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implants

international magazine of oral implantology

case report
The best of both worlds:
A hybrid digital–analogue workflow

interview
A game changer for cases
with significant bone loss

events
Coverage of EuroPerio11 in Vienna

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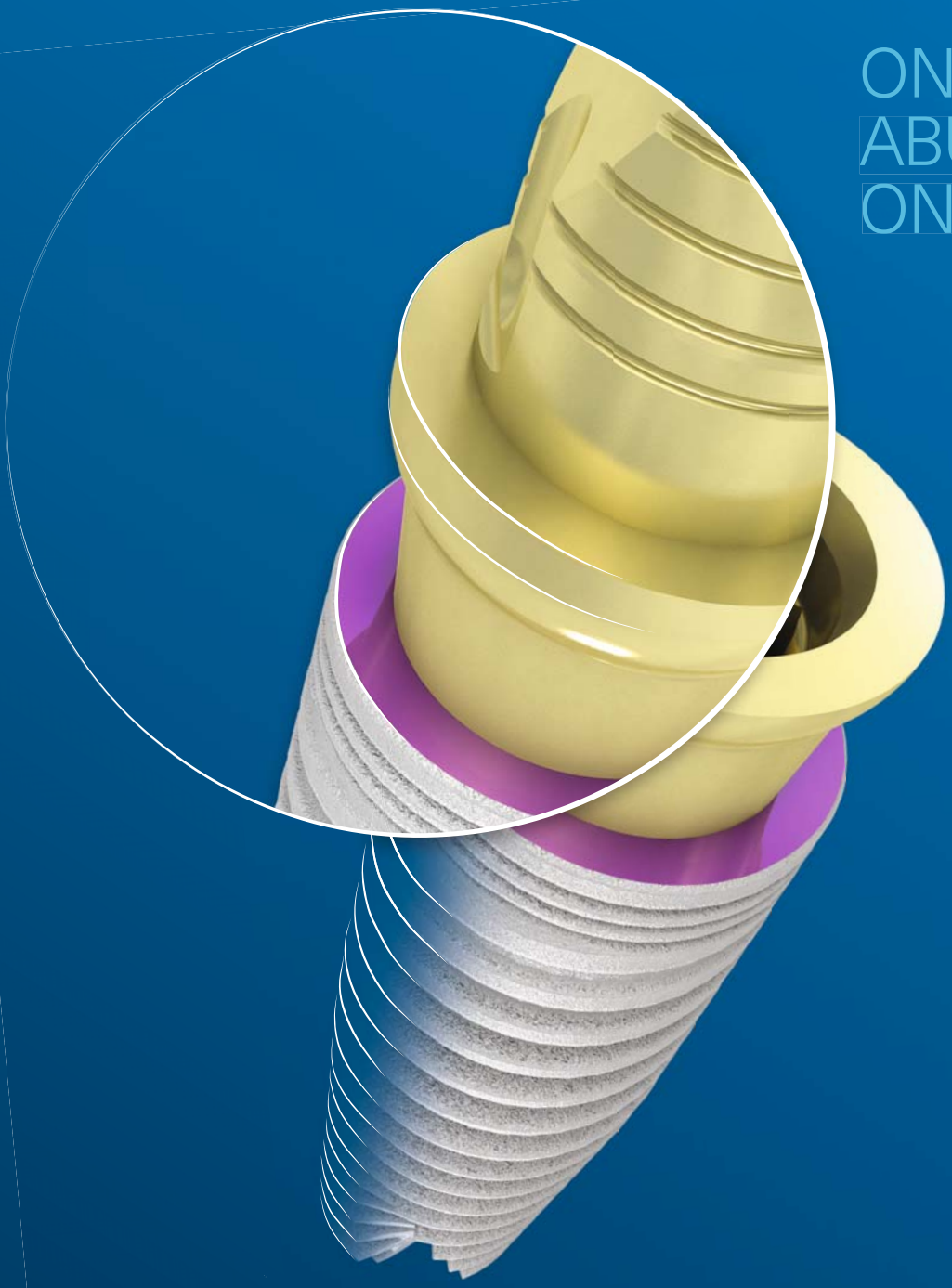

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Dr Georg Bach

President of the DGZI

Mind the gap: Precision in implant dentistry

Dear colleagues!

This latest issue of *implants—international magazine of oral implantology* brings to the fore what makes implant dentistry such a dynamic and rewarding field: the combination of clinical precision, thoughtful planning, and an unwavering focus on patient well-being.

Among the featured clinical reports, we find excellent examples of how contemporary treatment workflows are being refined. One full-arch case in particular illustrates the strength of combining digital planning with analogue execution. From virtual design to the immediate placement of temporary restorations, the clinicians achieved a functional and aesthetic transformation—all while minimising surgical invasiveness and maximising efficiency. It is a powerful reminder of how far we have come in creating streamlined yet personalised care.

Another report highlights a similarly hybrid approach, merging digital diagnostics with conventional impression techniques for the final restoration. The team's commitment to accuracy and patient comfort, from data acquisition to final delivery, stands as a testament to the thoughtful application of evolving techniques. What unites these cases is not only technical success but also a patient-centred ethic that defines excellence in our discipline.

This same spirit was reflected on a global stage at EuroPerio11 in Vienna. With more than 10,000 participants and a programme spanning research, clinical practice, and public health, the congress reaffirmed the central role of periodontology and implant dentistry in modern healthcare. Sessions tackled not just surgical techniques, but also broader themes like sustainability, inclusion, and interdisciplinary collaboration. Especially memorable were the sessions that emphasized clinical honesty and the importance of recognising limits—a message as relevant in daily practice as it is on a podium.

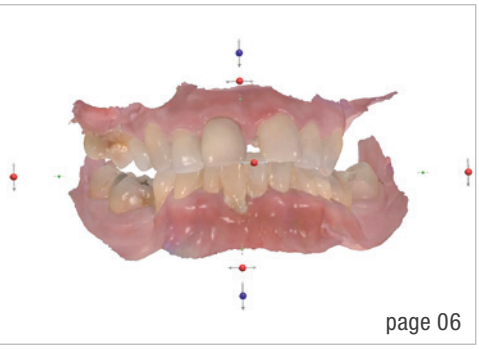
As President of the DGZI, I continue to be inspired by the unwavering passion and profound sense of responsibility our colleagues bring to both innovation and patient care. Let us continue to shape the future of our field, not only through advancing technology, but with precision and a steadfast commitment to purpose.

I hope this issue inspires you to reflect on your own practice, refine your protocols, and remain curious. Innovation serves its greatest purpose when it directly benefits those we treat.

Sincerely,

Dr Georg Bach
President of the German Association of Dental Implantology

Dr Georg Bach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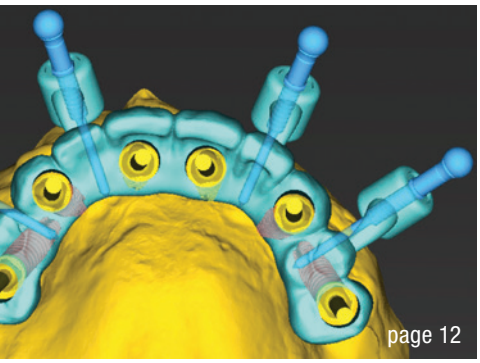
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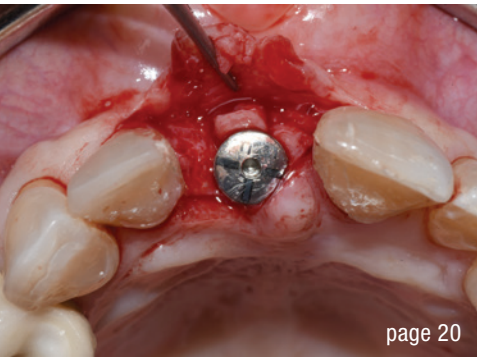
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[1] Semper-Hogg, W et al. Analytical and experimental position stability of the abutment in different dental implant systems with a conical implant–abutment connection. Clinical Oral Investigation (2013) 17: 1017.

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Digital technology for full-arch implant prostheses

Drs Edmond Bedrossian & Armand Bedrossian, USA

Introduction

Improvements in digital technologies in recent years have transformed several industries, including implant dentistry. These novel methodologies have several advantages over standard procedures, including increased efficiency, accuracy and patient satisfaction.[1–3] Furthermore, a digital approach enables the development of customised prostheses supported by conventional and zygomatic implants. The Straumann Zygomatic Implant System provides a predictable, immediate fixed restoration option that does not necessitate bone augmentation, offering a dependable treatment for patients with significant maxillary bone loss and hopeless circumstances.[4]

Additionally, digital technology improves communication and collaboration between the patient, dental team and laboratory. The computerised process enables seamless information sharing and virtual treatment planning, resulting in a coordinated and exact approach to the production of full-arch implant prostheses.

The following case report was planned and executed using the DIGILOG concept, which is a hybrid of digital and analogue workflows that combines the best features of both approaches for the creation of temporary and definitive prostheses. This concept allowed us to have optimal communication with the implant team and our patient, who received two full-arch implant prostheses. In the maxilla, two Straumann zygomatic implants and two Straumann BLX implants were placed, and in the mandible, four Straumann BLX implants were placed.


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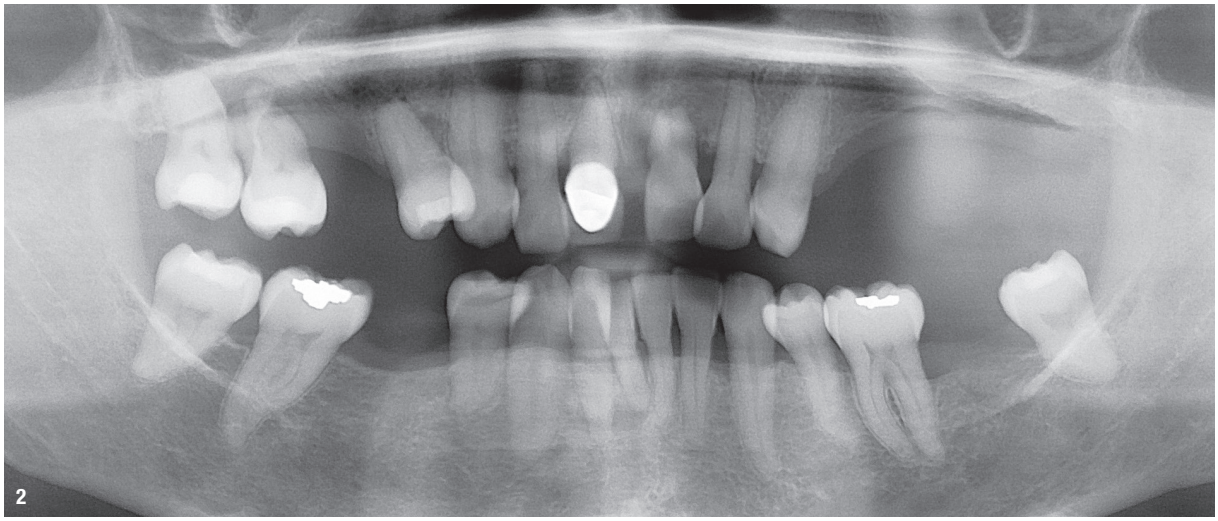
Initial situation

A 57-year-old female patient who was systemically healthy and a non-smoker and had no relevant medical history came to our clinic stating that she was unable to eat without pain and had absolutely no confidence or pride in her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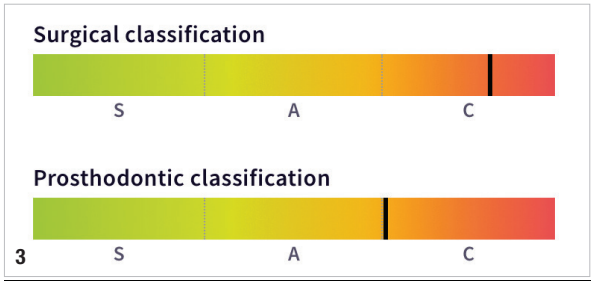
smile or overall appearance. She had also noticed flaring and progressive spacing of her anterior teeth and complained of food impaction. She desired a full-mouth fixed rehabilitation and wanted to improve the position of her teeth to regain the confidence to smile.

No abnormalities were found during the extra-oral examination. The patient presented with a low smile line. The intra-oral examination revealed terminal dentition due to generalised periodontal disease. The patient presented with severe resorption of the posterior maxilla bilaterally (Fig. 1). The radiographic examination showed generalised alveolar bone resorption with vertical bone defects (Fig. 2).

In accordance with the radiographic and clinical evaluation, the patient case was classified as surgically and prosthodontically complex in terms of the International Team for Implantology's SAC classification (Fig. 3). The SAC classification aids in assessing the degree of difficulty and risk associated with implant-related rehabilitation.



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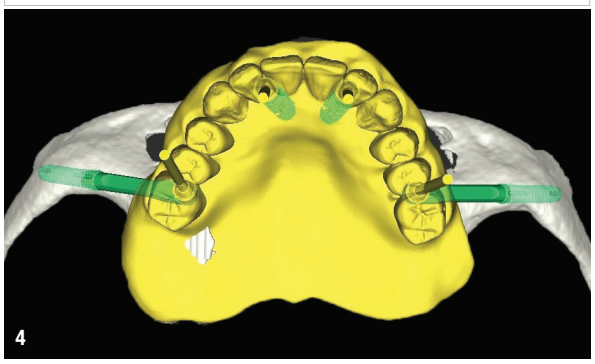
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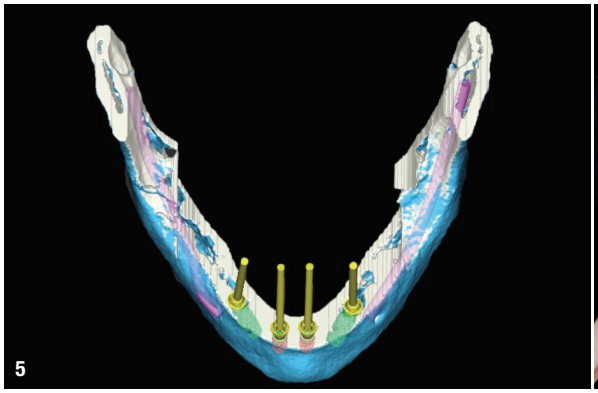
Treatment planning

Our patient was presented with various treatment plans, encompassing both removable and fixed rehabilitation options. Among these, the patient was informed about the DIGILOG treatment concept. After considering the choices presented, the patient chose to proceed with the DIGILOG option.

