 J for all implants, and Pass 2 required an initial 85 J. The formula specifies that the total joules per pass is related to the average probing depth (aPD; the average of six PD measurements). Consequently, to estimate the total energy, add ten times the aPD in joules to the initial values for Pass 1 and four times the aPD for Pass 2.

### Radiographic analysis

Film radiographs were scanned and digitised and then the digital radiographs

were rotated, cropped and resized. Brightness and contrast were not adjusted. Images were arranged in chronological order to illustrate the sequential changes in radiographic density for each case. A technician skilled at reading dental radiographs outlined the radiographic defect and areas of change in subsequent images. The cross-sectional area of the defect within the outlines was measured using public domain software (ImageJ, National Institutes of Health freeware). As the dimensions of the implant were known, the areas were calibrated in square millimetres so that comparisons could be made over time and across cases. The sum of the defect areas on both sides of the implant is referred to as the cross-sectional area. Cross-sectional areas at follow-up visits of successful cases were converted to baseline percentage to estimate the time course of bone regeneration.

### Results

The clinical outcome categories were defined as follows (Fig. 1):

- *Long-term success*: return to healthy PD and an absence of clinical signs
- *Short-term success*: patients with successful outcomes but without follow-up data beyond 12 months
- *Partial response*: failure to meet success criteria but the implant was still intact and stable
- *Relapse*: initial success and then return of clinical signs
- *Failed*: implant lost or removed.

The long-term responses to treatment can thus be divided into four general outcomes: successful response (Group 1), partial response (Group 2), spontaneous relapse (Group 3) and lost implant (Group 4). Summary statistics for each of the four groups are presented in this section, followed by one case from each group.

AD

# We are from the 90s.

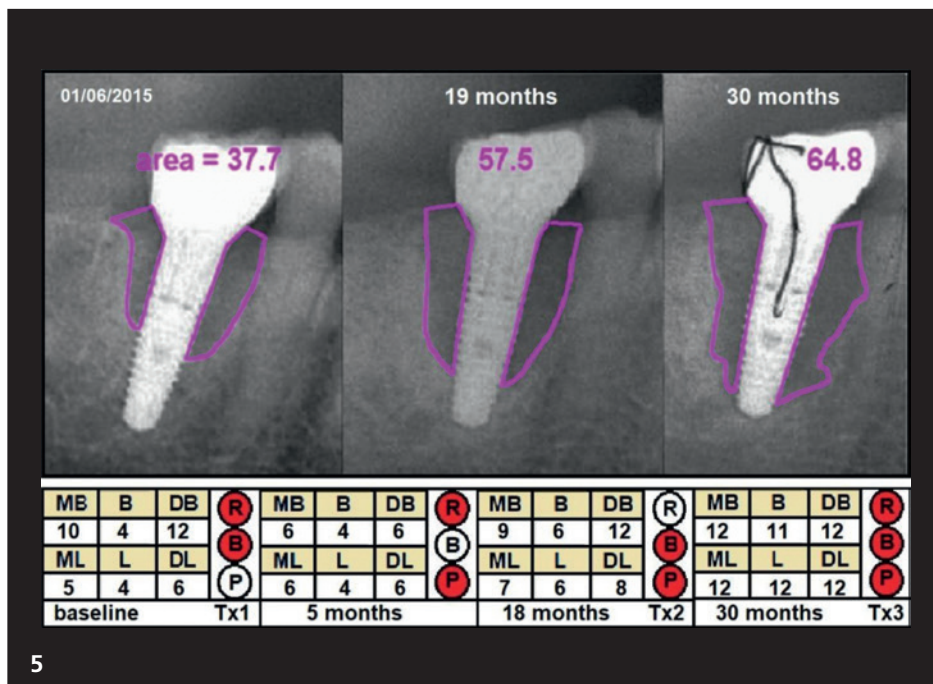
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**Fig. 5:** Example of a lost implant (Case 4), showing changes in radiographic defect (mm<sup>2</sup>), probing depth (PD; mm) and clinical signs from baseline to 30 months later. Violet = cross-sectional area; MB = mesio Buccal PD; B = Buccal PD; DB = Distobuccal PD; ML = mesio Lingual PD; L = Lingual PD; DL = Distolingual PD; R = redness; B = bleeding; P = suppuration; Tx1 = first treatment; Tx2 = second treatment; Tx3 = third treatment.

### Group 1: Successful response

This was the most common response, 204 implants (68%) meeting the success criteria of post-treatment PD  $\leq$  4 mm and no clinical signs at follow-up visits. Most implants in this group (91%) achieved success after a single treatment. Others (7%) demonstrated a partial response and then success after a second treatment, and 2% achieved success after three treatments. The median follow-up period in this group was 18.8 months, and one implant was still successful at 63 months. At the time of the latest analysis, 48% of all implants still showed long-term success (12–63 months). The remaining 20% of successfully treated implants had follow-up periods of less than 12 months, so their long-term outcomes could not be determined. Most of these patients did not return for their scheduled hygiene visits.

