

Eric Van Dooren | Florin Cofar
Victor Clavijo | Gustavo Giordani | Venceslav Stankov



Interdisciplinary Esthetic Dentistry

_basics

Planning and execution

Volume 1

The
big
Picture



Foreword



First and foremost, this book is written by clinicians for clinicians. It always aims for a pragmatic approach to solving problems in the clinical reality. By mixing timeless concepts with ever-evolving technology, it takes the reader on a journey, providing both the context and the solutions to problems we face every day.

The clinical work in this book has been executed on a time frame of 30 years, across 3 different geographic and cultural realities (Western Europe, Eastern Europe and Brazil), yet sharing a common and congruent vision on how to approach dentistry.

This book is a compendium of core interdisciplinary concepts and ever-evolving tools and workflows to handle complex scenarios. Last but not least, it is a tribute to the people we worked with, and probably most important, it is a tribute to the people we served.

We wish you happy reading.

Eric Van Dooren and Florin Cofar



Eric Van Dooren, DDS

Dr Van Dooren attended the Katholieke University in Leuven, Belgium, where he received his degree in dentistry in 1982.

After graduation, he opened a private practice in periodontics, fixed prosthodontics, and implants in Antwerp, Belgium.

He is an active member of the European Academy of Esthetic Dentistry.

Dr Van Dooren lectures nationally and internationally mainly on esthetics, implants, and esthetic periodontal surgery.



Florin Cofar, DDS

Dr Cofar graduated University Victor Babes, Timisoara, Romania, in 2007.

He is specialised in interdisciplinary esthetic dentistry, with a broad expertise on digital technology.

As a philosophy, he is geared towards clinical pragmatism, efficient and meaningful use of technology to broaden the holistic diagnosis and treatment capabilities in oral rehabilitations.

Currently lectures worldwide and practices in Timisoara, Romania.





Victor Clavijo, DDS

Dr Clavijo holds a degree in Dentistry from Universidade Paulista, São Paulo, Brazil (2002) and obtained the title of Specialist, Master and Doctor in Restorative Dentistry, from UNESP Araraquara (2003–2011).

Despite his academic background, his focus is on clinical care. He has followed in the footsteps of his father, who has been a clinician for over 50 years in the city of Indaiatuba, São Paulo, Brazil.

He has more than 60 articles published in national and international journals and has authored and co-authored books in the dental field. His work is based on clinical and scientific evidence.

Currently, he divides his time between appointments at his clinic, classes, and courses in Brazil and abroad. In addition, he contributes to research in dentistry; he conducts research annually at the University of Southern California, Los Angeles, USA, as a visiting professor.



Gustavo Giordani, DDS

Dr Giordani has specialized in maxillofacial and periodontal surgery, and implantology. After graduating from the Universidade Paulista (UNIP), São Paulo, Brazil, he took a fellowship in Belgium, on “Implants and Periodontal Plastic Surgery” with Dr Eric Van Dooren, collaborating with him to the present day. Dr Giordani is treating cases in an interdisciplinary fashion, working with specialists all over the world.

He lectures internationally on soft tissue management, periodontology, and implantology in prosthetic treatments. His main focus is treatment for gummy smile, esthetic crown lengthening, root coverage, gingival grafts, and immediate implants. He works closely with the Dentcof team and Ateliê Oral, one of the most successful dental clinics in São Paulo.



Venceslav Stankov, DDS

Dr Stankov is among the best-positioned professionals in the domain of dental medicine in Bulgaria. He manages a team of 24 staff as the Chief Doctor at the Dr Stankov Dental Clinique. His clinical work is focused on end-to-end esthetic treatment in dental medicine, implantology, periodontal plastic microsurgery, periodontal regeneration, complex cases of prosthetics on natural teeth, and implants. He is a renowned and influential national lecturer and a trendsetter in his area of expertise.

He has taught several postgraduate courses in the fields of periodontology and prosthetics. He won second prize in the 1-year Global Institute for Dental Education (GIDE) master program at the University of California, Los Angeles, USA, in 2013.

His career started after he graduated in dental medicine at the Faculty of Dental Medicine, Medical University of Plovdiv, Bulgaria, in 2007. He is a visiting lecturer at the Zimmer Institute, Switzerland. He is an active member of the Bulgarian Academy of Esthetic Dentistry, the GIDE Study Club, and the Zimmer Club.





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Orthodontics

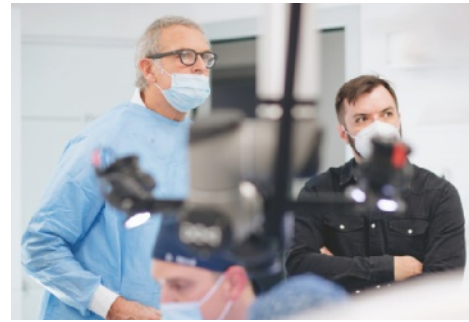
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Interactive videos

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among those with augmented reality content.

Locate

clinical photographs with the augmented reality symbol.

Roll over

these photos on your smartphone or tablet using the app to play the videos.