The DIGILOG concept was developed in collaboration with oral and maxillofacial surgeon Dr Christopher A. Gurries. This approach enables communication between surgeon and prosthodontist with the use of digital technology and analogue surgical treatment, supporting predictable treatment outcomes. Two steps were included in our workflow for immediate full-arch treatment using the DIGILOG concept: the printing of prototypes of the prostheses to assess the peripheral borders, vertical dimension of occlusion, aesthetics, phonetics and occlusion; and the scanning of the intaglio surfaces, peripheral borders and occlusion and transfer of that information to the laboratory to finalise the peripheral borders and vertical dimension of occlusion before milling the monolithic final prostheses.

CoDiagnostiX software (Dental Wings) was used for planning the analogue surgical placement of two Straumann zygomatic implants and two Straumann BLX implants in the maxilla and of four Straumann BLX implants in the mandible. The protocol chosen was immediate placement after atraumatic extraction of the remaining teeth while protecting the remaining bone (Figs. 4+5). The patient's STL file was generated and sent to the in-house laboratory to create a 3D-printed model for the surgical planning, allowing us to obtain a surgical model (Fig. 6).

To avoid complex procedures for implant placement and to decrease morbidity and costs for the patient, no augmentation was planned. On the same day as implant placement, the milled prostheses would be delivered. Six months later, two digitally fabricated fixed full-arch implant prostheses would be placed.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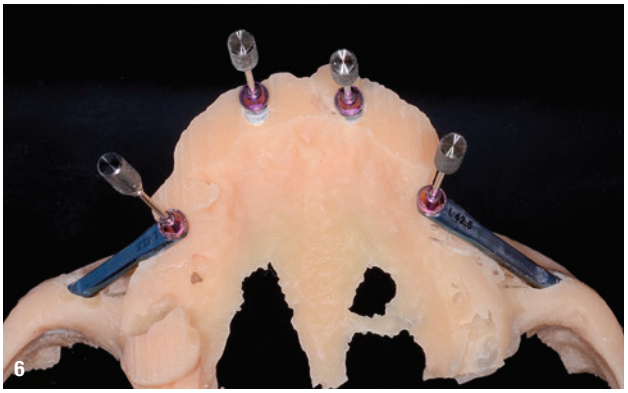
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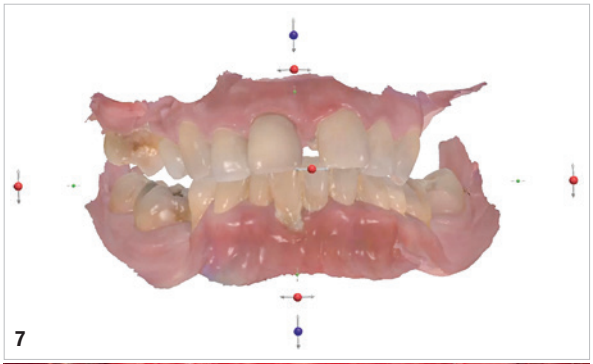
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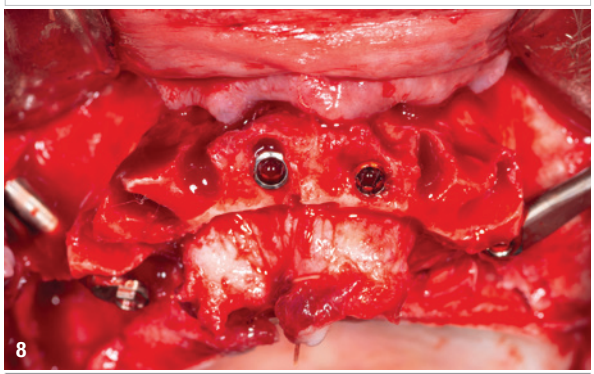
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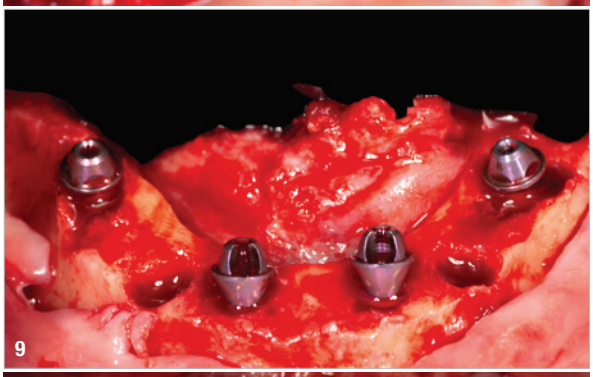
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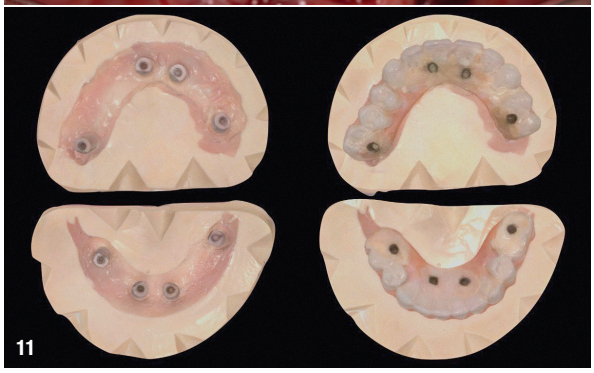
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In summary, the treatment workflow was as follows:
1. data acquisition for fabrication of two temporary PMMA prostheses;
2. implant surgery and immediate placement of the temporary prostheses;
3. digital design and manufacture of the final zirconia prostheses; and
4. delivery of the final prostheses and an occlusal splint six months after implant surgery.

Surgical procedure

Before surgery, an intra-oral scanner was employed to acquire the digital data for the design of the temporary prostheses (Fig. 7). The teeth were digitally removed, and digital prostheses were created. The data of the virtually constructed prostheses was subsequently transmitted to a milling machine for the fabrication of monolithic PMMA prostheses.

The treatment was carried out under local anaesthesia with 2% lidocaine and 1:100,000 adrenaline. A crestal incision was made and a full-thickness mucoperiosteal flap raised. The implant beds were prepared with the Straumann Surgical Cassette, and two Straumann BLX implants (4.5 × 10.0 mm, SLActive, Roxolid) and two Straumann zygomatic implants (4.3 × 40.0 mm) were placed in the maxilla (Fig. 8). Following the same protocol, four Straumann BLX implants (4.5 × 10.0 mm, SLActive, Roxolid) were inserted in the mandible. Straumann screw-retained abutments were positioned on to the implants (Fig. 9).

The mucoperiosteal flap was carefully adapted and sutured. The temporary screw-retained prostheses were then placed on the day of the surgery (Fig. 10). The protheses were checked for areas of excessive pressure and adjusted. The patient was given postoperative and oral hygiene instructions. Two weeks after surgery, the sutures were removed, and the healing had been uneventful.

Prosthetic procedure

The patient was followed up, and at six months after implant placement, an indirect digitisation of the back-poured master cast was done, allowing for superimposition of the tooth position to the implant position (Fig. 11). The final tooth set-up and occlusal scheme were done digitally to ensure optimised aesthetics and function (Fig. 12). Once everything had been digitally verified, the final zirconia prostheses with layered porcelain gingivae were fabricated (Fig. 13). The occlusion was checked, and the patient was given a 3D-printed occlusal splint to protect the implant-supported prostheses, acting as an absorber and distributor of occlusal forces (Fig. 14). A panoramic radiographic was taken to monitor the


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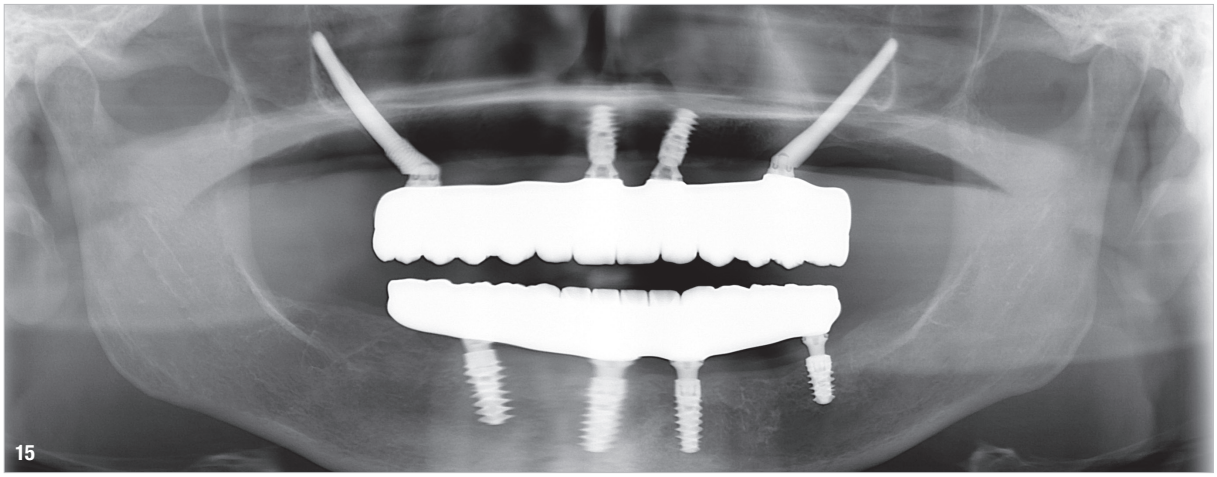
14

health around the dental implants at delivery of the prostheses (Fig. 15). The patient was provided with hygiene instructions and scheduled for regular check-ups to ensure ongoing care and monitoring.

Treatment outcomes

Digital and analogue can be seamlessly integrated to enable a comprehensive assessment and treatment. Optimal planning and meticulous examination play pivotal roles in determining the outcomes of the treatment. A personalised surgical approach is imperative to address the diverse needs and requirements of each individual patient.

On the same day as extraction surgery, employing the principle of immediacy and without the necessity of guided bone regeneration, an outstanding functional and aesthetic outcome was accomplished with two Straumann BLX implants and two Straumann zygomatic implants in the maxilla and four Straumann BLX implants in the mandible. Six months later, the patient was very pleased with the retention and aesthetics of the final full-arch implant prostheses. The clinical and radiographic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evaluation yielded stable and favourable results, indicating positive progress. The prostheses fulfilled the patient's expectations and needs. She was delighted with the significant change in her smile and in her quality of life (Figs. 16+17).

Authors' testimonial

The DIGILOG concept, using digital technology to complement fundamental surgical and prosthetic principles, along with a scientifically designed armamentarium, allowed for treatment of this case and a predictable outcome.

References


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Editorial note: This article was first published in digital—international magazine of digital dentistry, Vol. 5, Issue 2/2024.

about the authors

Dr Edmond Bedrossian, who is a diplomate of the American Board of Oral and Maxillofacial Surgery, is a well-known figure in oral and maxillofacial surgery and an honorary member of the American College of Prosthodontists. Currently, Dr Bedrossian is a clinical professor in the department of oral and maxillofacial surgery at the Arthur A. Dugoni School of Dentistry of the University of the Pacific in San Francisco in the US.
In addition to his teaching role, Dr Bedrossian contributes to dental research as a member of the editorial review board for respected journals such as the International Journal of Oral and Maxillofacial Implants, the Journal of Oral and Maxillofacial Surgery and Clinical Implant Dentistry and Related Research. Additionally, he is a fellow of the International Team for Implantology, showcasing his dedication to excellence in implant dentistry and related fields.

Dr Armand Bedrossian is a prosthodontist with a master's degree from the University of Washington in Seattle in the US and is a diplomate of the American Board of Prosthodontics, demonstrating his expertise in the field. Dr Bedrossian is also an affiliate assistant professor at the University of Washington School of Dentistry, where he shares his knowledge and trains future dental professionals. Additionally, he is a fellow of the International Team for Implantology, further highlighting his commitment to excellence in prosthodontics and implant dentistry.

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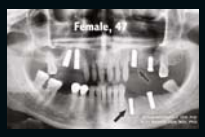

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The best of both worlds: A hybrid digital–analogue workflow

Dr Marijana Eic, Dr Don Robertson & Jae Won Sim, Canada

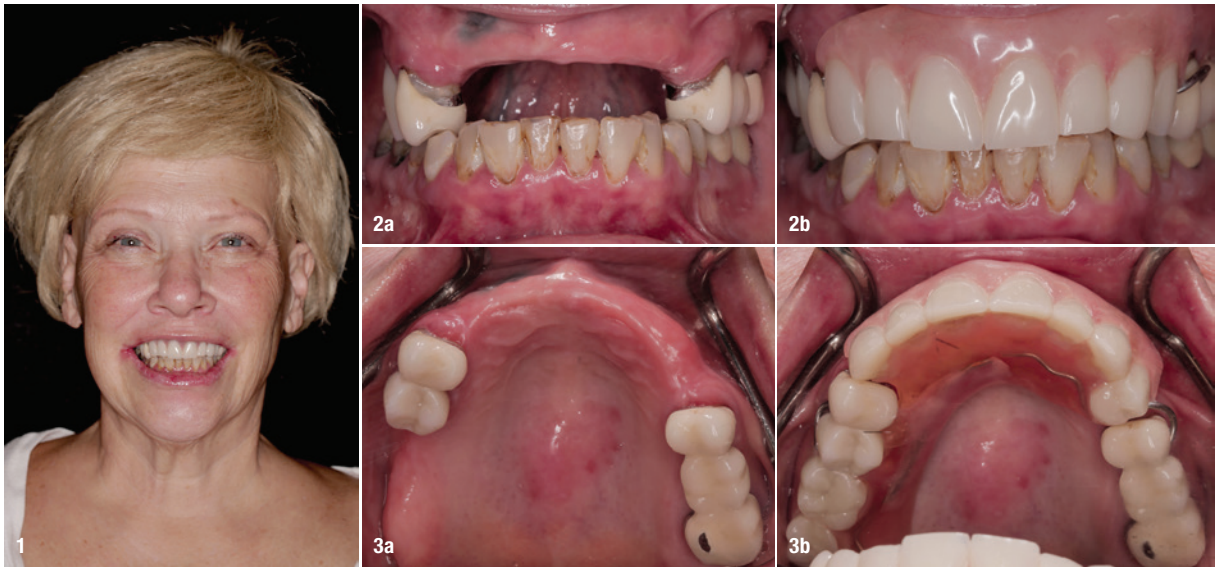
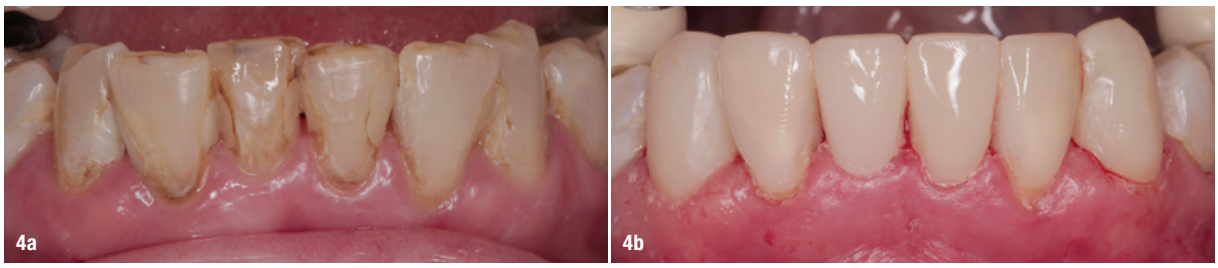


Fig. 1: Full-face view of the initial situation. – **Figs. 2a+b:** Frontal view of the initial presentation without **(a)** and with the partial acrylic denture **(b)**. – **Figs. 3a+b:** Occlusal view of the initial presentation without **(a)** and with the partial acrylic denture **(b)**.