Case 1 is an example from the group of successful treatments (Fig. 2). The patient was an 87-year-old man with a car-

diovascular condition and had implants in positions #32 and 42 that supported a mandibular overdenture. He presented with deep pockets (PD = 5.7 mm) accompanied by a large defect around implant #42. This had led to acute symptoms, including pain, erythema, bleeding, suppuration and swelling of the vestibule. At the pretreatment visit, the labial plate was mostly absent along the buccal aspect of the implant becoming exposed. At six months post-treatment, the clinical signs had resolved, the PD had reduced to 3.8 mm and the area of radiolucency had reduced too. At 30 months, the PD was 2.8 mm, and there was a complete absence of clinical signs.

### Group 2: Partial response

Partial responders are implants that improved but still showed some clinical signs, had a PD > 4 mm and never achieved the success criteria. There were 47 implants (16%) in this category. Most were treated a second time at six or 12 months after

the first treatment, and several received a third treatment. They continued to exhibit clinical signs and had a PD > 4 mm. The median follow-up period in this group was 22 months.

Case 2 is an example of a partial response to treatment (Fig. 3). The patient was a 58-year-old man with Type 2 diabetes, hypertension and hyperlipidaemia and had had an implant (Nobel Biocare Tapered) placed in position #46 in July 2014. The patient presented in December 2014 with a PD of 9 mm around the implant, bleeding and suppuration and was treated with the LAPIP. At four months, there was no bleeding, but the PD was still 9 mm, and a second treatment was performed. At 15 months, the clinical signs had improved, and PD was reduced to an aPD of 4.2 mm. At 33 months, the implant was still intact; however, the PD had increased to 5.3 mm, and there was some bleeding on probing. The PD and clinical signs at follow-up visits did not allow this implant to reach the success criteria. Even though bone regeneration is unlikely with a defect this wide, the PD and clinical signs improved and remained improved for almost three years after the first LAPIP treatment, and the implant remained in function at the time of last follow-up.

### Group 3: Spontaneous relapse

There were 32 implants (11%) with initially successful outcomes that demonstrated relapse with the return of inflammatory markers along with deeper PD. The medium time to relapse was 24 months (range: 11–43 months).

Case 3 is an example of a successful single treatment that was without clinical signs for over two years and then presented with signs of reinfection (Fig. 4). The 59-year-old female patient had an implant (Nobel Biocare Tapered; 3.5 × 16.0 mm) immediately placed in position #11. She had no risk factors for peri-implantitis, but four months later, at her first follow-up visit, the implant showed signs of redness and bleeding from 4 mm pockets. Subgingival cement was noted on the

periapical radiographs and was removed. The first LAPIP treatment was performed in September 2015. At follow-up visits at nine, 15 and 27 months after the first treatment, all inflammatory markers were absent, and the PD showed progressive improvement, good bone fill being noted in the periapical radiographs. The apical radiolucency was absent, but a new defect had appeared coronally at 27 months. At 32 months, she showed significant relapse with redness and bleeding from pockets that had deepened beyond the pretreatment levels. Radiography revealed that the new defect had enlarged. The implant was subsequently retreated.

#### Group 4: Lost or removed implants

There were 16 implants (5%) that failed during the follow-up period. The median time to failure after the initial LAPIP treatment was five months (range: one week to 31 months). Four implants were lost within the first month, six more by the first follow-up visit (five months), two at nine months, one at 18 months and three after two years of maintenance. One of the last was healthy but ordered extracted by the patient's physician.

Case 4 is among the lost implant cases (Fig. 5). The patient was an 81-year-old immunocompromised man with several medical conditions, including cardiovascular disease and a drug-resistant systemic infection. An implant (Nobel Biocare Tapered; 5 × 13 mm) had been placed in position #46, and he was seen six months later with an aPD of 6.8 mm, bleeding at four sites, erythema and radiographic evidence of bone loss. At the five-month follow-up visit, bleeding had resolved, and the aPD was reduced to 5.5 mm, but there was still redness and suppuration. By the 18-month visit, the condition had deteriorated. The aPD had increased to 8 mm, and there was bleeding and suppuration. At that time, the patient received a second LAPIP treatment. At 30 months, one PD was 11 mm and the rest were 12 mm, and

there was an increase in the radiographic size of the defect. A third treatment was performed, and the laser dose was increased to 305 J at Pass 1 and 180 J at Pass 2 for that treatment. However, the implant was finally removed 31 months after the first treatment.