Final prosthetic rehabilitation

This one-step protocol, the use of a dental...
is an essential element. It will allow...
perfect isolation of the surgical field.
The prosthetic elements can then be...
assembled in complete safety, protected...
from blood and saliva. The surgical field...
before guarantees the durability



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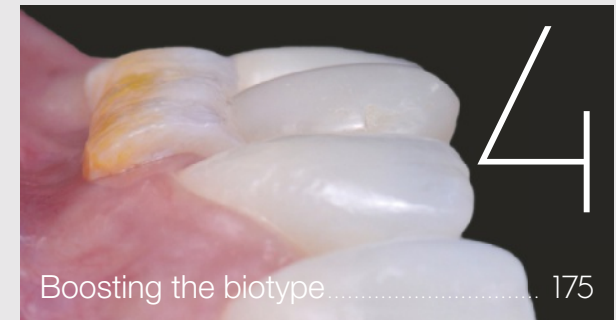
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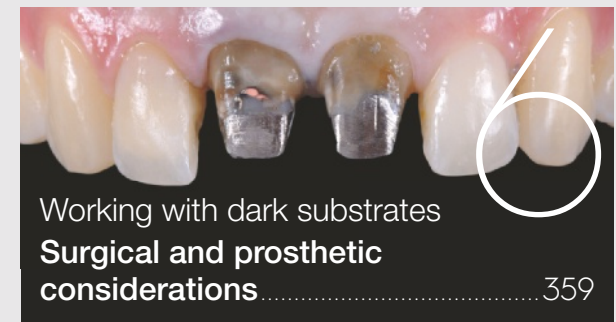
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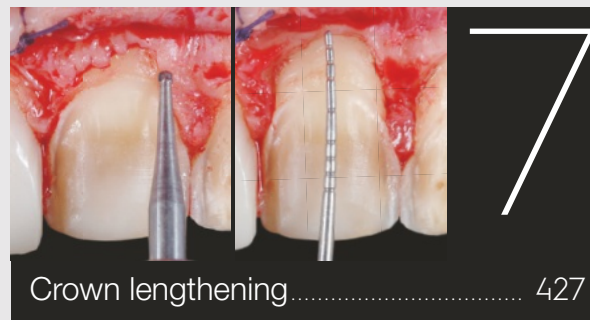
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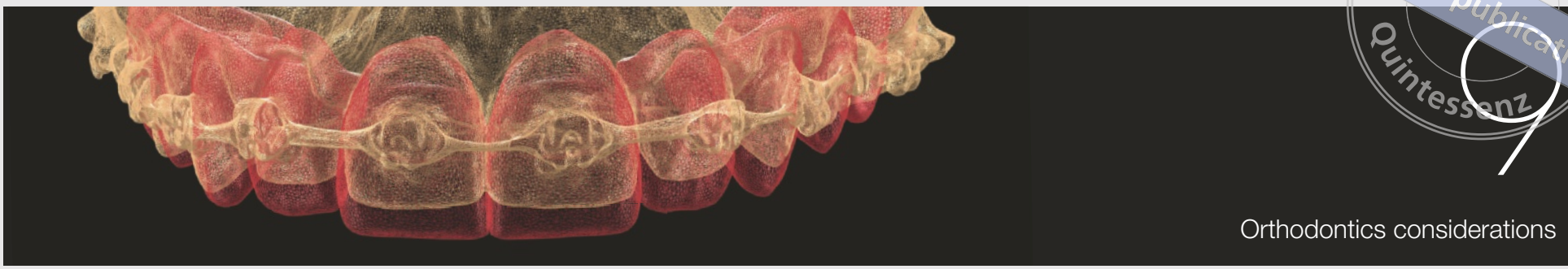
Interactive videos

This book contains augmented reality

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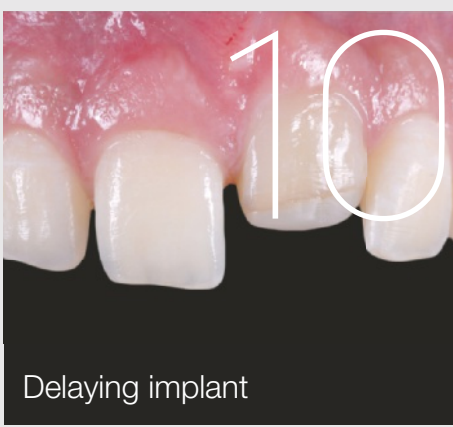
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_synergies Optimising complex cases – Volume 2



Orthodontics considerations

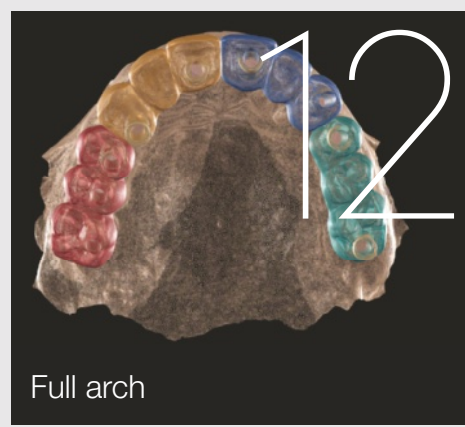
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Delaying implant



The central-lateral incisor dilemma



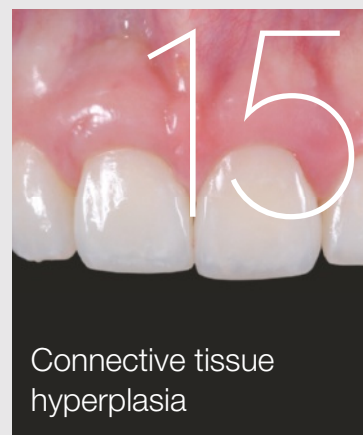
Full arch



Retreatment 1



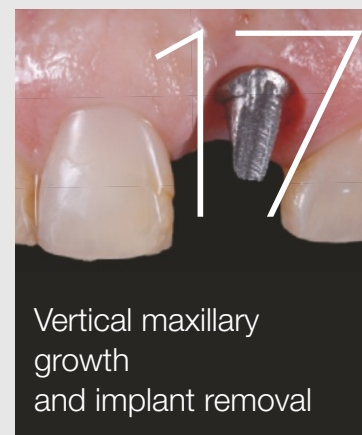
Retreatment 2



Connective tissue hyperplasia



Vertical maxillary growth in young adults



Vertical maxillary growth and implant removal



The pink gingival restoration



Esthetic analysis

Conventional smile design



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Introduction



successful outcome depends on a well-organized and step-by-step approach, a meticulous treatment planning protocol, and basic knowledge of prosthetic and surgical concepts. The entire treatment sequence for the patient can be divided into four equally important steps:

- **The first step** is about clinical examination, periodontal assessment, collection of the data needed to treat the case, and esthetic analysis to establish a proper diagnosis and to transmit the correct information to the laboratory; receiving accurate information from the clinician is important so that the occlusal plane is not skewed, the midline is not canted, and functional problems are not incorporated into the diagnostic wax-up that will be used to build the esthetic project.
- **The second step** is to build the ideal design for the patient and validate it with a mock-up to get the patient to approve treatment.
- **The third step** includes all the sequences of treatment needed to reach this goal.
- **The fourth step** is the final prosthetic rehabilitation.

A final step should be added to all treatment plans, that is, maintenance and hygiene; the last part of this book is all about the long-term challenge we face with our rehabilitations and focuses on these issues.





Clinical situation



42-year-old woman was referred to our clinic by an orthodontist. Her main complaints were the unesthetic appearance of her smile, particularly the anterior segments, and sensitivity in her left central incisor. Her goals in seeking treatment were to improve the esthetics and create balance and harmony in her smile.

Because she had been complaining about sensitivity in her left central incisor, she was referred to an endodontist for evaluation before any further treatment. The endodontist confirmed a root fracture in the left central incisor; that tooth should be planned for extraction and implant placement.





Step one Observe

Backgrounds

- 42-year-old woman
- Referred by her orthodontist
- Left central incisor planned for extraction

Complaint

- Improve the esthetics
- Create balance and harmony in her smile

Face

- Harmony: substantial canting of the maxilla
- Symmetry: deviation of the midline
- Substantial canting of the anterior segment

Smile

- Slight gummy smile
- Asymmetry in the form of the central incisors
- Old discolored composite material

“ The observation always starts with the patient’s face, then little by little we focus on smaller and smaller details. Relating the smile and the tooth display to the face of the patient is crucial for a proper smile design. ”

Record

Key elements for the development of the esthetic and functional treatment plan



Extraoral frontal view perfectly centered to avoid any distortion; extraoral lateral views



Extraoral close up of the smile

1. Extraoral photographs



“ At this step, video recording can be useful to have a full understanding of the lip dynamics of the patient. ”

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“ It is essential to think like an architect
before you act like a dentist. ”



Step one

Record

Key elements for the development of the esthetic and functional treatment plan

2. Intraoral photographs

- Frontal view perfectly centered to avoid any distortion
- Lateral views
- 12 o'clock picture