Full-arch implant-supported fixed protheses have become a highly desired solution for the rehabilitation of patients with terminal dentition or completely edentulous arches. New developments in digital dentistry have enabled practitioners to extract vital information from intra-oral and CBCT scans to plan and execute fully guided implant placement that is prosthetically driven. Preoperative implant planning using a digital workflow can significantly improve the predictability and success of implant-supported restorations, lessening the burden on the surgeon and restorative dentist during the time of surgery.

When designing a full-arch implant-supported prosthesis, optimal implant positioning is determined not only by the available bone structure but also by the prosthetic design, which accounts for occlusion, aesthetics and soft-tissue anatomy.[1] Planning begins with data acquisition and may include extra-oral and intra-oral digital photographs, intra-oral scans, facial scans and CBCT imaging. This information is used to formulate a facially driven treatment plan that accounts for ideal incisal edge position, lip dynamics and patient preferences.[2] The STL file from the intra-oral scan and the DICOM file from the CBCT scan can be superimposed in implant



Figs. 4a+b: Mandibular anterior teeth at initial presentation **(a)** and after caries removal and injection moulding **(b)**.

planning software to design a surgical guide and provisional prosthesis, which can be fabricated using additive or subtractive manufacturing. It is imperative that the surgical guide is stabilised to prevent any movement during surgery, and often anchor pins are incorporated into the design to attain the highest level of surgical accuracy.[3] Once the implants have been placed and primary stability confirmed, the prefabricated provisional prosthesis can be picked up intra-orally with resin and finalised extra-orally while the sutures are placed. This offers the patient immediate aesthetics and function, improving the overall experience.

Achieving a passive fit is a key factor in the success of implant-supported fixed prostheses. Misfit can lead to both mechanical and biological complications such as screw loosening, component fracture and bone loss.[4] During impression taking, it is crucial to accurately transfer the implant positions to the model to ensure a passive fit.[5] While a fully digital preoperative workup is advantageous to both patients and clinicians, the final step of the full-arch treatment (i.e. the definitive prosthesis) has faced challenges with a digital workflow. Intra-oral scanners have shown clinically acceptable accuracy compared with conventional impressions for single crowns and short-span fixed prostheses.[6] However, conventional impressions are more accurate for full-arch implant-supported prostheses than is intra-oral scanning technology.[7,8] While the technology continues to evolve and more-recent literature has shown comparable results between the two impression modalities, it may still be wise to exercise caution when digitally capturing full-arch implant impressions, as the accuracy greatly depends on the scanning strategy and many studies have been inconclusive.[9]

This case report demonstrates a hybrid digital–analogue workflow for the design and fabrication of a full-arch implant-supported fixed maxillary prosthesis. By combining technological advances in digital dentistry for planning a predictable surgery and provisional prosthesis with the gold standard conventional impression technique for fabricating the definitive prosthesis, the patient experienced the best of both worlds in his or her care and treatment outcome.


5a

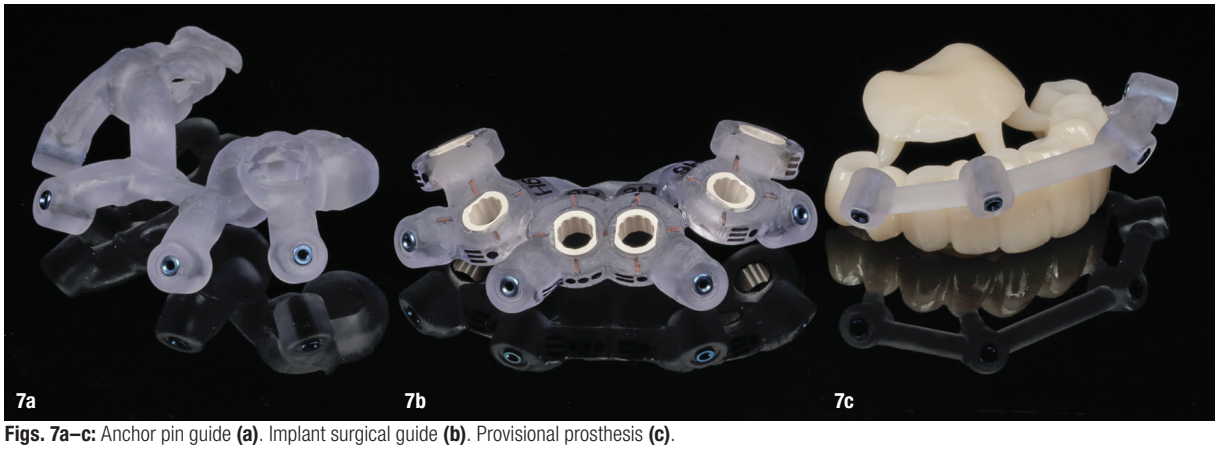

5b


5c

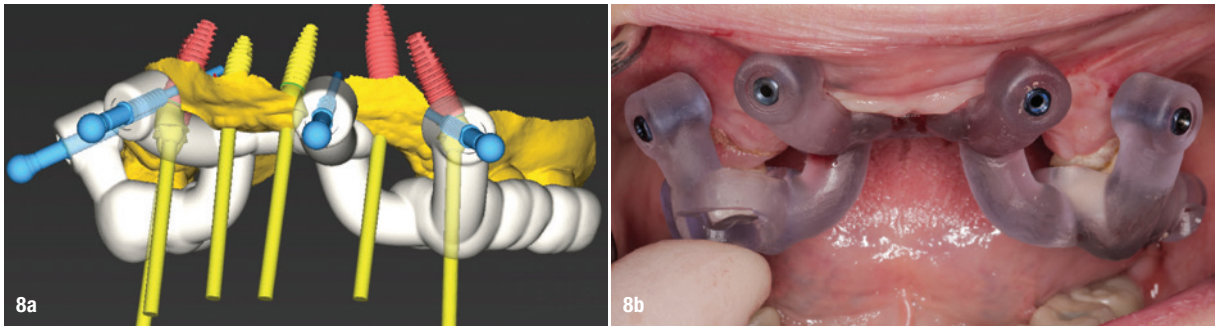

6a


6b

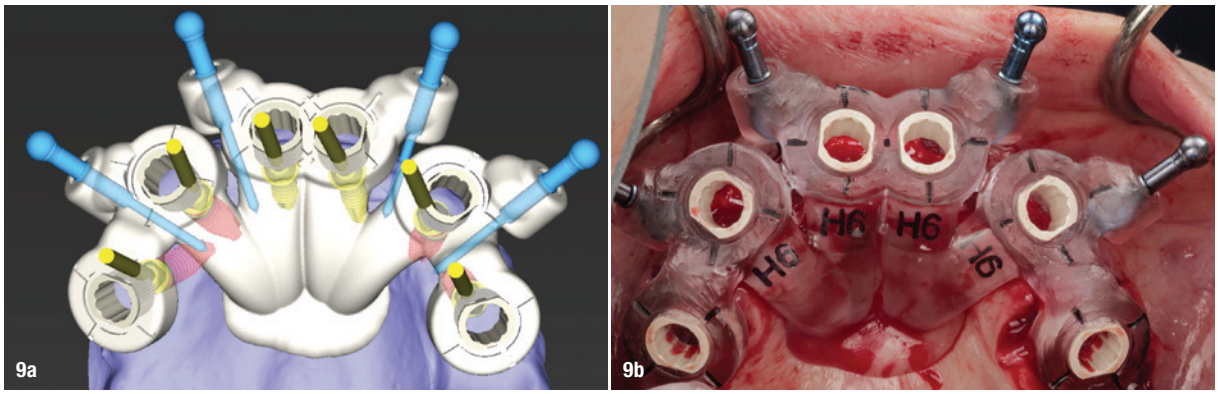
Figs. 5a–c: 3D-printed intra-oral mock-up to assess lip support and aesthetics. Frontal view **(a)**. Frontal view with retracted lips **(b)**. Occlusal view **(c)**. – **Figs. 6a+b:** High smile line without **(a)** and with the intra-oral mock-up **(b)**.



Figs. 7a–c: Anchor pin guide **(a)**. Implant surgical guide **(b)**. Provisional prosthesis **(c)**.



Figs. 8a+b: Anchor pin guide design **(a)** and *in situ* **(b)**.



Figs. 9a+b: Implant surgical guide design **(a)** and *in situ* **(b)**.

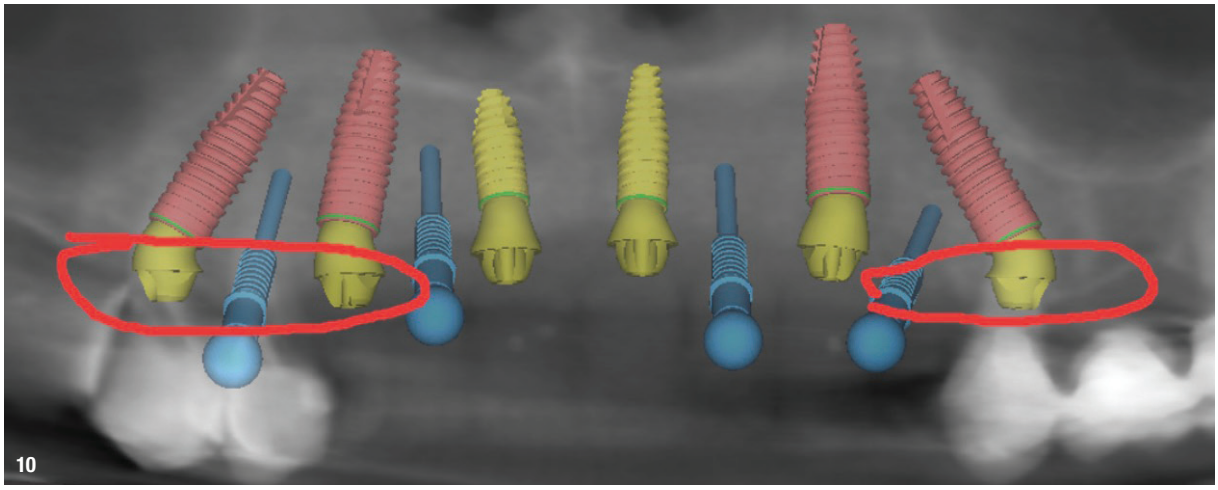


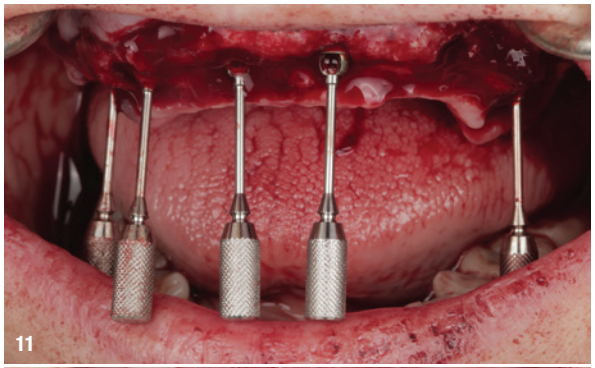
Fig. 10: Planning: angled multi-unit abutments attached to the five stable implants.

Case report

A 65-year-old female patient presented with maxillary terminal dentition, seeking a fixed solution to replace her missing and failing teeth (Fig. 1). Her maxillary arch had been rehabilitated 20 years before with a combination of crowns and bridges, and many of her teeth had been extracted within the last two years owing to recurrent caries. A maxillary partial acrylic denture had been fabricated at the time to replace the extracted teeth; however, she was never happy with this prosthesis and used it in social situations only (Figs. 2a–3b). She presented with only four remaining maxillary teeth, two of which had large recurrent caries and were deemed unrestorable. Although heavily restored, her natural mandibular dentition was still intact, but there was recurrent caries on all anterior teeth.

After discussing both removable and fixed options, the patient decided to proceed with extraction of the remaining maxillary teeth and placement of six implants to support a full-arch fixed prosthesis. The recurrent caries on the mandibular teeth would be restored with direct composite resin restorations before injection moulding to level out the mandibular occlusal plane (Figs. 4a+b).