#### Change in radiographic density

Radiographs from all 299 implants were reviewed to identify interproximal vertical defects at baseline indicating bone loss. Many patients had panoramic radiographs of low resolution, and most bone loss was restricted to the buccal plate, which is not visible in transmission (periapical and panoramic) radiography. Only 21 cases were identified, and of these, ten provided measurable baseline and follow-up radiographs. Radiographic

data reflected a similar proportion of outcomes to the PD and clinical sign data. Out of the ten cases, one was from Group 3 (lost implant), two were from Group 2 (partial response) and seven were from Group 1 (successful cases). The cross-sectional areas of the seven successful cases were converted to a percentage of the baseline areas, and those values were plotted at their respective follow-up times (Fig. 6). The data fitted well to a decaying exponential function,  $y=e^{-0.1x}$ , which suggested that regeneration approached 98% by 36 months.

#### Discussion

The LAPIP utilises the advantages of laser sulcular debridement (e.g. selective tissue removal, bacterial reduction, hae-

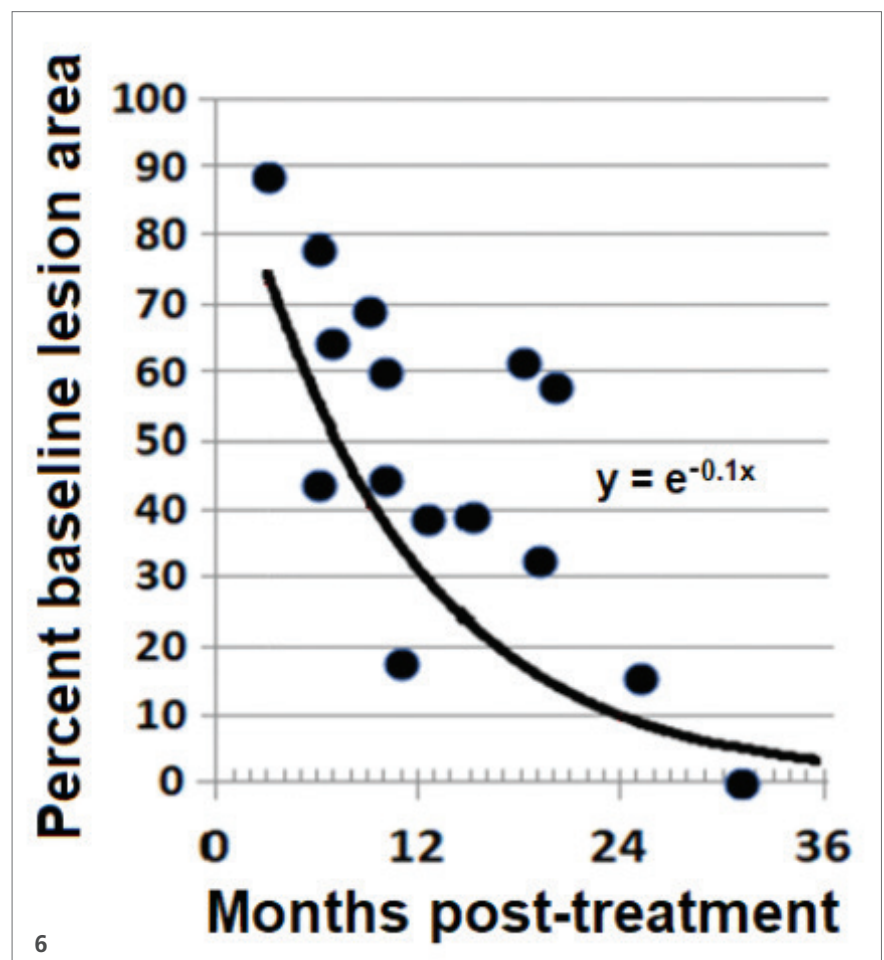


Fig. 6: Change in cross-sectional area of the defect as a percentage of the baseline area for seven implants from Group 1. Black circles = success.

mostasis, minimally invasive method) and embeds the laser components into a medically sound protocol that also includes implant debridement, occlusal adjustment, and detailed pretreatment and post-treatment procedures. Because of these additional therapeutic measures, the outcomes reported here may not be directly comparable with those of many controlled laser studies.

PD and clinical signs were analysed. Analysis of the short-term data from 116 patients with complete baseline and follow-up data determined that there was a statistically significant reduction in PD and clinical signs at the first follow-up visit (median: 7.6 months) after a single treatment. The aPD was reduced by 2.0 mm (5.4 mm reduced to 3.4 mm,  $P < 0.001$ ), and clinical signs of erythema, bleeding and suppuration were reduced by 78–85% ( $P < 0.001$ ). A recent prospective controlled trial of ten patients who were treated with the LAPIP found similar results: a 1.9 mm PD reduction and decreased bleeding and suppuration.<sup>12</sup>

Several patients had follow-up visits after the short-term study had concluded. By the time of this long-term analysis, there were 155 patients with 299 implants available to determine long-term survival and response to therapy. The initial survival rate was 94% at 13.1 months (15 were lost out of the 264 implants). The long-term survival rate matched and surpassed the previous results, being 95% at 28.8 months (16 of the 299 implants were lost). In the long term, PD remained  $\leq 4$  mm, and clinical signs remained absent for 68% of the 299 implants. An additional 11% were initially successful, but then presented with a relapse at about two years post-treatment. Sixteen per cent of the 299 implants never achieved success but remained intact at 22 months.