3. Intraoral radiographs

- Apical radiolucency around the roots of the left central and lateral incisors

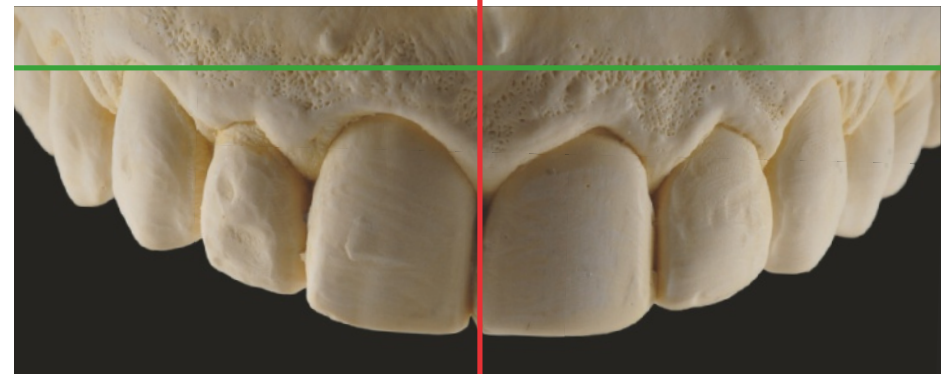
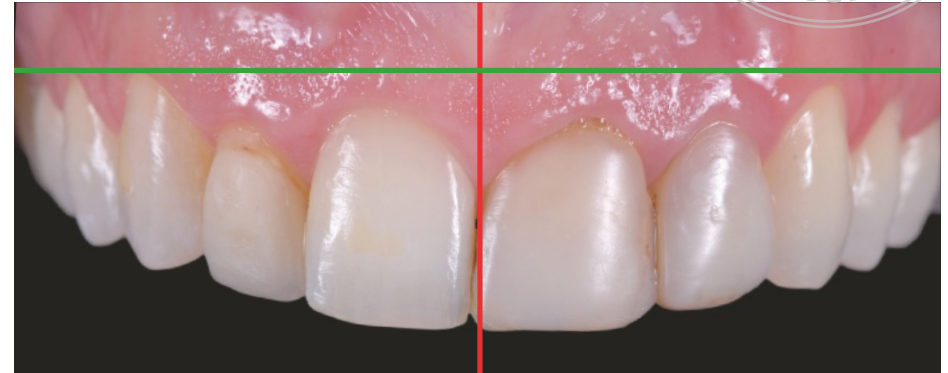
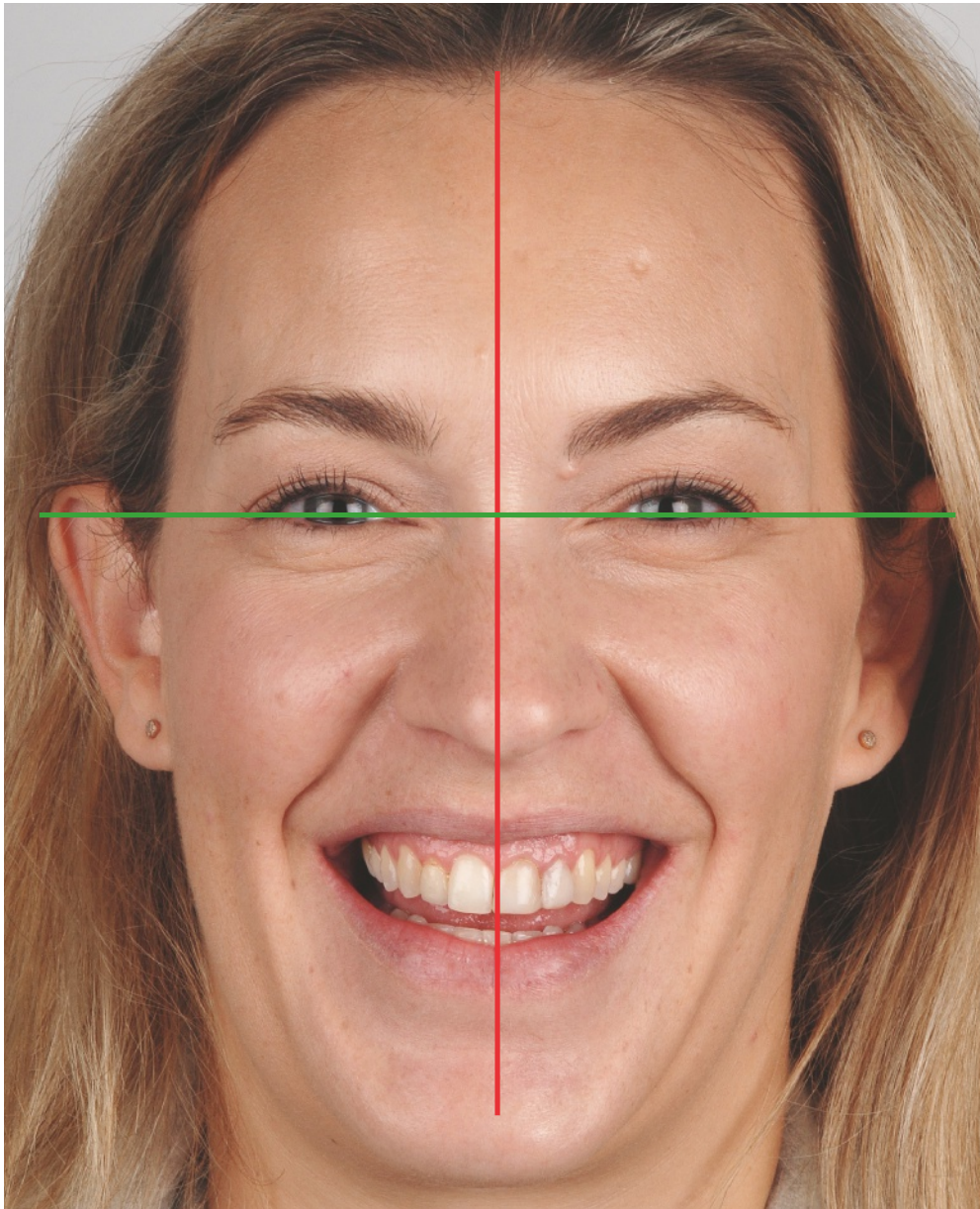