After comprehensive examination, periodontal assessment, and scaling and root planing, an initial smile design was performed using full-face photographs to determine the ideal incisal edge position. Both arches were scanned with an intra-oral scanner (TRIOS 3, 3Shape) for a digital wax-up based on the preliminary smile design. This data was merged with a facial scan to generate a facially driven treatment plan. An intra-oral mock-up was performed using a 3D-printed prototype of the digital wax-up to assess aesthetics and upper lip support without a flange (Figs. 5a–c). Owing to excessive lip mobility and a high smile line, the plan was to fabricate a Misch classification FP-1 (with no pink in the design; Figs. 6a+b). Since the transition line could not be hidden without substantial bone removal, the patient accepted a prosthetic design with long teeth. Once the design had been approved, fiducial markers were placed on the prototype and scanned intra-orally. This was followed by a CBCT scan. The resulting STL and DICOM files were merged in implant planning software (coDiagnostiX, Dental Wings) for restoratively driven implant planning. This was used to produce an anchor pin guide, pin-retained surgical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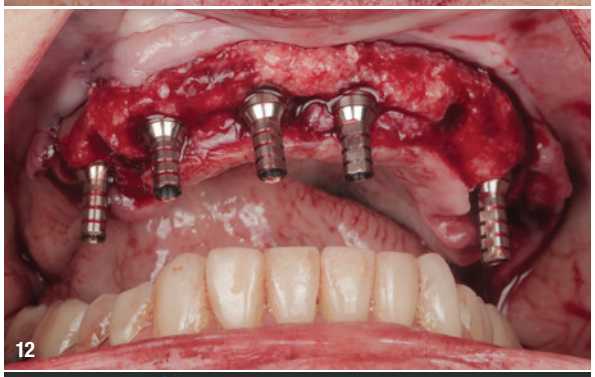
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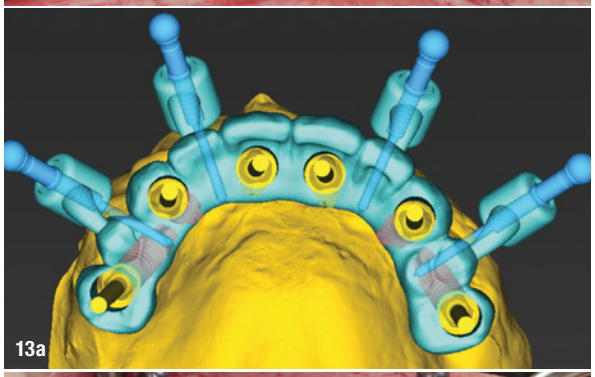
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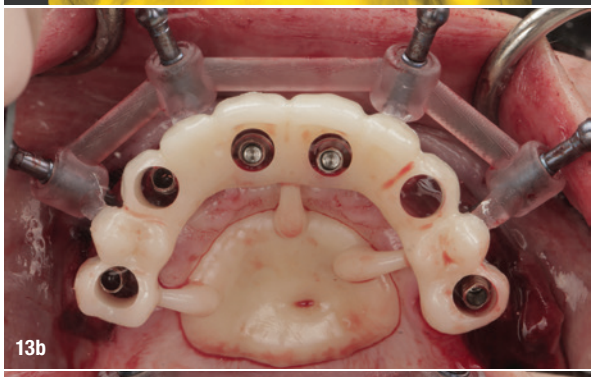
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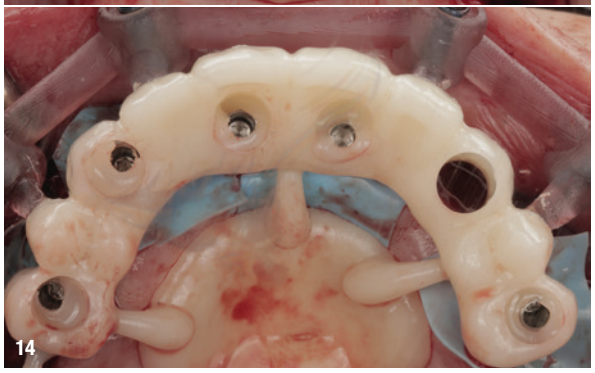
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Fig. 11: Multi-unit abutments attached to the implants. – **Fig. 12:** Temporary abutments attached to the multi-unit abutments. – **Figs. 13a+b:** Provisional prosthesis inserted with anchor pins design **(a)** and *in situ* **(b)**. – **Fig. 14:** Pickup of the provisional prosthesis.

Fig. 15: Provisional prosthesis after removal of the anchor pins and palatal supports.

guide and pin-retained provisional prosthesis with access holes for pickup (Figs. 7a–c).

When planning a full-arch case, we have the challenge of determining where the most ideal implant locations would be. It is important to balance the anterior–posterior spread with the anatomical limitations that the patient presents with. While the published success rates in general appear to be very similar between tilted implants and straight implants in terms of failure rate and marginal bone loss over three years in function,[10] the placement of tilted implants is much more sensitive to technique.[11] It is important to maintain symmetry of implant placement for equal stress on the implants and to manage the cantilevers. In this case, it was determined that after osseous reduction there would be no or minimal native bone remaining around the distal implants. Anterior–posterior spread should be determined by bone quality, number and distribution of implants, rehabilitation design and prosthetic material,[12] and in this case, extending to the first molars was deemed appropriate.

At the time of implant surgery, the tooth-supported anchor pin guide was tried in and full seating confirmed through the windows incorporated into the design (Figs. 8a+b). After the four anchor pins had been inserted, the remaining maxillary teeth were extracted and a mucoperiosteal flap was raised prior to placing the pin-retained surgical guide (Figs. 9a+b). Implants were placed in sites #15, 13, 11, 21, 23 and 25 (Bone Level Tapered Implant, Roxolid, Straumann), implants #15 and 25 being angled to avoid sinus grafting. Primary stability was confirmed at all sites except site #23, which was treated as a two-stage surgery and left out of the provisional prosthesis. Angled multi-unit abutments (SRA, Straumann) were attached to the five stable implants (Fig. 10), followed by insertion of temporary abutments in preparation for pickup (Figs. 11+12). The provisional prosthesis was then placed using anchor pins and subsequently attached to the temporary abutments with flowable composite resin (Figs. 13a+b). Minor occlusal adjustments were made before removal of the provisional prosthesis for finishing and polishing while the surgical sites were sutured (Figs. 14+15). The provisional prosthesis was reinserted, and postoperative instructions were given (Figs. 16a+b).

After four months of healing, osseointegration was confirmed, and second-stage surgery was performed at site #23. A preliminary closed-tray impression was taken with polyvinylsiloxane for the fabrication of a custom open tray. The final impression was captured using an open-tray technique with splinted impression copings (Fig. 17). A verification jig was designed and 3D-printed from the scanned master cast and re-luted intra-orally with Triad gel (Dentsply Sirona; Fig. 18). Passive fit on the master cast was confirmed with the one-screw test. A new prototype with a hybrid FP-1–FP-3 design was milled from polymethylmethacrylate to assess whether a more pleasing aesthetic result could be achieved, knowing that the pink transition line may be visible in the anterior (Figs. 19a+b). The patient preferred the new design, since the anterior teeth were more proportionate and the gingival shade blended well with her natural tissue (Figs. 20a+b). The definitive prosthesis was milled from monolithic zirconia, and a maxillary night guard was provided at the final insertion appointment (Figs. 21a–c).

Figs. 16a+b: Provisional prosthesis on the day of implant surgery. Frontal view **(a)**. Frontal view with retracted lips **(b)**.

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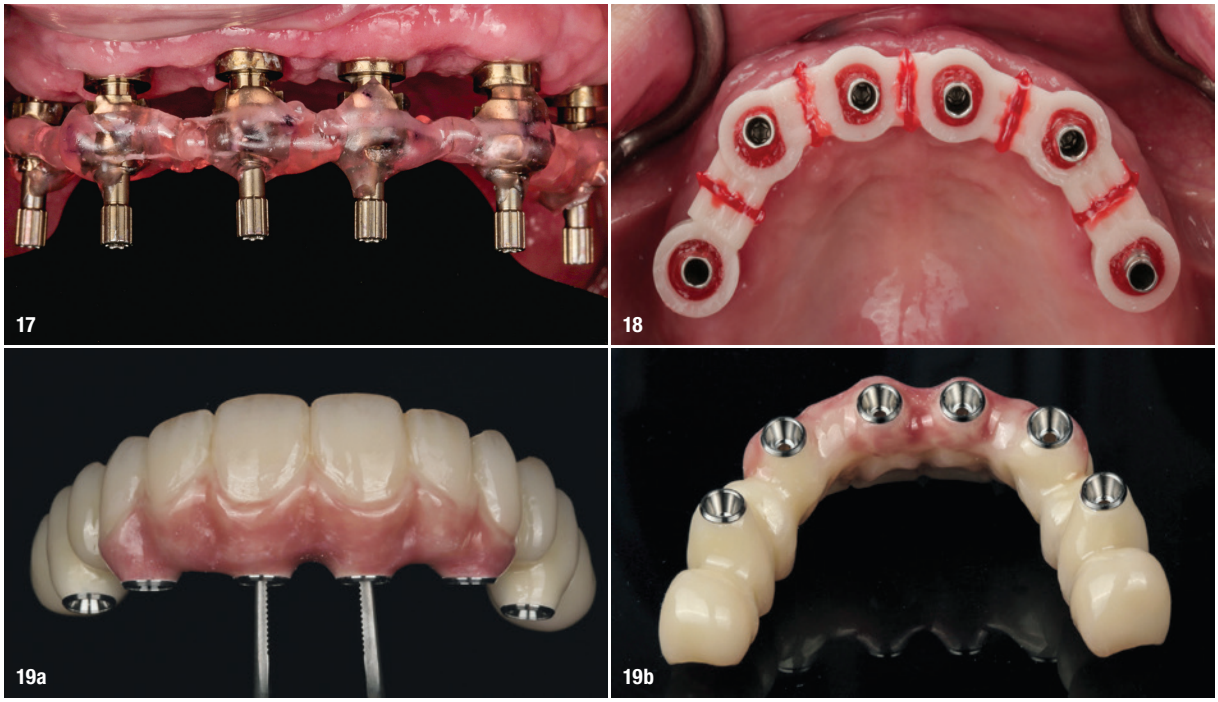


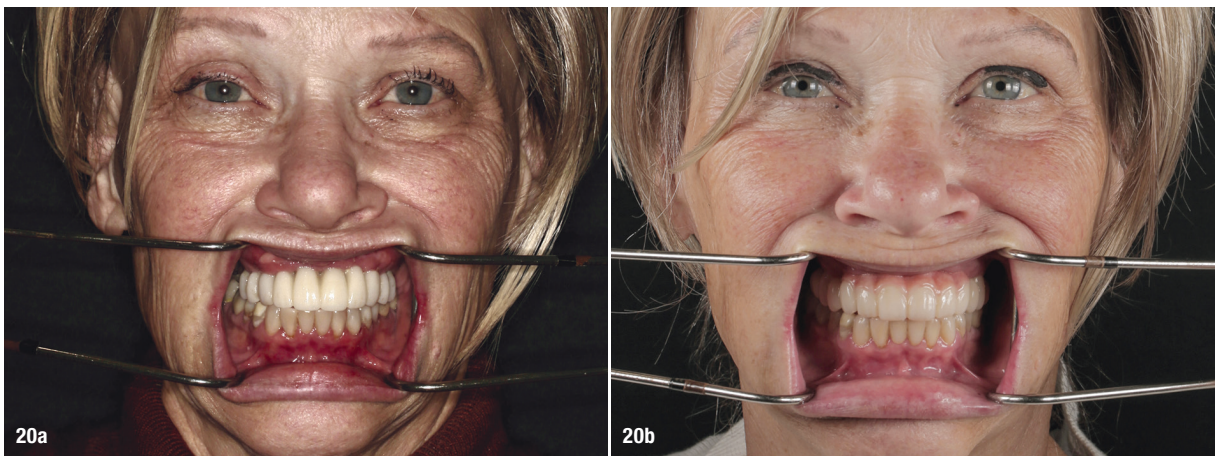
Fig. 17: Splinted open-tray impression copings. – **Fig. 18:** Verification jig re-luted intra-orally. – **Figs. 19a+b:** Prototype with new design to improve aesthetics. FP-3 in the anterior **(a)**. FP-1 in the posterior **(b)**.

Discussion

The hybrid digital–analogue workflow presented in this article displays the merging of digital advancements with conventional techniques to optimise the rehabilitation of a patient with terminal dentition. This approach enhances the predictability and success of full-arch implant-supported prostheses by addressing the inherent limitations of both methods when used in isolation. Precision and efficiency have been increased substantially in modern implant dentistry through digital planning and guided surgery. The patient's postoperative experience can be greatly improved with immediate placement of a provisional prosthesis, restoring function and aesthetics on the day of surgery.

Despite the advantages of digital technology, the decision to use an analogue technique for the definitive prosthesis underscores the current limitations of intra-oral scanners for full-arch implant-supported prostheses. This case demonstrates how combining digital and conventional methods can streamline the workflow and reduce the risk of complications from improper implant placement or a non-passive fit.

Patient feedback and prototype testing were crucial in refining the prosthetic design before fabrication of the definitive prosthesis. This adaptability in the treatment plan created a more aesthetically pleasing result and improved overall patient satisfaction.



Figs. 20a+b: Provisional prosthesis before **(a)** and after design modification **(b)**.

Figs. 21a–c: Definitive prosthesis. Intra-oral view **(a)**. Extra-oral view **(b)**. Full-face view **(c)**.

Conclusion

The use of dental implants can provide life-changing treatment for edentulous patients. Careful case selection and planning are key to obtaining optimal results. This case report illustrates the effective use of a hybrid digital–analogue workflow for rehabilitating a patient with maxillary terminal dentition. By combining digital techniques such as intra-oral scanning, CBCT imaging and facial scanning with conventional splinted open-tray impressions, the treatment achieved precise implant placement and ensured a passive fit of the definitive prosthesis. Overall, this hybrid approach highlights the benefits of integrating digital and traditional methods in complex full-arch rehabilitation. As digital technologies continue to evolve, further comparative studies are required to establish standardised protocols that take full advantage of these innovations in clinical practice.

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Literature

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about the authors

Dr Marijana Eic completed her DDS at the University of Toronto in Canada. She worked as a general dentist for 12 years before pursuing her specialty training in prosthodontics. She is currently a third-year graduate prosthodontics resident at the University of British Columbia in Canada.

Dr Don Robertson completed his DDS at the University of the Pacific in San Francisco in the US. He is currently a third-year graduate periodontics resident at the University of British Columbia in Canada.

Jae Won Sim obtained his Bachelor of Industrial Design from Emily Carr University of Art and Design in Vancouver in British Columbia in Canada. He has worked in the dental field as a CAD/CAM technician for over ten years. He is also a CAD instructor for the dental technology programme at Vancouver Community College.

A comprehensive approach to a deficient implant site in the aesthetic zone

Dr Gian Battista Greco, Italy

The rehabilitation of compromised aesthetic cases in implantology requires a comprehensive, multidisciplinary approach to address both functional and aesthetic challenges. This case report describes the treatment of a 52-year-old female patient with a missing maxillary right central incisor due to a fracture at age 17. The case involved implant placement and management of adjacent malpositioned teeth and gingival recession. The patient declined orthodontic treatment owing to financial constraints, accepting aesthetic compromises regarding papillary height and symmetry. Digital implant planning guided the placement of a bone-level implant and simultaneous horizontal bone augmentation, and connective tissue grafts enhanced the soft-tissue support. A two-stage surgical approach was used, involving a four-month healing period before implant exposure. The definitive restoration was delivered after 7.5 months, showing a successful aesthetic result. The patient's soft tissue and bone stability were maintained at 12 months, and there were no biological or prosthetic complications. This treatment highlights the importance of interdisciplinary planning, mucogingival expertise and proper implant system selection for optimal, stable long-term outcomes in complex aesthetic cases.