The clinical healing curve indicated by the average rate of increase in radiographic density for successful cases demonstrated that, on average, bone fill is expected to be 25% complete by three months, 70% complete at one year,

90% complete by two years and 98% complete after three years. It is important to note that this study only sampled interproximal defects, and the analysis may thus not accurately reflect changes to labial bone.

## Conclusion

One of the greatest challenges has been fighting a losing battle against peri-implantitis. The impact of the LAPIP on treatment of peri-implantitis has been significant. Using other methods over 30 years of practice in the case of Dr Schwarz, achieving bone fill and eliminating all signs of inflammation have been challenging. These results describe the final stage of translation of an experimental protocol into clinical practice. An attempt to present an unbiased analysis of the real-world clinical outcomes, successful or not, has been accomplished. The results demonstrated would be typical for any clinician who has been properly trained and follows the protocol. Even a partial responder is a clinical success if the implant remains improved. Periodic retreatment of the partial responders and the relapses is a way to extend the time of functionality for the patient. The results of this study indicate that the LAPIP offers a minimally invasive, repeatable way to regenerate bone and eliminate clinical signs of disease in most patients and to effectively manage the more difficult cases.

## Acknowledgements

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Literature



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## EAO Congress 2024

# Advancing excellence in implant dentistry

Over 4,600 attendees from more than 70 countries gathered in Milan from 24 to 26 October for an exceptional EAO Congress, themed “Details Make Perfection”. This year’s programme, thoughtfully curated by the scientific committee, was designed to both inspire and challenge participants, with each day focusing on a specific theme: The Fundamentals, State of the Art—Certainties, and Beyond the Limits. Sessions featured the latest evidence-based practices, delivering practical techniques that dentists can readily implement in their practices.



The congress, as always, provided a unique opportunity to learn from leading experts in the field. Continuing its tradition of collaboration with prominent local associations, the EAO partnered with the Italian Academy of Osseointegration (IAO) and the Italian Society of Periodontology (SIdP). Their invaluable contributions enriched the programme, presenting a comprehensive perspective on the latest advancements in implant dentistry.

Among the many highlights, distinguished specialists shared insights on the challenges and innovations in implant care, covering topics such as sustainable treatment models, digital advancements, and optimised protocols for complex cases. Workshops offered participants hands-on experience with the latest techniques, equipping them with practical skills for immediate application.



Attendees enjoyed cutting-edge presentations, connected with esteemed colleagues from around the world, and experienced the dynamic ambiance of one of Europe's most iconic cities. Meanwhile, an extensive industry exhibition featuring leading companies in the field fostered the exchange of the latest materials, techniques, and technologies.

This congress marked the EAO's second event in Italy in the past decade, following the successful congress in Rome in 2014. Milan, with its vibrant culture and cosmopolitan energy, served as an inspiring setting for this global gathering.

For those who could not attend all sessions, a selection of conference recordings is available on the congress platform since 5 November free of charge.

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# Advancing interdisciplinary exchange in dentistry and dental technology



The BEGO Dialogues 2024 in Bremen successfully convened over 200 participants from the fields of dentistry and dental technology for a vibrant three-day programme. Featuring 18 renowned speakers and led by expert scientific chairs, the event covered an array of current and emerging topics. Universities from Halle, Berlin, Frankfurt, Mainz, Munich, and Düsseldorf were notably represented, with distinguished faculty sharing insights on the latest advancements in the dental sector. Key discussions centered on digital implant prosthetics, 3D printing innovations, and cutting-edge prosthetic solutions. Renowned thought leaders from academia and clinical practice introduced technologies poised to transform laboratory and clinical workflows, making them more efficient and effective. Interactive discussion sessions and collaborative case studies further reinforced the connection between dentistry and dental technology, providing attendees with practical takeaways and new perspectives for the future of the industry.

## A memorable networking experience

A highlight of the event was the evening gathering at the Old Shipyard, where a warm, welcoming atmosphere fostered informal conversations and networking among peers. This stylish venue created the ideal backdrop for collegial exchange, blending inspiration from the day's lectures with relaxed, meaningful networking opportunities. Reflecting on the success of the BEGO Dialogues 2024, Scientific Chair Dr Markus Tröltzsch shared, "The BEGO Dialogues offer a unique platform for interdisciplinary exchange on an equal footing. We are delighted by the positive feedback and the engaging discussions that defined this year's event."