4. Impression

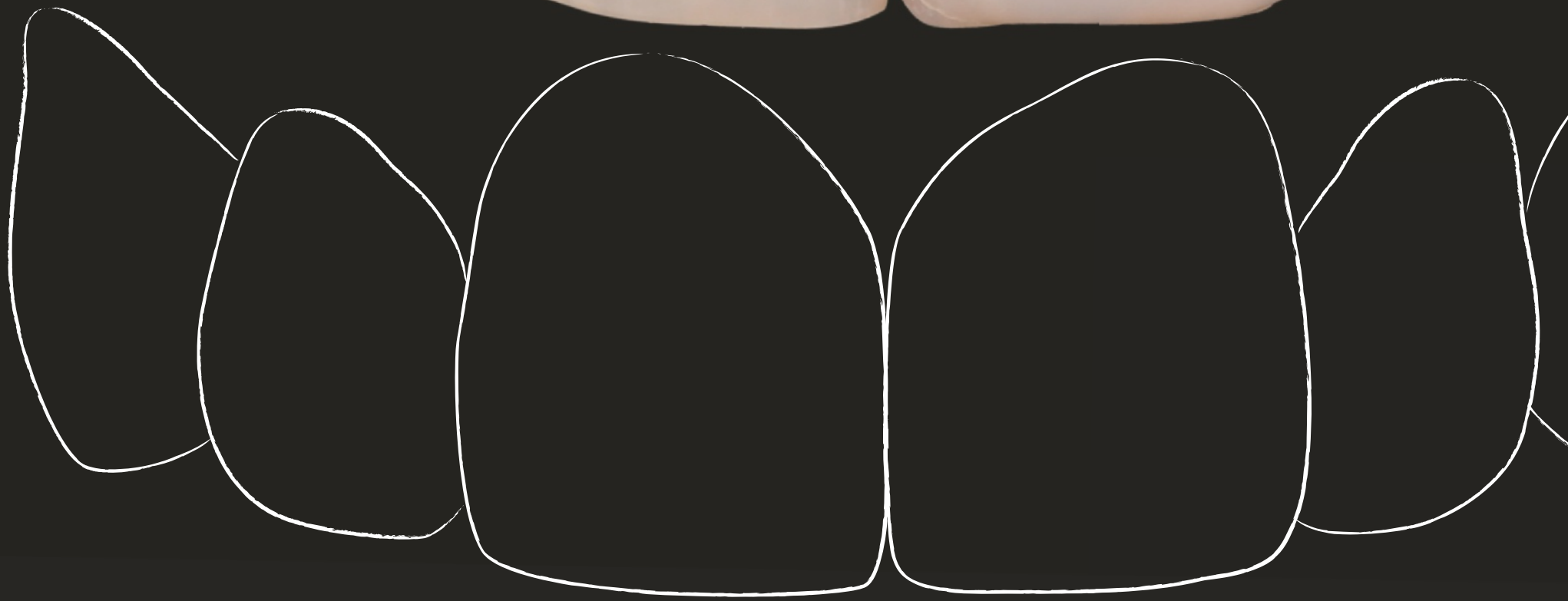


“ Special attention must be paid to the impressions needed to obtain the study casts to ensure that the information is transmitted faithfully to the laboratory. ”

5. Facial references



“ The easiest way to transfer this canting of the midline to the laboratory is to draw two lines on the intraoral photograph. First, a horizontal line should be drawn parallel to the pupillary line. Second, a midline should be drawn, preferably perpendicular to the horizontal line. The two same lines are then drawn on the study cast. ”

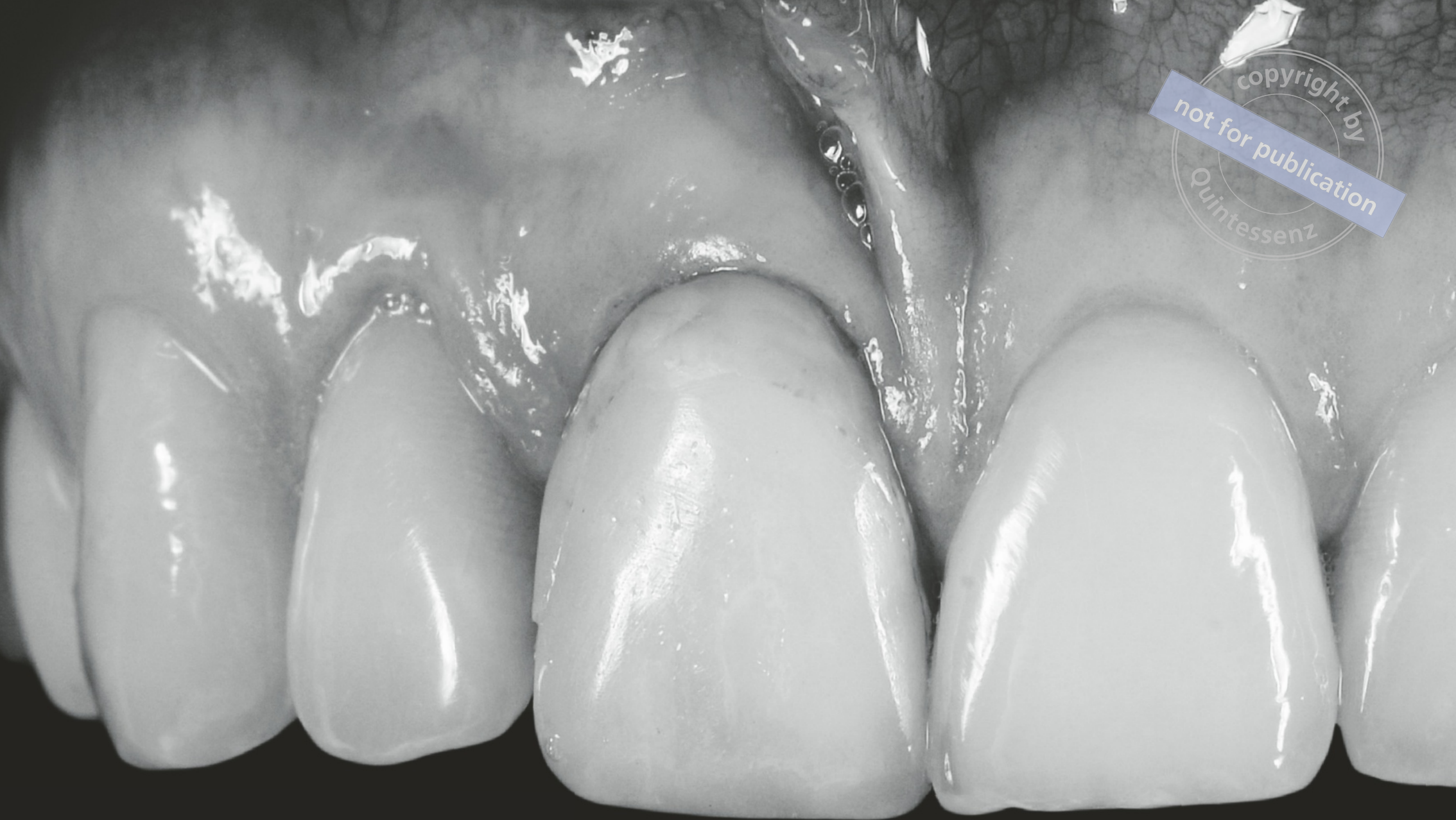


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Nonsurgical soft tissue
management
**Reshaping 3D
root configuration**