Introduction

Implant rehabilitation in the aesthetic zone is one of the most challenging procedures in implantology. In the anterior maxilla, the vestibular bone thickness is typically less than 1 mm, leading to greater volumetric contraction compared with other areas.[1–3] It is essential to consider that the situation will evolve over time, tissue tending to resorb owing to the loss of biological function after the disappearance of the periodontal ligament.

In cases of a single missing tooth, the presence of adjacent teeth helps limit tissue contraction at the proximal level and maintain papillary height, provided the subsequent implant procedure is properly executed.[4, 5] When immediate implant placement is feasible, it offers the advantage of preserving the anatomy of both hard and soft tissue, provided the site is suitable. Commonly, bone grafting techniques, along with autologous or xenogeneic connective tissue grafts, are combined with various flap types during implant placement.[6–9] This approach offers the patient a significant reduction in treatment duration and, when appropriate, allows for the placement of an immediate provisional restoration, minimising discomfort and reducing the costs associated with alternative provisional solutions, such as removable or fixed Maryland prostheses.

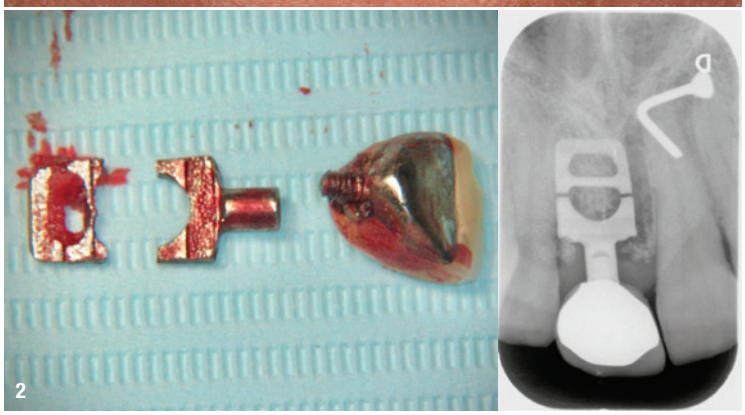

Fig. 1: Pre-op smile view. – **Fig. 2:** Removal of the fractured blade implant in 2003.

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Fig. 3: Intra-oral close-up of the baseline situation. – **Fig. 4:** Pre-op occlusal view: horizontal deficiency. – **Fig. 5:** Pre-op frontal view: vertical deficiency. – **Fig. 6:** 3D implant planning.

In cases of healed single edentulous sites in the aesthetic zone, there is almost always a volumetric deficiency; therefore, implant rehabilitation cannot be performed without predictable tissue volumetric enhancement procedures, which are essential for ensuring a favourable prognosis. The advantage of working in a site that has healed for 12 months or longer is the stability of the deficient area, which is generally not subject to further contraction.

To achieve a successful implant outcome, several key factors must be considered. In the aesthetic zone, precise 3D implant positioning is crucial to prevent both biological and aesthetic failures.[10, 11] Therefore, comprehensive digital planning and guided implant placement are highly recommended.[12] Another critical aspect is the prosthetic connection: the more stable it is, the less it will negatively affect the peri-implant tissue.[13] In this context, opting for a self-locking conical connection (< 12°) is undoubtedly the most suitable choice.[14]

When selecting the implant system for an aesthetic site, consideration should also be given to platform switching. The option of using smaller prosthetic components in the subcritical zone allows more space for soft tissue, ensuring better vascularisation and providing protection for the coronal peri-implant tissue.[15, 16]

Regarding the planning of a single restoration in a healed site, it is crucial to assess the periodontal condition of the adjacent teeth. The presence of significant vestibular tissue recession or the loss of papillary height often represents an insurmountable obstacle to achieving an optimal aesthetic result.[17] If such issues cannot be addressed, the patient should be informed that compromises may be necessary. The combined volumetric enhancement of the implant site and correction of adjacent tooth recession requires the use of mucogingival techniques, so it is important for the clinician performing the rehabilitation to have substantial experience in this type of surgery. The treatment described in this case report outlines a restorative approach to the functional and aesthetic rehabilitation of three incisors using a combination of guided bone regeneration (GBR), connective tissue grafting, coronally advanced flaps and conservative direct composite restorations.

Case presentation

A 52-year-old female patient (Fig. 1), ASA Class I, presented to the clinic requesting treatment for the previous loss of her maxillary right central incisor, which had been extracted owing to a fracture at the age of 17. At that time, the single edentulous site was treated with the placement of a blade implant by her previous

dentist. The rehabilitation had lasted for approximately 14 years before mechanical failure, and the implant was removed in this dental practice (Fig. 2). An immediate provisional restoration was placed, anchored with titanium wire to the adjacent teeth.

The patient did not have the financial means to undergo a new implant treatment and waited about 20 years before proceeding with the rehabilitation. The new baseline presented several critical issues concerning the adjacent teeth and the implant site. The right lateral incisor was tilted vestibularly and had a 4 mm gingival recession and a reduction in the distal papillary height of 1 mm and in the mesial papillary height of over 2 mm. The left central incisor showed a 3 mm recession and a reduction in the mesial papillary height of 2 mm (Fig. 3). In the edentulous site of the right central incisor, there was considerable volumetric contraction both horizontally and vertically (Figs. 4+5).

An orthodontic treatment was proposed to correct the tooth angulation and align the teeth, including orthodontic extrusion of the right lateral incisor to position the interdental papillae coronally. Although this pretreatment was presented as absolutely necessary to minimise aesthetic compromises in the definitive rehabilitation, the patient declined it, mainly for financial reasons. Considering the low smile line as a favourable factor, the patient confirmed her willingness to accept aesthetic compromises, primarily related to the asymmetry and incongruity in papillary height.

A CBCT scan and an intra-oral scan were performed, and once matched, they enabled comprehensive digital planning for guided implant placement (RealGUIDE®, 3DIEMME). The cross-sectional view of the edentulous site revealed a fairly compact bone structure (Class D2) and both vertical and horizontal volumetric deficiencies. The site was, however, deemed suitable for the placement of a bone-level implant of 4 mm in diameter and 10 mm in length, along with a simultaneous horizontal bone regeneration procedure, and a two-stage approach. According to the planning, the implant-to-crown length ratio was 0.8 (Fig. 6).

After sculpting and elevation of a trapezoidal flap (Fig. 7), the osteotomy was performed using a surgical guide (INTEGRAL, Anthogyr; Fig. 8). The implant (Axiom X3®, Anthogyr; Fig. 9) was positioned 1.5 mm sub-crestally relative to the palatal bone wall, and an insertion torque of 48 Ncm was recorded (Fig. 10).

Autologous bone chips were collected using a scraper on the vestibular bone surface, and these were placed over the vestibular implant dehiscence. Subsequently, a particulate xenograft bone graft (XenoGraft, Straumann®) and a resorbable collagen membrane (XenoFlex,

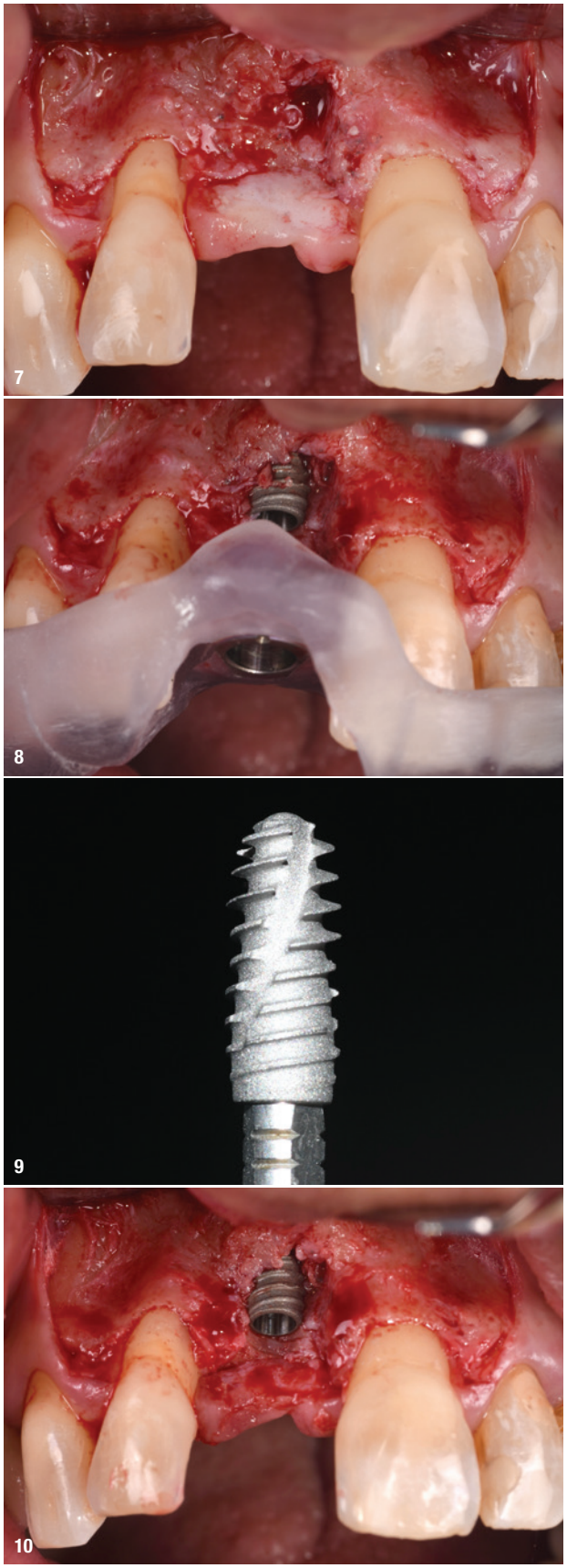


Fig. 7: Implant site with the skeletal structure fully exposed. – **Fig. 8:** Implant placed through the surgical guide. – **Fig. 9:** Axiom X3® implant, 4 × 10 mm. – **Fig. 10:** Final position of the implant.

Fig. 11: Xenograft layered over the autologous graft. Resorbable membrane securely fixed palatally with a pin. – **Fig. 12:** Resorbable membrane secured over the graft with three pins.

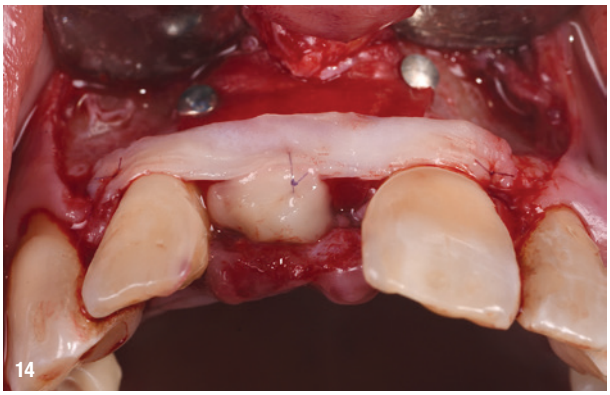
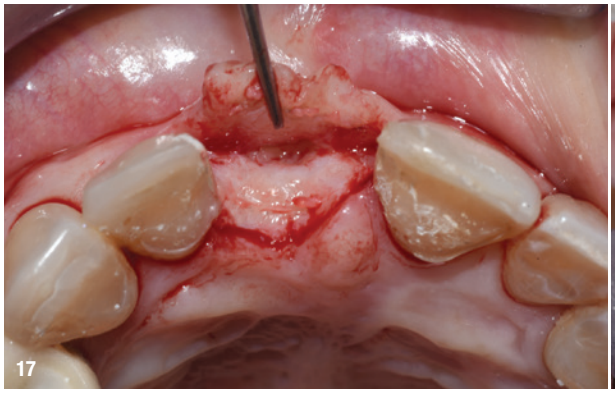


Fig. 13: EDTA-based conditioning gel applied to the root surfaces to be covered. – **Fig. 14:** Double connective tissue graft secured with #7/0 resorbable sutures.

Fig. 15: Coronally advanced flap secured with #6/0 and 7/0 resorbable sutures. – **Fig. 16:** Post-op view at four months.



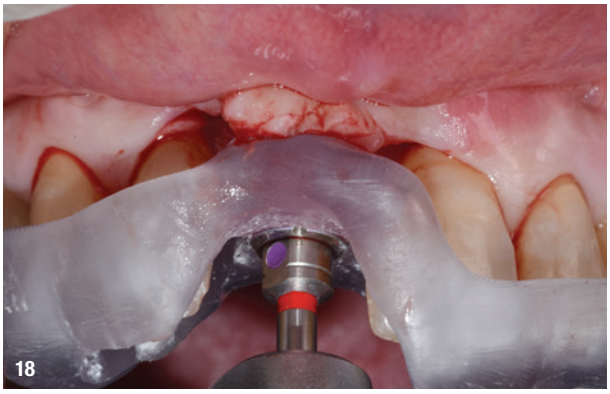


Fig. 17: Split-thickness flap for implant exposure. – **Fig. 18:** Implant exposure with the surgical guide and a 4 mm mucotome.