Once again, the BEGO Dialogues underscored the vital role of collaboration and networking within the dental industry. BEGO extends its gratitude to all participants, speakers, and partners for their dedication and looks forward to continuing this impactful series in 2026.



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## 40<sup>th</sup> Annual Meeting of the Academy of Osseointegration in Seattle

# Four decades of innovation and interdisciplinary progress in implantology

For 40 years, the Academy of Osseointegration (AO) has been committed to promoting scientific research and clinical education in the field of implant dentistry worldwide. The annual meeting is one of the most important events in the industry and offers a unique platform for exchange and professional networking for dental professionals. With a clear focus on innovation and quality, the AO is committed to the continuous improvement of patient care and supports dentists with comprehensive training and continuing education programmes.

The Academy celebrates a significant milestone with its 40<sup>th</sup> Annual Meeting, taking place from 27 to 29 March in Seattle, Washington. Under the motto “Controversies in treatment concepts: How to make it simple,” more than 2,000 dental professionals—including periodontists, prosthodontists, oral and maxillofacial surgeons, dentists, and support staff—will gather to discuss the latest scientific findings and learn practice-oriented techniques. The three-day conference offers CE credits and an extensive programme that includes presentations, practical workshops and social events, providing a platform for exchange and continuing education at the highest level.

Prof. Dr Jörg Neugebauer, Germany, this year’s president of the AO, emphasises the importance of the 2025 annual meeting and highlights the fact that the Academy of Osseointegration has been a pioneer in implantology for four decades: “This meeting offers the opportunity to look back on four decades of innovation and clinical excellence while defining new paths for the future. Our goal is to simplify complex implant procedures while maintaining the highest quality of treatment.” The conference will also feature an expansive exhibit hall where leading medical device companies will showcase their latest products and developments. Attendees will have the opportunity to network with industry

leaders and learn about the latest technological advances.

A special feature of this year’s conference will be the emphasis on interdisciplinary collaboration—an approach that is becoming increasingly important for successfully mastering complex treatment cases. “Implantology can be a relatively simple solution, such as inserting an implant for a lost first molar. However, for complex defects or multiple missing teeth, a team approach is essential to achieve the best results for patients,” Prof. Neugebauer says. The conference is dedicated to the interplay between different disciplines and shows how collaboration between dentists and specialists can lead to standardised, predictable and patient-friendly results. This development not only supports better patient care, but also strengthens the role of the general dentist in implant treatment.

Another focus of the programme will be the increasing role of the general dentist in implantology. As implant therapy is now widely accepted worldwide, access to simpler, standardised protocols is also becoming increasingly important. These should both reduce patient stress and enable general dentists to perform implant treatments with a high degree of safety and confidence. Despite the increasing skills of general dentists, the expertise of specialists remains indispensable in complex cases. The AO Congress

will promote this interaction while also highlighting ways in which the AO supports the professional development of dentists through training programmes such as the AO Master and Diplomat programmes.

In addition to lectures and workshops on the latest research and development in implantology, the conference offers numerous social events and networking opportunities. Participants are invited to attend the opening ceremony at the Museum of Modern Art (MoMA), where they can toast four decades of AO history together—an evening that combines creativity and innovation. In addition, the “Emerald City” of Seattle invites you to enjoy art and culture, family-friendly attractions and a lively nightlife.

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## Dentsply Sirona

# Introducing “DS Core Enterprise” solution to address DSOs’ specific needs

Dentsply Sirona announced in December 2024 the expansion of its cloud-based platform, DS Core, with the introduction of the new “DS Core Enterprise” solution. This innovative offering aims to support DSOs in growing the usage of digital workflows by equipping their supported dental practices with the constantly growing feature set of the DS Core platform, while supporting central DSO functions to administrate, monitor and analyse the usage.

### Key DSO needs addressed

As dental practices and networks grow, scalability, analytics and efficient process management become increasingly important to achieve excellent clinical outcomes and operational efficiency. The new DS Core Enterprise solution allows DSOs to:

- Gain full transparency over Dentsply Sirona equipment connected to DS Core across all practices.
- Optimise workflows in practices by monitoring equipment and DS Core utilisation for all connected practices in Google Looker\* dashboards.
- Manage all DS Core practice and user accounts and DS Core billing options from a central admin portal that is conveniently accessible.

“For a DSO, visibility of equipment status, workflow performance analytics, and a scalable infra-

structure are key factors when growing their business and network” explains Bruce Peatey, Group Vice President Americas at Dentsply Sirona. “These enterprise requirements complement the clinical excellence and efficiency demanded by individual practices. Consequently, we have developed DS Core Enterprise, a solution that expands our DS Core offering for individual practices and provides an additional enterprise layer.”