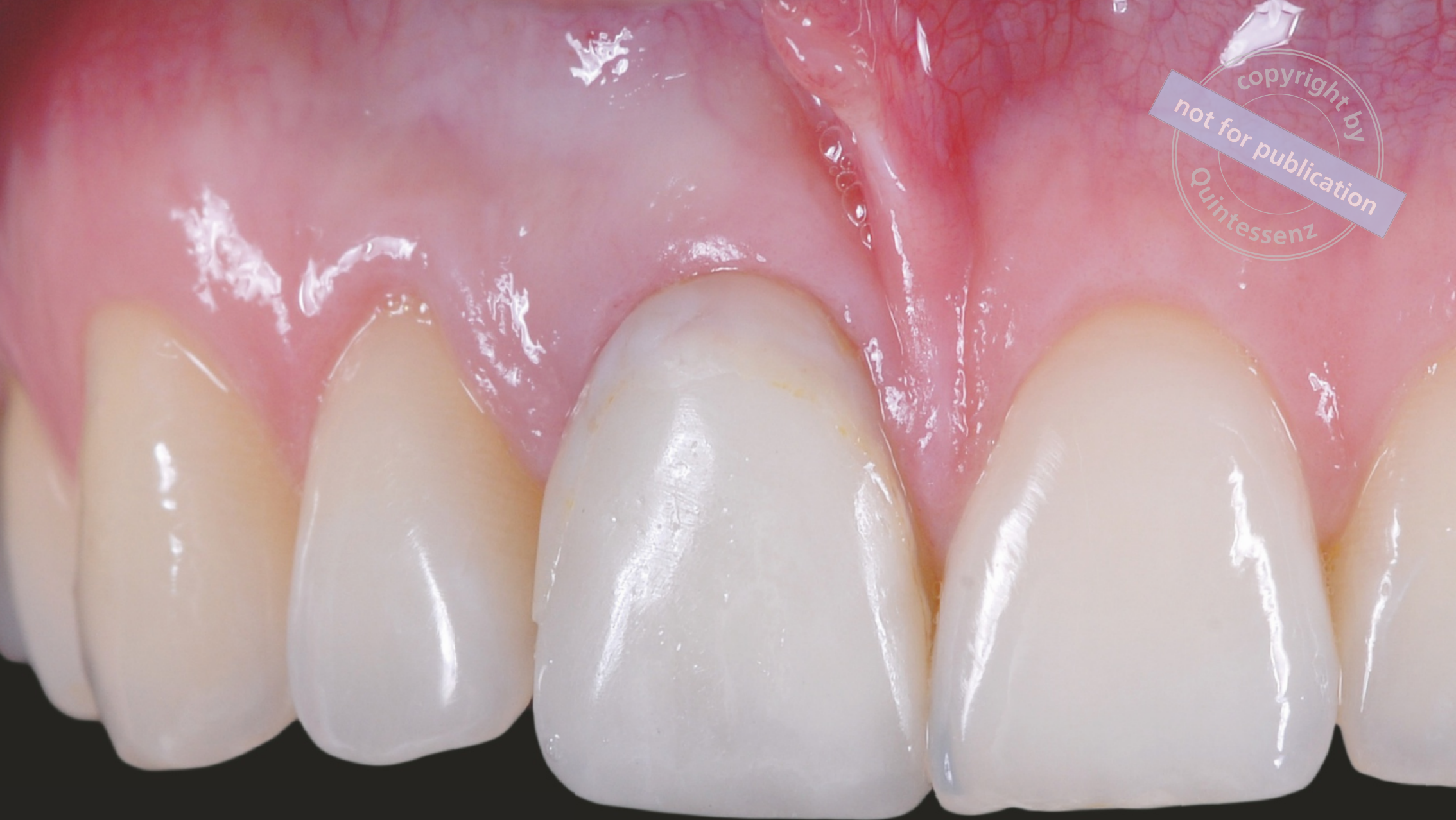


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Introduction

Historically, implant restorations were the first to benefit from the design-induced healing. Indeed, implants are always surmounted by prosthetic parts that allow to model the peri-implant mucosa. These parts were initially premanufactured, resulting in standardized healing; with the introduction of cervical contouring by Bichacho, we began to produce individualized parts based on a working model with the desired modifications and were thus able to model and measure the peri-implant tissues. These modifications were in most cases purely subtractive at the tissue level, but we began to understand the effect of subtractive techniques at the level of the designs themselves and understood that we could work with the tissue in both directions: a subtractive technique at the level of the prosthetic element allows us to obtain a gain of gingival volume and a displacement of tissues in the coronal direction, whereas an additive technique at the level of the prosthetic element (identical to the subtractive technique carried out on the model during cervical contouring) causes a decrease of gingival volume and tissue displacement in an apical direction. The two clinical cases described in this chapter perfectly illustrate this treatment approach.



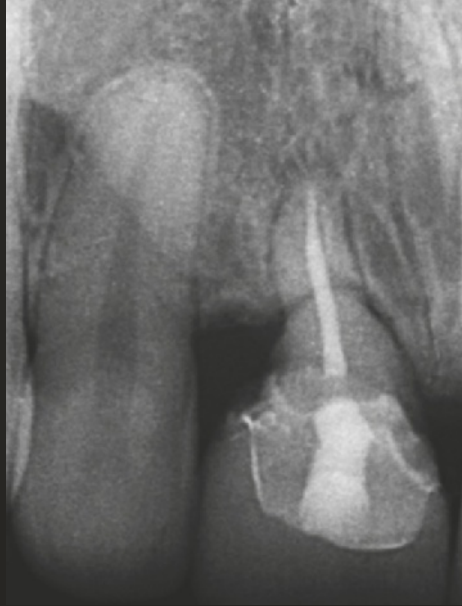


Clinical situation 1

This 27-year-old patient was referred to us for replacement of her right maxillary incisor. She is particularly concerned about the mobility of her right incisor. She would also like to improve the esthetic aspect of her incisor but her first motivation is clearly not to remain without teeth. Her practitioner has already discussed the implant with her and she would like to avoid a transitional removable prosthesis as much as possible.