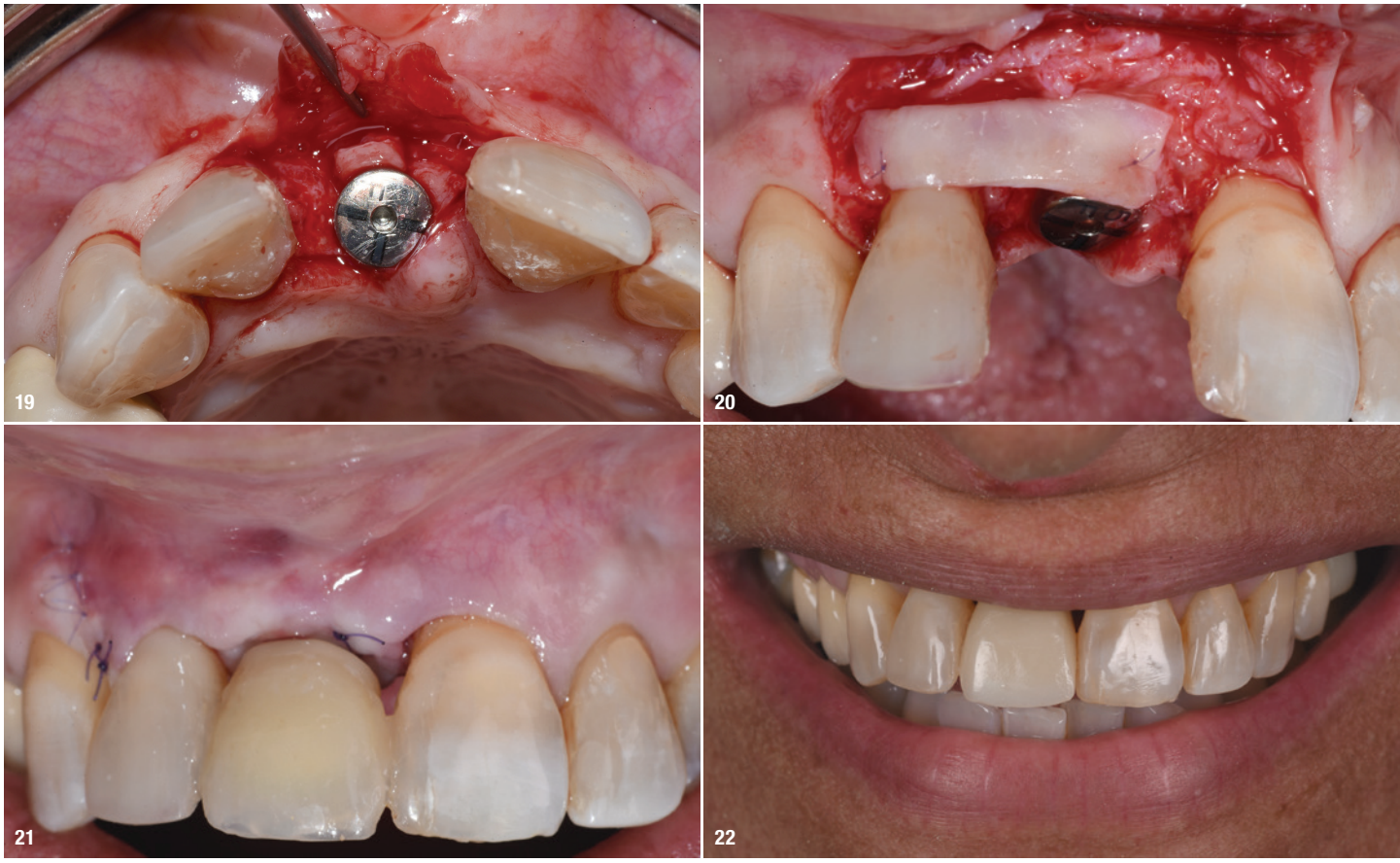


Fig. 19: Cover screw secured to the implant, and the tissue through which the mucotome had passed mobilised vestibularly. – **Fig. 20:** Second connective tissue graft secured with #7/0 resorbable sutures. – **Fig. 21:** Coronally advanced flap secured with #6/0 and 7/0 resorbable sutures. – **Fig. 22:** Screw-retained provisional restoration provided 14 days after implant exposure.

Straumann®) were applied (Fig. 11). The membrane was secured with three pins: one palatal and two vestibular, at the sides of the nasal spine (Fig. 12).

The root surfaces of the right lateral incisor and left central incisor were scaled using Gracey curettes. A conditioning gel based on EDTA (PrefGel, Straumann®) was then applied to the scaled surfaces for two minutes. This was followed by thorough irrigation with saline solution and the application of a gel-formulated enamel matrix derivative (Emdogain, Straumann®; Fig. 13).

A 21 mm long and 4 mm high epithelial–connective tissue graft was then harvested from the palate. After de-epithelialisation, the graft was secured to the base of the anatomically de-epithelialised distal papillae of the two incisors adjacent to the implant with a #7/0 resorbable suture (ARYAN®, Kalos di NIKE). The connective tissue component of the palatal mucosa was found to be of insufficient thickness; therefore, a second graft was harvested at the tuberosity level. This second donor site also had limited connective tissue volume. The second graft was positioned coronal to the first and secured to it with a #7/0 resorbable suture (Fig. 14).

The trapezoidal flap was disconnected from the muscular component using a blade to allow coronal advancement and was then sutured with #6/0 and 7/0 resorbable sutures (Fig. 15). A new Maryland bridge was subsequently applied, cemented with composite resin on to the palatal surfaces of teeth #12 and 21. During the healing period, direct restorative interventions and at-home bleaching were performed.

After a four-month waiting period, implant uncovering was to be performed. The soft-tissue condition was still deficient (Fig. 16), both at the implant site and at the site of the lateral incisor recession. A split-thickness flap approach was then planned. A flap was raised at the implant site (Fig. 17), and using the surgical guide and a 4 mm diameter mucotome (Fig. 18), the implant's prosthetic connection was uncovered. The connective tissue through which the mucotome had passed was kept pedicled at the vestibular site and then mobilised vestibular to the implant (Fig. 19).

The flap elevation was then completed by creating a new surgical papilla distal to the right lateral incisor and a single vertical incision at this site. A new epithelial–connec-

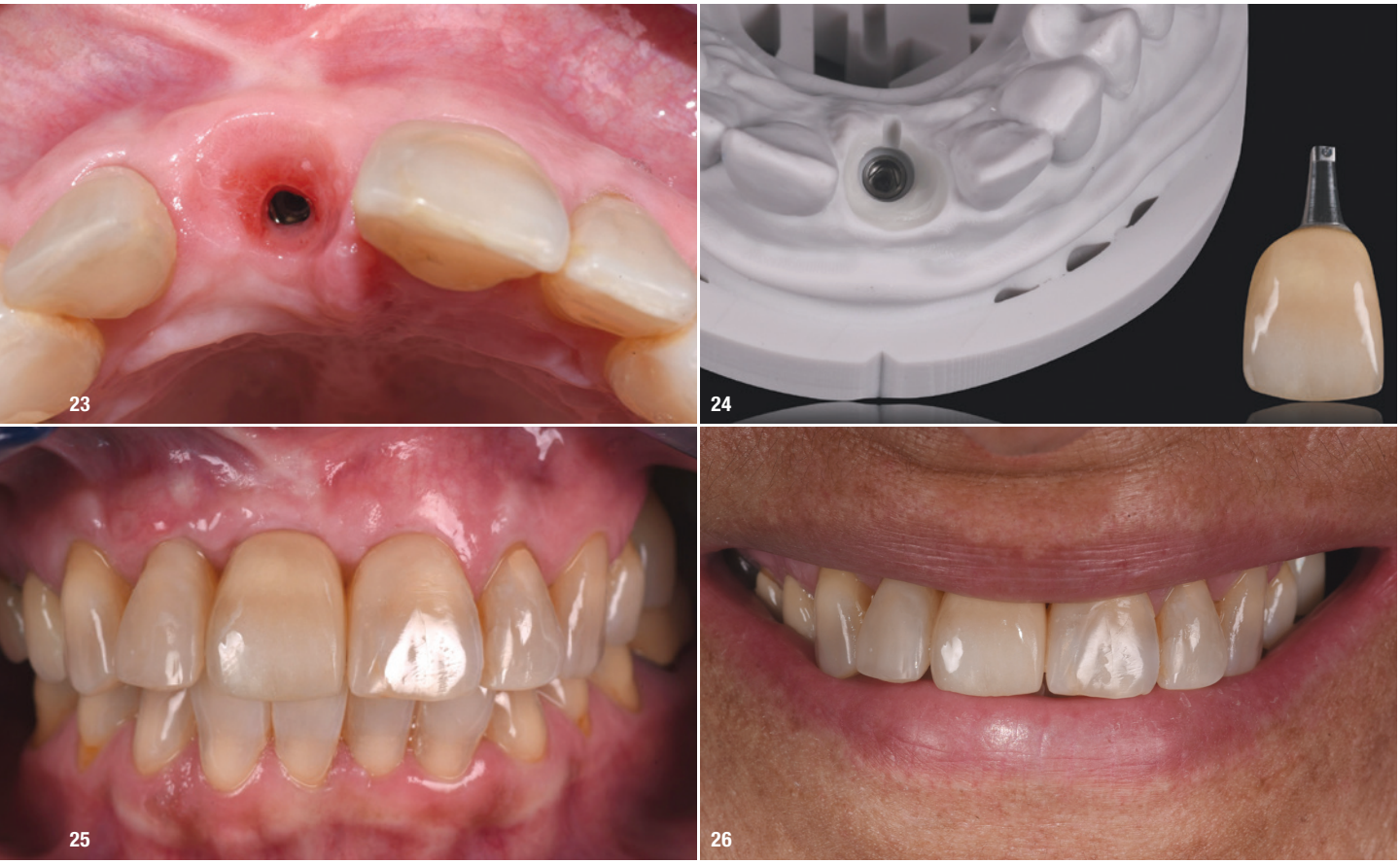


Fig. 23: Occlusal view after three months of tissue conditioning with the provisional restoration. – **Fig. 24:** 3D model and definitive screw-retained zirconia restoration. – **Fig. 25:** Final outcome of the treatment, 7.5 months after initiation. – **Fig. 26:** Final smile view, 7.5 months after initiation.

tive tissue graft was then harvested, de-epithelialised and sutured to the base of the anatomically de-epithelialised distal papilla of tooth #12 and to the vestibular periosteum of the implant site (Fig. 20). The flap was mobilised by disconnecting the muscular component and then advanced coronally and sutured with #6/0 and 7/0 resorbable sutures (Fig. 21).

The scan body was connected, and a 3D scan of the implant position was taken. Fourteen days later, the provisional restoration was screwed on to the implant (Fig. 22). The soft tissue was left to mature for a period of three months (Fig. 23), after which a definitive zirconia crown was fabricated (Fig. 24) and delivered to the patient (Figs. 25+26).

Results

The treatment lasted 7.5 months, during which time no biological or prosthetic complications occurred. Partial root coverage was achieved on the adjacent teeth, a result influenced by the initially reduced height of the surrounding papillae. The remaining area of recession, deemed non-coverable during the diagnostic phase, was managed with direct composite restorations prior to surgery. Satisfactory augmentation of the initial volumetric deficit was achieved (Figs. 27+28).

After 12 months, a slight improvement in the papillary height was observed (Fig. 29). However, a deficit of approximately 1.5 mm remained in the papillary height between teeth #22 and 23, which served as the reference point. Grafted soft tissue shows a tendency to proliferate, and in the following years, a progressive improvement of the papillae adjacent to the implant may occur. The aesthetic outcome was satisfactory, and the appearance of the prosthetic crown demonstrated good integration with the natural teeth (Fig. 30). The radiographic control at 12 months after completion of treatment revealed good stabilisation of the bone tissue in the area of the prosthetic connection (Fig. 31).

Discussion

In determining the treatment plan, several compromises were made. Firstly, the relatively low smile line allowed for the acceptance, from the initial phase, of a disparity in the height of the mesial and distal papillae around the

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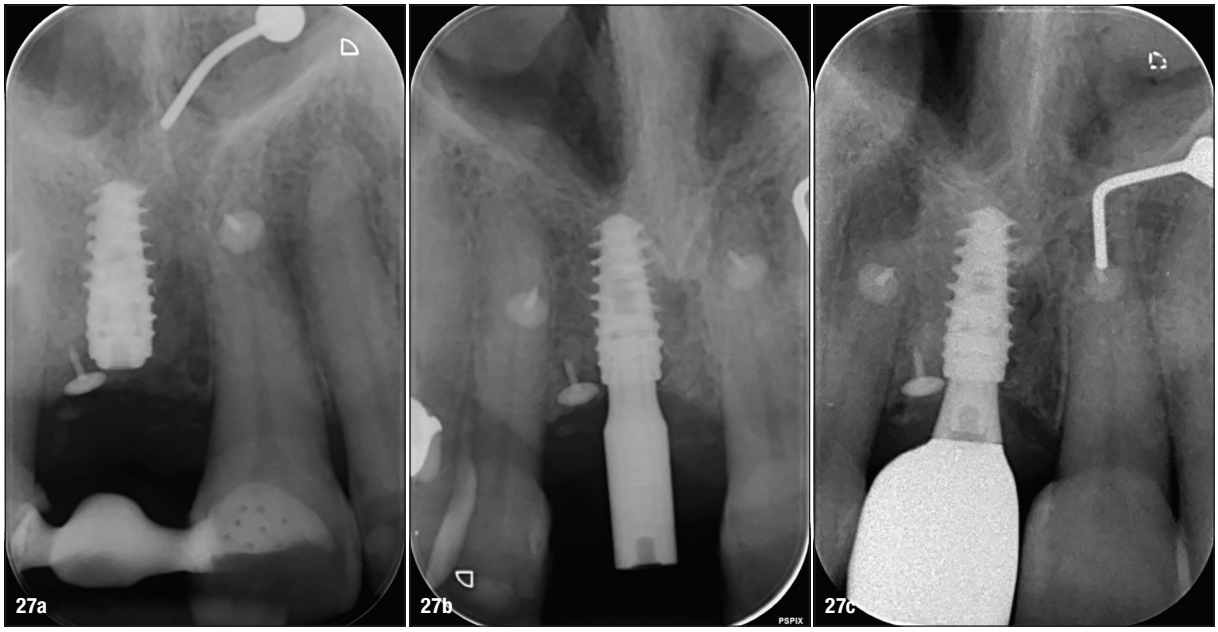

Figs. 27a–c: Intra-oral radiograph at baseline **(a)**. Intra-oral radiograph four months post-op **(b)**. Intra-oral radiograph 7.5 months post-op **(c)**.

implant. Secondly, the decision not to perform vertical regeneration and thus to accept an unfavourable implant-to-crown ratio arose from a prognostic assessment of the treatment: the height of the alveolar crest of the adjacent natural teeth was reduced, and an attempt to modify this with vertical augmentation would not have guaranteed predictability in the medium and long term. However, the implant system used employs a Grade V titanium alloy, which has a significantly higher fracture toughness than Grade IV titanium alloys do.[18–20] This will help reduce the risk of mechanical failure of the implant. The maintenance of the coronal peri-implant tissue was undoubtedly supported by other features of the implant system, particularly the self-locking conical connection with a 6° taper and the use of platform switching.