### Easy setup and use; seamless integration

Setting up the new module for DSOs is simple. Existing DS Core practice accounts within a DSO network, as well as new ones, can be easily incorporated into DS Core Enterprise. Single-Sign-On (SSO) and additional integration options via an API



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allow for further enterprise-level integration.

The solution also features a direct integration with Dentsply Sirona technology solutions such as digital X-rays, printing and milling devices and intra-oral scanners, including the new Primescan 2\*\*—the first cloud-native intra-oral scanning solution that can scan to any Internet-connected device in the practice.

Moreover, DS Core Enterprise gives DSO's the opportunity to offer DS Core to their network of practices, allowing them to benefit from its features to enhance their workflows and support them to:

- Enhance patient communication.
- Expand service offering with new treatments.
- Centralise collaboration with partners.
- Connect equipment for efficient workflows.
- Consolidate patient media and treatment files for efficient access.

And most recently with the launch of CEREC 5.3 and inLab CAM connected to DS Core, users can also start milling or printing jobs on any connected equipment directly from the platform, enabling a high-quality level of equipment use and real-time oversight.

DS Core Enterprise is currently available in North America and major countries in the EU. It will be rolled out to further regions in 2025. For more information and a demo of DS Core Enterprise, please reach out to a local Dentsply Sirona representative.

\* Google Looker is a 3<sup>rd</sup> party provider.

\*\* To operate a Primescan 2 a paid DS Core subscription is required.

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## OSSTEM World Meeting 2025 in Da Nang

# Unlocking the future of dentistry

Mark your calendars for 18 and 19 April as the OSSTEM World Meeting makes its way to the stunning coastal city of Da Nang, Vietnam. This event promises an unforgettable experience, packed with cutting-edge knowledge, hands-on workshops, and inspiring talks from some of the biggest names in dentistry.



### Why attend?

Themed “Digital know-how: Pathway to effective daily dental practice”, this year’s event will be a deep dive into how digital technology is transforming the dental world. Whether you’re curious about the latest advancements in intra-oral scanners, digital implant workflows, or practice management, this is the place to be.

Expect a dynamic lineup of experts from around the world sharing their practical wisdom and insights. Prof. Ieva Gendviliene from Lithuania will

captivate attendees with her deep expertise, while Dr Yong-Jin Kim from Korea will perform a live surgery, showcasing real-world applications of digital techniques. And don’t miss Dr Soo-Young Lee from Korea, a visionary in digital implantology, who will lead one of the much-anticipated hands-on classes.

### What’s on the agenda?

18 April kicks off with four hands-on workshops. You’ll have the opportunity to learn from the best—all courses designed to give you practical skills you can apply the very next day. 19 April will be a packed day of seven stunning sessions, including a live surgery by Dr Yong-Jin Kim, which promises to be one of the event’s highlights. Imagine seeing the latest digital techniques come to life in real time!

### A social experience like no other

The OSSTEM World Meeting isn’t just about learning—it’s about community. With over 1,600 dentists from across the globe, you’ll connect with peers, share ideas, and expand your professional network. Plus, the much-awaited OSSTEM World Night will be the perfect way to unwind, enjoy great food, and celebrate with new friends.

Set in the breathtaking Ariyana Resort Convention Center in Da Nang, this event is sure to leave you inspired, energised, and equipped to elevate your dental practice.

Join OSSTEM in Da Nang for two days of innovation, education, and unforgettable experiences!

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# Digitally networked implant treatment

NSK has developed and improved the Surgic Pro surgical micro-motor system, which is now available as Surgic Pro2. Surgic Pro2 provides a Bluetooth connection to the Osseo 100+ osseo-integration gauge and a Link Set connection to the VarioSurg3 ultrasonic surgical system. By installing an application and connecting an iPad to the control unit, detailed intervention data can be displayed in real time. Both Surgic Pro2 treatment parameters and Osseo 100+ data can be displayed and stored on the iPad. The traceability of patient-specific treatment data means that implant treatment can be customised for each patient. The Surgic Pro2 and VarioSurg3 can be operated wirelessly and hygienically using a common foot control. But even without connection to other units, Surgic Pro2 offers advantages for the practitioner. The micromotor is short, lightweight and ergonomic. A high-resolution LED in the micromotor serves as light source to match working conditions under full daylight. The pump module is quiet, and the irrigation tube is easy to attach. The Surgic Pro2 is simple and intuitive to use, making it easy to upgrade from the previous model to Surgic Pro2.