“ The observation always starts with the patient’s face, then little by little we focus on smaller and smaller details. Relating the smile and the tooth display to the face of the patient is crucial for a proper smile design. ”



Step one Observe

Backgrounds

- 27-year-old woman
- Referred by her orthodontist
- Left central incisor planned for extraction

Complaint

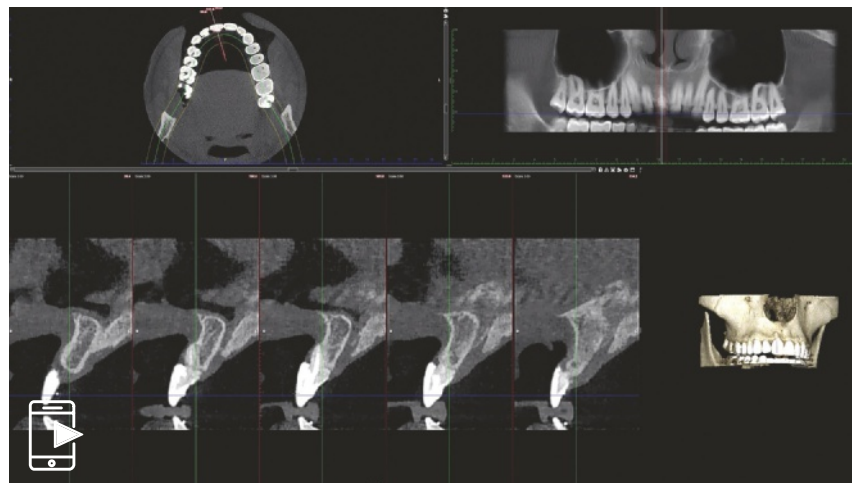
- Improve the esthetics
- Create balance and harmony in her smile

Face

- Harmony: substantial canting of the maxilla
- Symmetry: deviation of the midline
- Skin

Smile

- Forced smile, physiologic rest
- Lips
- Teeth: discrepancies in shape and size of the incisors





Altering the gingival profile and contour



Step two

Altering the gingival profile and contour

On closer examination, we can see that the patient has a recession on the right maxillary lateral incisor, the necks of the two central incisors have shifted, and we can note a deficit of vestibular tissue on the right maxillary central incisor, as well as a thickness defect on its distal papilla. Starting treatment with these parameters, it is risky to fix a defect at the time of extraction and it is also risky not to locate the

implant platform at the right level in the vertical plane. It is therefore essential in this type of situation to start correcting the periodontal environment even before extraction by reworking the dental substrate. This is an extremely simple procedure from a technical point of view and this 3D reconfiguration of the emergence of the tooth will allow an extremely important simplification of the situation.