The decision to perform horizontal GBR in conjunction with implant placement in a deficient site with vestibular implant dehiscence must always be carefully considered. Indeed, the exposed implant surface does not provide biological elements (osteoblasts) useful for the colonisation of the particulate graft placed on it, and it effectively represents an obstacle to the osseointegration of the graft itself. These biological elements can only partially infiltrate the graft, coming from the proximal regions of the dehiscence. In this case, the surface area of the implant in direct contact with the patient's native bone was deemed adequate to ensure proper osseointegration for functional loading. In other situations, it is generally advisable to operate in two stages, positioning the implant after the GBR-treated tissue has adequately matured. Such maturation usually requires six to nine months. Only in the case of a block autograft is it possible to advance implant placement to three months.

Figs. 28a+b: Comparison of the lateral views. Pre-op **(a)**. Post-op **(b)**. – **Fig. 29:** 12-month follow-up, intra-oral close-up.

Fig. 30: Integration of the definitive screw-retained restoration. – **Fig. 31:** 12-month radiographic follow-up.

The bone graft in the case described in this article will therefore be partially integrated into the bone structure, while the non-integrated portion will serve only as a volumetric stabiliser, similar to a filler. This portion represents the potentially weak point of the rehabilitation. However, the presence of a double connective tissue graft over it acts as a protective element by promoting adequate vascularisation of the area and facilitating a robust local immune response to safeguard the underlying tissue.

For the exposure of the implant, a waiting period of four months was observed to allow the connective tissue grafts to adequately mature. A second phase, performed with a split-thickness flap, ensured that the maturation of the GBR-treated tissue was not disturbed. In a similar case, if no soft-tissue augmentation had been necessary in the first or second phase, it would have been possible to expose the implant with the surgical guide and mucotome, performing a flapless exposure, ten to 12 weeks after implant placement. This would have allowed for the implant to osseointegrate and for the regenerated horizontal bone to mature undisturbed.

Conclusion

The comprehensive treatment of compromised aesthetic cases requires a multidisciplinary evaluation of the issues to be addressed and the possible solutions. Orthodontics can, in some cases, be an essential aid in helping to resolve complex problems in a predictable and non-invasive manner and should therefore always be considered and proposed to the patient. Mastery of mucogingival techniques allows for better management of these cases and leads to better and more stable long-term outcomes. Finally, the choice of an appropriate implant system is crucial to a good long-term prognosis in complex cases involving the aesthetic zone.

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Literature

about the author

Dr Gian Battista Greco graduated in dentistry and dental prosthetics from the University of Trieste in Italy in 2000 and completed a master's degree in prosthetics and implant prosthetics at the University of Milan in Italy in 2008. He is in private practice in Milan, focusing on implant-supported prosthetic therapy and cosmetic dentistry. He has been a member of the Italian Academy of Prosthetic Dentistry since 2002. Dr Greco can be contacted at gianbattista.greco@dentalnarco.com.

contact

Dr Gian Battista Greco
Trezzano, Italy
+39 02 4452754
Gianbattista.greco@dentalnarco.com
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Dr Gian Battista Greco

A game changer for cases with significant bone loss

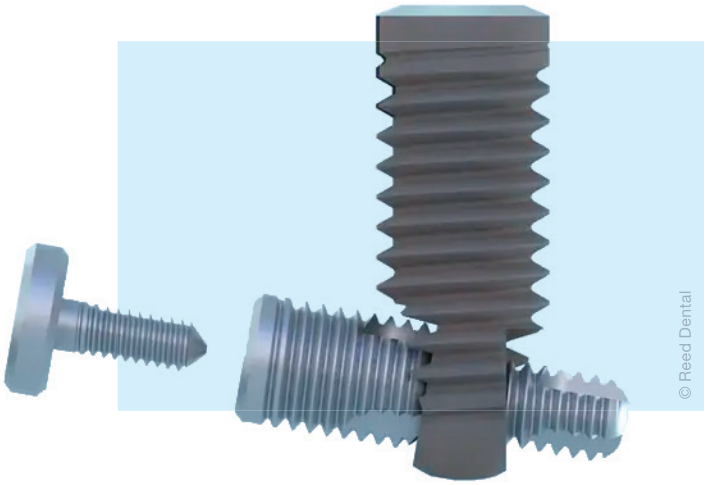
An interview with Reed Dental's Dr Gonzalo Manuel Valle

Designed to address severe bone defects in implant dentistry, the RAMAX system allows for simultaneous implant placement and bone regeneration in a single procedure. Its defining feature is a transverse screw that anchors the implant within the bone, providing enhanced primary stability even in compromised sites. In this interview, Dr Alina Ion speaks with the inventor of RAMAX, Dr Gonzalo Manuel Valle, lead clinical adviser to Reed Dental Technologies, which developed and manufactures RAMAX. Dr Valle explains the clinical rationale behind the system, its surgical application and its impact on implant dentistry.

What clinical challenges led to the development of RAMAX?
As an implantologist, I've encountered the same recurring obstacle: inadequate bone quality or volume, particularly in post-extraction, trauma and periodontal disease cases. The greatest challenge has always been the achievement of reliable primary implant stability. Without a solid foundation, micro-movements threaten osseointegration—especially in soft bone (Type III–IV)—increasing the risk of implant failure. RAMAX was born of my clinical need to overcome these limitations.

How does RAMAX address primary stability in cases with severe defects or extreme bone loss?
What sets RAMAX apart is its transverse screw mechanism, which anchors the implant directly into the cortical bone. This dual fixation—to both cortical and cancellous bone—provides immediate, superior mechanical stability. In mechanical tests conducted by an accredited external laboratory, we've measured over 80 per cent improvement in primary stability versus traditional implants. It's a game changer for cases with significant bone loss.

"We've measured over 80 per cent increase in primary stability."



What types of cases benefit most from RAMAX?
RAMAX is ideal for severe atrophy and complex situations, such as sockets with one-, two- or three-wall defects. Its versatility allows for its use in immediate loading, post-extraction placements and in reimplantation cases after failure. It can also be used as a go-to solution for high-risk patients—those with diabetes or osteoporosis or those undergoing radiotherapy—and for the aesthetic zone, where implant stability is critical from the start.

*The articles in this category are provided by the manufacturers or distributors and do not reflect the opinion of the editorial team.

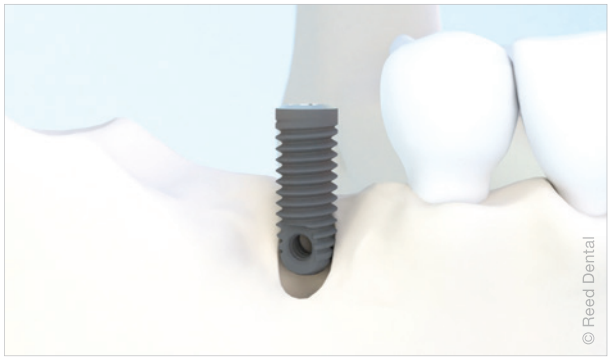
How does the biomechanics of RAMAX compare with that of traditional stability methods?

Conventional implants rely on thread compression in cancellous bone. RAMAX, however, uses a transverse screw to fix the implant in dense cortical bone—where micromovements are minimised. If needed, a cortical plate can be added and anchored by the same screw, increasing contact with dense bone. This can reduce inflammation, improve vascularisation and promote a more favourable environment for healing and osseointegration. RAMAX also distributes occlusal forces more evenly, protecting the surrounding bone—especially in areas of low bone density.

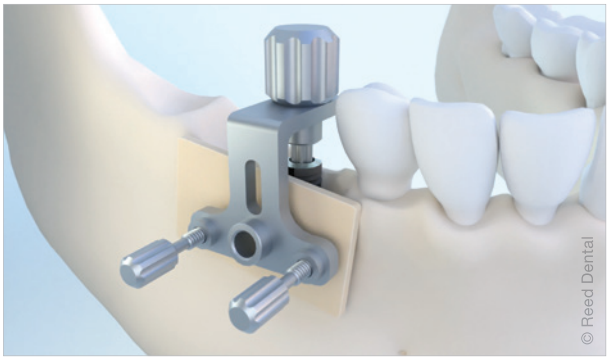
How has your surgical workflow evolved using RAMAX?

Currently, depending on the extent of bone and tissue deficiency for implant placement, using conventional methods, the clinician has to perform a graft, wait a few months and then place the implant. Using RAMAX, it is possible to routinely combine guided bone regeneration with immediate implant placement in a single procedure. This saves time, reduces the number of surgeries required and makes treatment less invasive and more predictable. Because they can leave with restored function and improved aesthetics and because treatment is less stressful, the difference is evident to patients.

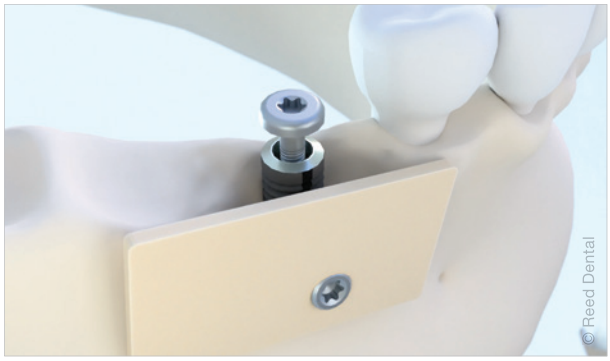
Surgical sequence with RAMAX®



Step 1: Insert the RAMAX implant into the prepared site.

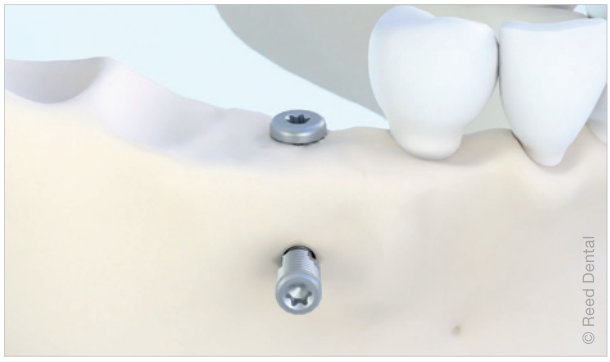


Step 2: Secure the RAMAX drill guide near the cortical plate and on the seated implant.

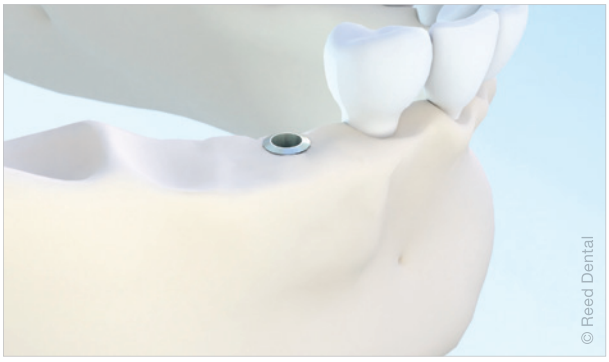


Step 3: Insert implant cover screw and the particulate bone graft material.

Step 4: Attach the membrane to the defect site with the RAMAX secondary screw.



Step 5: After healing, remove the RAMAX secondary and transverse screws.



Step 6: Finalise a traditional restoration.

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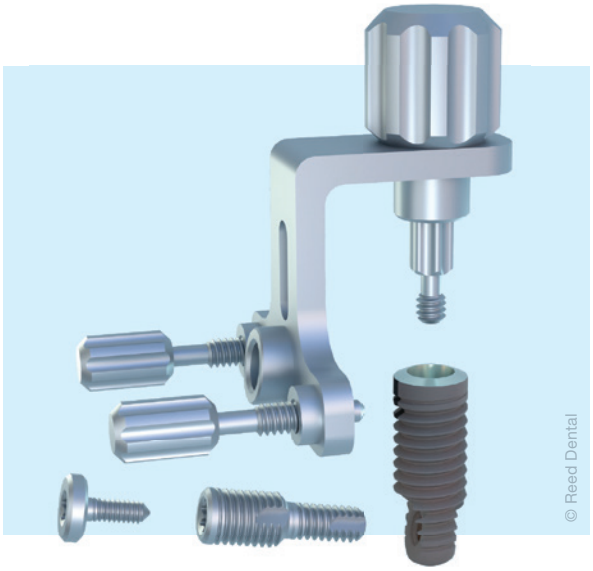
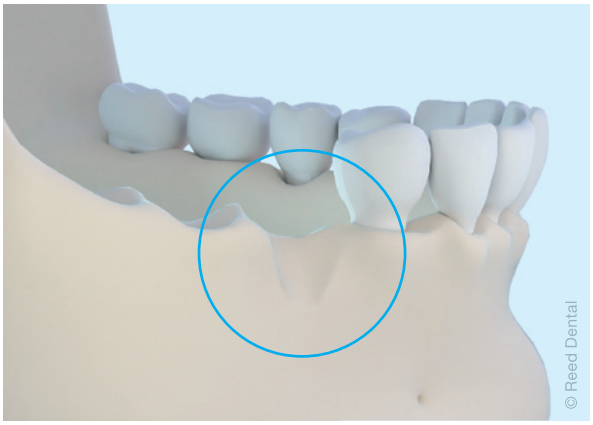


Could you share a clinical case that illustrates the impact of RAMAX?
Certainly. Consider the case of a patient presenting with a three-wall defect after a complex molar extraction. Using RAMAX, one can place the implant in the ideal position and secure a cortical plate and bone graft with the transverse screw. A membrane can also be added and secured. Implant stability is then immediate, and predictable regeneration with minimal resorption can be achieved. Using traditional techniques, such a case would normally require two surgeries and a longer timeline.

Could you tell us more about how Reed Dental approaches the development of new technologies and ensures their clinical relevance?
At Reed Dental, we solve complex clinical challenges through micromechanical innovation. Our team has designed and developed technologies like RAMAX and FlexDrive. We work with an exclusive manufacturing partner to produce one-to-one functional prototypes, validated through *in vitro* preclinical testing in our laboratory and accredited facilities. With input from key opinion leaders, we ensure that our solutions are robust and practical for future clinical use. My role is to guide preclinical development to meet real-world clinical needs.



How do you support adoption of Reed Dental innovations by clinicians?
At this stage, we do not offer our innovations directly to clinicians. Instead, we provide them as finished solutions to dental implant manufacturers. We support adoption by training manufacturers' teams and equipping them with comprehensive educational resources—including clear, step-by-step clinical protocols—to ensure smooth integration into their product lines and workflows.