Take advantage of the current savings packages in the Get it! campaign:



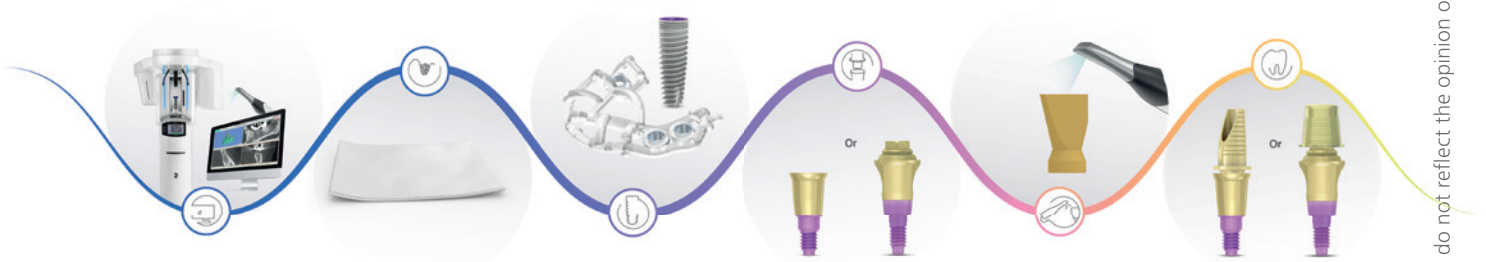
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## Making implantology simple with the MIS digital workflow

# Insights in modern dentistry



Digital workflows connect the dots in modern dentistry by merging several connected procedures into one complete treatment. The harnessing of digital tools facilitates accurate diagnosis and treatment planning, significantly improving patient outcomes and clinical efficiency. Being part of Dentsply Sirona, MIS Implants Technologies is uniquely positioned to offer its customers comprehensive digital workflows, combining MIS solutions with the latest Dentsply Sirona equipment and materials.

MIS has been investing in digital solutions for many years, and the company has watched with enthusiasm as its digital workflow has been adopted by clinicians around the world. The workflow incorporates digital imaging, intra-oral scanning, guided surgery and CAD/CAM technologies designed to enhance every step of the treatment process. According to Orit Kario, digital solutions product manager at MIS, the aim is to simplify treatment for clinicians, laboratories and patients through seamless communication and data transition.

MIS offers workflows for single-tooth, partial-arch and full-arch procedures that are tailored to general dentists and specialists and the setting, whether chairside or laboratory. They include implant-level and tissue-level solutions and enable implant-to-crown procedures.

For example, the company's workflow for conical connection implants begins with a Primescan intra-oral scan and efficient prosthetically driven MSOFT planning, assisted by the MCENTER team, which provides comprehensive digital dentistry services and detailed surgical plans. In the surgical step, bone augmentation is done with the use of OSSIX biomaterials, and clinicians benefit from the advantages of the unique MGUIDE surgical guides. The C1 implant and MIS CONNECT stay-in abutment provide primary and long-term stability and offer the ability to

maximise tissue-level restoration, and the use of a computer-guided approach contributes to the reduction of patient visits, treatment steps and corrections. For final restoration, MIS customers are offered a wide range of implant-level and tissue-level digital prosthetic solutions, all implemented in leading CAD software.

Kario said that being a Dentsply Sirona company allows MIS to offer clinicians significant advantages. She explained: "MIS can offer its customers a complete digital workflow that incorporates the MIS guided surgery system, the unique implant connections and the comprehensive digital prosthetic line, in combination with Dentsply Sirona equipment and materials, all under one roof. We believe that providing tools of this quality strengthens the brand and contributes to customer trust."

What can clinicians and laboratories gain from adopting the digital workflow? Kario emphasised: "Digital workflows address procedural challenges that impact clinical efficiency, may improve profit potential and drive actual practice growth."

To learn more, visit [www.mis-implants.com/products/digital-workflow](http://www.mis-implants.com/products/digital-workflow).



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BEGO

# The smart (r)evolution of dental 3D printing

BEGO, a pioneer in dental material research with more than 135 years of experience, proudly announces the launch of VarseoSmile® TriniQ®. VarseoSmile® TriniQ® represents a smart (r)evolution and sets new standards in flexibility, aesthetics, and durability in dental 3D printing.

## BEGO presents groundbreaking material for dentistry and dental technology

With the market introduction of VarseoSmile® TriniQ®, BEGO brings a smart (r)evolution to dental 3D printing. This new material enables the printing of definitive, permanent three-unit bridges for the first time and offers unmatched aesthetics with 10 VITA® shades. The high material stability opens up new possibilities for permanent restorations and extensive temporary restorations.

## Premiere at LMT LAB DAY Chicago 2024

VarseoSmile® TriniQ® was presented to the public for the first time at LMT LAB DAY Chicago 2024, which took place from 22 to 24 February 2024. This event offered the first opportunity to experience the groundbreaking properties and applications of VS TriniQ® firsthand.



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## High primary stability and aesthetic appearance

The whiteSKY implant system from bredent is among the best-documented zirconia implant systems worldwide. It has not only demonstrated excellent osseointegration and longevity in numerous studies but has also proven its efficacy in practice. In fact, the longevity of whiteSKY implants is comparable to that of titanium implants. The whiteSKY implant system offers two different implant types: the whiteSKY Tissue Line and the whiteSKY Alveo Line. The narrow whiteSKY Tissue Line implant provides sufficient space for both the hard and soft tissue and ensures an aesthetically pleasing appearance with its slightly tapered shape in the sulcus area, transitioning from the gingiva to the implant crown. The whiteSKY Alveo Line, on the other hand, is ideal for immediate loading as it fills the extraction socket. At the same time, it provides the treating doctor with the possibility to indi-

vidualise the implant according to the specific requirements of the clinical case.

### Optimal conditions for soft-tissue attachment and high mechanical stability

Both the Alveo and Tissue Line implants of the whiteSKY system offer optimal conditions for soft-tissue attachment due to their specially designed sulcus surface. The whiteSKY implants are made of hardened zirconia and are one-piece, which gives them particularly high mechanical stability. Thanks to the improved thread design and bone-quality-oriented surgical protocol, the whiteSKY implants achieve high primary stability, making them ideal for immediate loading. Studies have shown that immediate implant placement can improve the bone-implant contact by more than 50 per cent.

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## Redefining dental laser technology

Fotona's LightWalker is a revolutionary dental laser system with 20W of power, two wavelengths, five pulse durations and four special pulse modes, offering an unparalleled range of clinical applications.

Practitioners are thrilled by the LightWalker's SWEEPS mode for its efficacy in endodontics, witnessing the power of bubbles in cleaning narrow root canal spaces, removing the smear layer, debris and biofilm. SWEEPS also enables non-surgical removal of biofilm and calculus in periodontal and peri-implant therapy.

The LightWalker's patented QSP mode makes it invaluable for hard-tissue treatments, debonding of veneers and orthodontic brackets, dental aesthetics and surgery. With the laser's SMOOTH mode, dental practices can even perform a wide range of cutting-edge aesthetic and anti-snoring laser therapies, thus attracting new patients and revenue.

Embrace the power of LightWalker's unmatched versatility.

#### Contact address

**Fotona, d.o.o.** · Slovenia · www.fotona.com





## NucleOSS Europe

# SLH—The connection between you and your patients

The DC-BONE-LEVEL implant features modern and aesthetic design details and offers a safe and comfortable surgical experience for the dentist and patient. A wide range of prosthetic abutment options helps to give patients a radiant smile. In addition, the implant gives patients self-confidence through its intelligent and strong design. With extensive abutment options, a convenient application kit and a registered clean surface, the DC-BONE-LEVEL implant is more than outstanding. The groundbreaking aspect of the DC-BONE-LEVEL implant is that it balances quality and price. The implant has been carefully developed to increase comfort for clinicians and patients with its aesthetic design and high strength. SLH is a

new dental implant system with the aim of giving patients back their bright smile and stands for “Smart Design, Leading System, Healthy Solution”. By developing the highest level of biointegrity and excellent surface cleanliness, it is possible to create the highest possible standard for the user. Many years of research and development have resulted in a new implant system that enables the practitioner to achieve the best possible results.

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# Revolutionise your full-arch solutions with LOCATOR FIXED® for Straumann® implants

If you're seeking an affordable, reliable fixed full-arch solution, it's time to consider LOCATOR FIXED®.

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	Event	Location	Date	Details/Registration
3/2025	20 <sup>th</sup> BDIZ EDI Expert Symposium	Cologne Germany	1–2 March 2025	bdizedi.org
	IDS	Cologne Germany	25–29 March 2025	ids-cologne.de
	40 <sup>th</sup> Annual Meeting AO	Seattle USA	27–29 March 2025	osseo.org
5/2025	IDEX	Istanbul Turkey	7–10 May 2025	eng.idex.org.tr

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

### References

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

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

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

### Review process

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

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# 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: .....

Practising implantology since: .....

Member of other Societies:

ICOI  BDO  DGI  DGZI  DGMKG  EAO

Continuing education Courses: .....

.....

Fellowship status / diplomate status in implantology

Yes  No  Organisation .....

Entry in BDIZ EDI Directory:  Yes  No

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

The annual membership fee for:

## FULL MEMBERSHIP

Full member – clinical EUR345.00

Assistant dentist / young professional  
(up to 5 years after graduation) EUR172.50

Second membership / family member EUR172.50

## EXTRAORDINARY MEMBERSHIP

Co-operative Member EUR165.00  
(Professionals without practice  
and dental technicians)

Students non-contributory

Supporting Membership EUR530.00  
(Companies etc.)

## 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.

Lipowskystr. 12 · 81373 Munich · Germany

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