What's next from Reed Dental?
At Reed Dental, our innovation strategy is rooted in clinical need, and we focus on enhancing complex rehabilitation protocols and supporting minimally invasive approaches. Feedback from the 2025 International Dental Show confirmed that our approach is well aligned with global clinical needs, and our clinically driven strategy continues to shape our research and development pipeline. While we remain focused on supporting implant manufacturers through turnkey solutions, we plan to make some of our innovations directly accessible to clinicians as of 2026—to ensure that all practitioners, not just those using our partners' systems, can benefit from our technologies.

about the author

Dr Gonzalo Manuel Valle, Lead Clinical Advisor at Reed Dental, is a highly experienced prosthodontist and oral surgeon with nearly 20 years of clinical practice. Graduated from the National University of Córdoba in Argentina, he specialises in complex oral rehabilitation and implantology.

contact

Reed Dental Technologies LLC
Lausanne, Switzerland
info@reed-dental.ch
www.reed-dental.ch

Visit our website for more information.

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Pushing the limits in regeneration

EFP and Osteology joint session at EuroPerio11, Vienna, Austria

The Osteology Foundation and the European Federation of Periodontology (EFP) hosted a high-level joint session at EuroPerio11 in Vienna. Held in Plenary Hall C, the event drew over 3,000 participants, making it the biggest session the Osteology Foundation has ever organised. Six leading experts shared the stage to present perspectives on how to advance regenerative treatment—from initial diagnostics to clinical decisions made under pressure.

Moderated by Tali Chackartchi and Ronald Jung, the session featured presentations by Istvan Urban, Isabella Rocchietta, Giovanni Zucchelli, and Otto Zuhr. Each speaker walked the audience through a complex regenerative case, focusing not only on clinical challenges but also on the personal and professional limits they encountered—openly admitting what aspects of the case made them nervous.

The session opened with Istvan Urban, widely recognised for his surgical mastery. Before presenting a spectacular case of vertical bone augmentation using his renowned sausage technique, he candidly shared the respect and careful consideration he gave to the risks involved. Despite his extensive experience, he acknowledged the natural apprehension that complex cases can bring—and demonstrated how he managed this nervousness to deliver outstanding results.

Next, Isabella Rocchietta delivered perhaps the strongest statement of the session, addressing the emotional

boundaries of treatment: “We need to know when to step back. Saying no requires honesty and putting ego aside—for the patient’s benefit. Trying without certainty is morally unacceptable. If I’m not good enough, I will refer to someone who is.”

Giovanni Zucchelli followed with a particularly demanding clinical scenario of soft-tissue regeneration in the aesthetic zone, noting that “the proximity between tooth and implant is one of the most critical situations for soft-tissue regeneration.

Closing the presentation series, Otto Zuhr reminded the audience of the importance of patient-centred care: “You have to balance the treatment decision with the individual patient’s quality of life. We have to take treatment decisions on eye level with the patient.” He also highlighted that long-term success depends equally on three pillars—evidence-based knowledge, sound decision-making, and skilled manual execution—and that neglecting any one of these undermines the entire treatment process.

During the discussion round that followed the presentations, Tali Chackartchi offered a concluding reflection on clinical decision-making: “We have to understand the biology of the tissues to understand and know the limitations.” Her comment reinforced the session’s overarching message—acknowledging boundaries is essential to achieving long-term success in regenerative treatment.

With more than 3,000 participants in attendance, the session became the largest event the Osteology Foundation has ever organised—an impressive milestone that reflects the global relevance of the topic and the strength of this collaboration.

The session not only showcased the depth of interdisciplinary expertise between the two organisations but also gave attendees a front-row seat to thought-provoking discussions and state-of-the-art regenerative techniques.

As the session drew to a close, Ronald Jung reflected on its impact, affirming that his initial promise of a transformative experience for the attendees was fully justified by the depth and honesty of the discussions.

The Osteology Foundation is grateful to the EFP for its long-term collaboration and already looks forward to the International Osteology Symposium 2026, where the EFP will also be one of the educational partners and contribute to a session in collaboration with the American Academy of Periodontology (AAP).

contact

Osteology Foundation
+41 41 3684444
info@osteology.org
www.osteology.org
www.osteology-vienna.org

Where science meets practice

The 3rd European Congress for Ceramic Implant Dentistry 2025 sets a new benchmark in Zurich

From 25 to 27 September, Zurich will become the international hub of ceramic implantology as the European Society for Ceramic Implantology (ESCI) will host the 3rd European Congress for Ceramic Implant Dentistry. This premier event brings together scientific excellence, clinically relevant education, and elite networking in a single, world-class forum. Dental professionals, implantologists, and researchers from across Europe and beyond are invited to experience a dynamic and forward-thinking congress rich in innovation, interdisciplinary exchange, and clinical mastery.

Three days of high-level knowledge exchange

The ESCI Congress presents a robust scientific programme featuring 25 internationally renowned speakers, each delivering cutting-edge insights into the latest research, time-tested clinical strategies, and emerging treatment paradigms. Whether you're seeking to deepen foundational knowledge or explore advanced interdisciplinary approaches, the congress offers a compelling blend of academic rigor and practical application.

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A variety of lectures, case presentations, and workshops will equip participants with actionable knowledge for everyday clinical practice. A key highlight: hands-on training sessions led by global experts, where attendees can refine their skills in surgical techniques and the integration of ceramic implants in aesthetic and functional dentistry.

Live surgeries, expert training, and hands-on learning

The congress opens on September 25 with a comprehensive full-day pre-congress workshop, hosted in collaboration with the Center for Dental Medicine at the University of Zurich (ZZM). This exclusive programme offers a unique clinical experience, featuring three live surgeries performed by renowned experts: Prof. Dr Ronald Jung, Dr Marc Balmer, and Dr Jens Tartsch.

The focus will be on three state-of-the-art ceramic implant systems—Straumann PURE Ceramic, NobelPearl, and the CERALOG PROGRESSIVE-LINE. Combining theoretical foundations with hands-on practice, this workshop delivers in-depth insights into contemporary ceramic implant protocols for both beginners and seasoned clinicians. With a limited group of just 20–40 participants, this immersive format ensures personalised instruction and meaningful interaction.

Elevated networking in an exclusive setting

Beyond its educational value, the congress also serves as a distinguished networking location. Attendees will enjoy a welcome reception and an elegant gala dinner at one of Zurich's exclusive venues—ideal opportunities to engage in meaningful dialogue with colleagues, speakers, and thought leaders in a relaxed, sophisticated atmosphere. All of this set against the backdrop of Zurich—a city celebrated for its commitment to excellence, cultural richness, and warm hospitality.

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A Swiss metropolis where innovation meets precision

As the host city, Zurich perfectly embodies the spirit of the congress: a global hub of scientific innovation, Swiss precision, and world-class quality. Situated in the historic old town and near the University of Zurich, the venue offers a unique blend of academic vibrancy and serene charm—providing the ideal environment for professional growth and international exchange.

Redefining the future of ceramic implantology

With its ambitious scientific agenda, hands-on training opportunities, and refined social programme, the 3rd European Congress for Ceramic Implant Dentistry 2025 is far more than a continuing education event. It is a defining moment in the evolution of ceramic implantology—shaping the future of the field across Europe and beyond.

contact

European Society for Ceramic Implantology ESCI
Kilchberg, Switzerland
info@esci-online.com
www.esci-online.com

Register now and be part of the event.

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A celebration of science, innovation and collaboration

EuroPerio11: Four unforgettable days in Vienna

EuroPerio11, the world's leading congress in periodontology and implant dentistry, ended on 17 May after four days of outstanding science, hands-on innovation, and vibrant networking in Vienna. Organised by the EFP, the triennial event once again set a new benchmark for excellence in dental congresses.

With over 10,000 participants from 107 countries and many more joining virtually, EuroPerio11 proved the enduring global relevance of periodontology. More than 100 sessions took place across the VIECON congress centre, with cutting-edge research presented by top international experts, alongside lively debates, live surgeries, and hands-on workshops.

"EuroPerio11 has surpassed our expectations," said Prof. Anton Sculean, chair of EuroPerio11. "We've seen how the global perio community continues to grow in strength, diversity, and ambition. The science presented here will influence how we practise, educate, and think about gum health for years to come. A particular highlight for me was the session with the World Health Organization (WHO), which underscored how periodontal health must gain recognition on the global health agenda. Other personal favourites included the joint symposia between the EFP and the American Academy of Periodontology (AAP), the International Academy of Periodontology (IAP), and the Osteology Foundation; the special session on Women's Oral Health; and last but not least, the three live surgeries, streamed in top-notch quality."

"EuroPerio11 has surpassed our expectations, ... We've seen how the global perio community continues to grow in strength, diversity, and ambition."

EuroPerio11 scientific chair Prof. Lior Shapira added: "The quality of the science has been exceptional. We've heard groundbreaking data on the perio-systemic connection, innovations in regenerative techniques, and practical insights into sustainability and digitalisation. We were especially proud to host an outstanding line-up of speakers at EuroPerio11, with 45 per cent of them being women. One of the most memorable moments for me was the Women and Oral Health session: the hall was full, and the audience deeply engaged with this important and often underexplored topic. Another standout was the Patient's Point of View session, which brought a truly unique perspective to the congress. After three years of dedicated work, it was incredibly rewarding to see it all come together so successfully!"

Beyond the lecture halls, EuroPerio11 provided attendees with a rich programme of social and networking opportunities. Highlights included the EuroPerio11 Charity Run on Thursday morning joined by more than 400 participants and the spectacular congress party at Weitsicht Cobenzl on Friday night, where 2,000 guests danced, mingled, and celebrated against the stunning backdrop of Vienna's vineyards.

Thanks to its hybrid format, offering full virtual access to live-streamed and on-demand content, participants from

"The quality of the science has been exceptional. ... We were especially proud to host an outstanding line-up of speakers at EuroPerio11, with 45 per cent of them being women."

around the world were able to experience the congress remotely, reinforcing the EFP's commitment to accessibility and innovation in continuing education.

EuroPerio11 content is now available to all participants on the virtual platform with their individual logins. Delegates received an e-mail with the details at the end of the meeting.

As participants return home, the EFP looks ahead to building on the momentum of EuroPerio11. The congress may be over, but the work continues, with fresh knowledge, renewed connections, and a shared commitment to promoting gum health as a cornerstone of general health.

"Thank you to everyone who made EuroPerio11 possible: the speakers, delegates, sponsors, volunteers, and organising team. Your passion and participation are what make this event truly exceptional," concluded Prof. Sculean.

"We look forward to seeing you at EuroPerio12 in 2028 in Munich, Germany!"

Source: EFP

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The 15th Laser & Health Academy Symposium

Inspiring the next era of laser technology

Over 700 professionals from around the globe convened in Portorož, Slovenia, for the 15th Laser & Health Academy (LA&HA®) Symposium. This year, the Dental Section spotlighted SWEEPS® with a full-day programme, marking 2025 as the Year of SWEEPS photoacoustic irrigation. Known for its minimally invasive, chamber-confined technique, SWEEPS enhances irrigation with a powerful cavitation process that thoroughly cleans complex anatomy—including curves, isthmuses, and lateral canals—while improving safety, comfort, and efficiency. Beyond endodontics, it shows promise in peri-implant, periodontal, and surgical applications.

Eight focused lectures concluded with the SWEEPS Expert Summit, where global leaders Dr Roeland DeMoor, Dr Giovanni Olivi, Dr Damir Šnjarić, and Dr Ilay Maden shared protocols and clinical insights. The LA&HA® Symposium remains a vital link between research and clinical innovation.
Join us next year!

LA&HA, Laser and Health Academy
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Curaden

The perfect brush for preventing peri-implantitis


© Curaden

Peri-implantitis remains a challenge in modern implantology. To help patients clean around implant-supported prostheses, Prof. Dr Hugo Roberto Lewgoy—dentist and researcher at the University of São Paulo—co-developed the CS 708 brush with Curaprox.
"The problem was clear," says Dr Lewgoy. "Patients lacked a tool to clean under fixed dentures. Traditional brushes can't reach those critical areas. The CS 708 is ideal for cleaning the peri-implant environment, under prosthetic structures, and around fixed orthodontic appliances."

An adaptable tool
"We knew the brush needed a very small head and dual angulation—at the handle and at the neck," says Dr Lewgoy. "Patients face similar hygiene challenges, but each mouth is anatomically unique. This brush is universally adaptable."

© Curaden

"Peri-implantitis can be fully prevented through consistent mechanical biofilm control. And tools like the CS 708 are designed to make this control accessible to patients."

Curaden AG
info@curaden.ch
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Congresses, courses and symposia

FDI World Dental Congress

9–12 September 2025
Shanghai, China
www.fdiworlddental.org

EAO-SFPIO Joint Meeting

18–20 September 2025
Monaco
www.congress.eao.org

3. European Congress for Ceramic Implant Dentistry

25–27 September 2025
Zurich, Switzerland
www.esci-online.com

International Blood Concentrate Day

25–26 September 2025
Frankfurt am Main, Germany
www.bc-day.info

54th International Annual Congress of DGZI

3–4 October 2025
Hamburg, Germany
www.dgzi-jahreskongress.de

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Publisher
Torsten R. Oemus
oemus@oemus-media.de

Board
Ingolf Döbbecke
doebbecke@oemus-media.de

Lutz V. Hiller
hiller@oemus-media.de

Torsten R. Oemus
oemus@oemus-media.de

Chief Editorial Manager
Dr Torsten Hartmann (V. i. S. d. P.)
hartmann@dentalnet.de

Editorial Council
Dr Rolf Vollmer
info.vollmer@t-online.de

Dr Georg Bach
doc.bach@t-online.de

Dr Suheil Boutros
SMBoutros@aol.com

Editorial Management
Dr Alina Ion
a.ion@oemus-media.de

Executive Producer
Gernot Meyer
meyer@oemus-media.de

Product Manager
Timo Krause
t.krause@oemus-media.de

Art Director
Alexander Jahn
a.jahn@oemus-media.de

Designer
Aniko Holzer
a.holzer@oemus-media.de

Customer Service
Lysann Reichardt
l.reichardt@oemus-media.de

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04229 Leipzig, Germany
Phone: +49 341 48474-0
Fax: +49 341 48474-290
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34253 Lohfelden, Germany

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DGZI
DGZI Central Office
Paulusstraße 1
40237 Düsseldorf, Germany
Phone: +49 211 16970-77
Fax: +49 211 16970-66
office@dgzi-info.de

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IMPLANTOLOGY IN TENSION BETWEEN PRACTICE AND SCIENCE

54TH ANNUAL CONGRESS OF DGZI

3–4 OCTOBER 2025
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