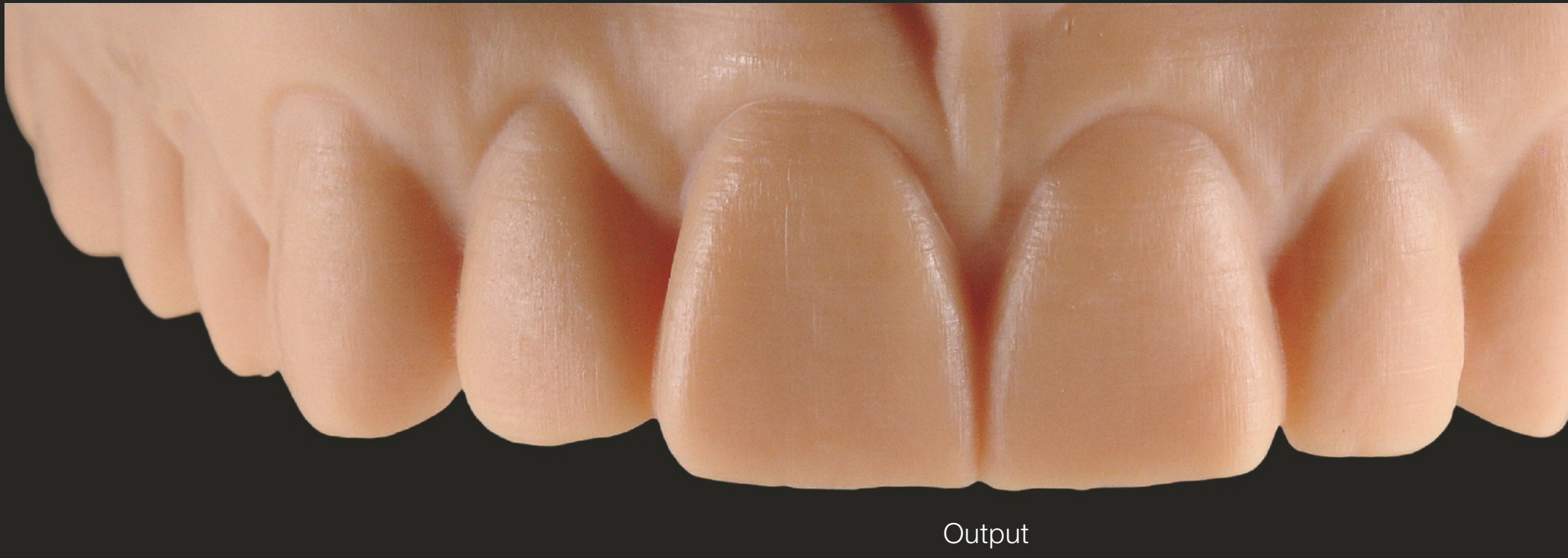
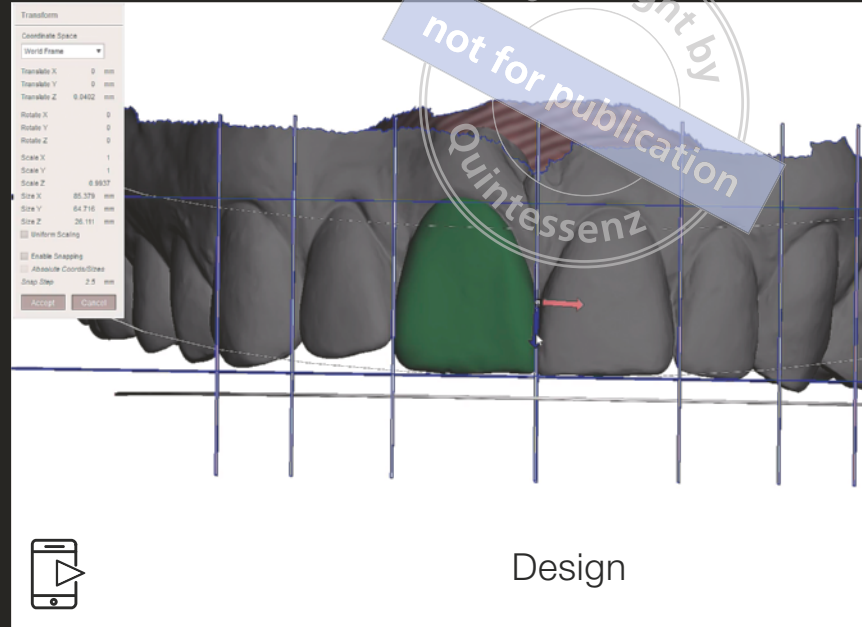
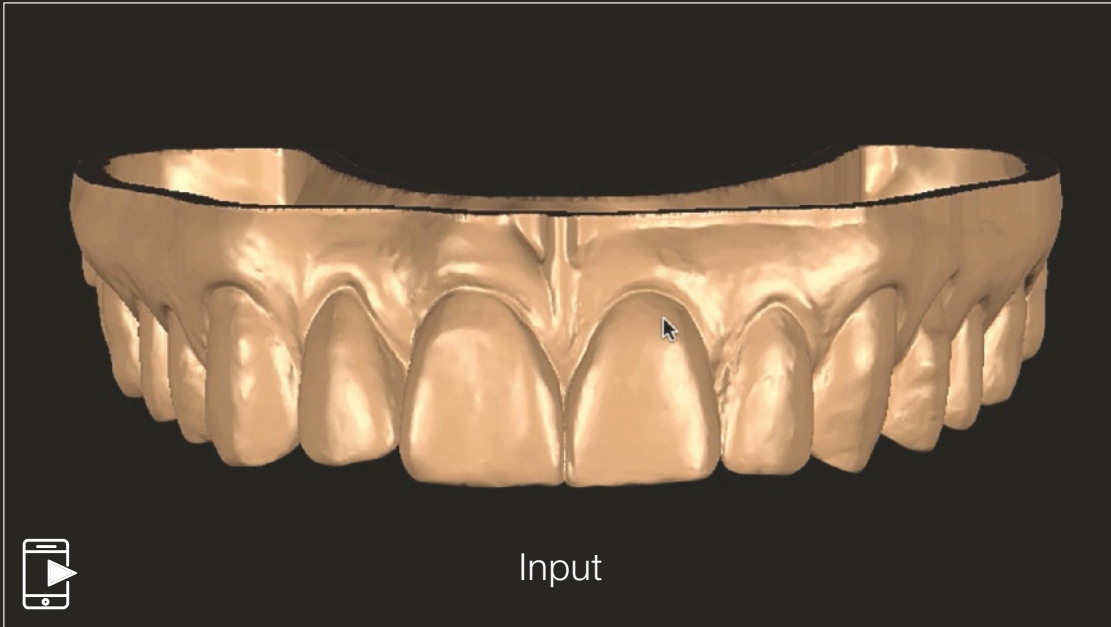
“ Visualizing the final design before performing any surgical or prosthetic procedure is key to success and will allow formulation of the right treatment plan for your patient. ”

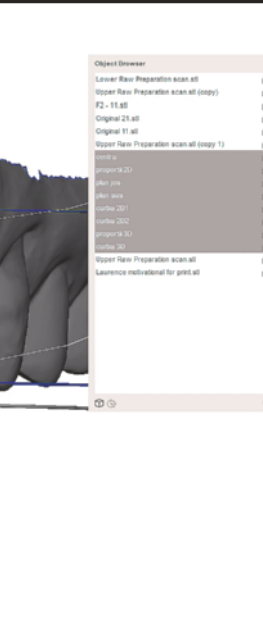
“ Altering the gingival profile and contour is an extremely simple clinical procedure that in some situations leads to a radical change in the clinical situation. Here, we can observe that the two necks of the maxillary central incisors are aligned and that the vestibular tissue deficit has also decreases; only the thickness defect at the distal papillary level remains. ”





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Step two

Initial design

One of the major benefits of digital dentistry is the introduction of copy and paste dentistry. In situations where the goal is to integrate in the finest way with the existing environment, the ideal shape is at hand and is now extremely easy to reproduce. In this case, it is the shape of the left maxillary central incisor that can be easily selected and adapted to the site of the right maxillary central incisor. Quickly and efficiently, the laboratory technician can obtain

the ideal design for this tooth to be replaced, with the guarantee that it will easily fit into its new environment. The study of this design also determines the amount of tissue still missing around the tooth and will guide the connective tissue graft that will heal itself according to the established design. Once finalized, this ideal design can be printed and a silicone key will provide the ideal mock-up.

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Initial preparation and removal of composite



Ideal 3D position of periodontic–prosthodontic interface





Step two

Mock-up

At this stage, the composite is deposited and the tooth is roughly prepared with the sole objective of providing sufficient space for the mock-up. The mock-up is made using the silicone key created on the printed model, and good integration of the final design is validated.

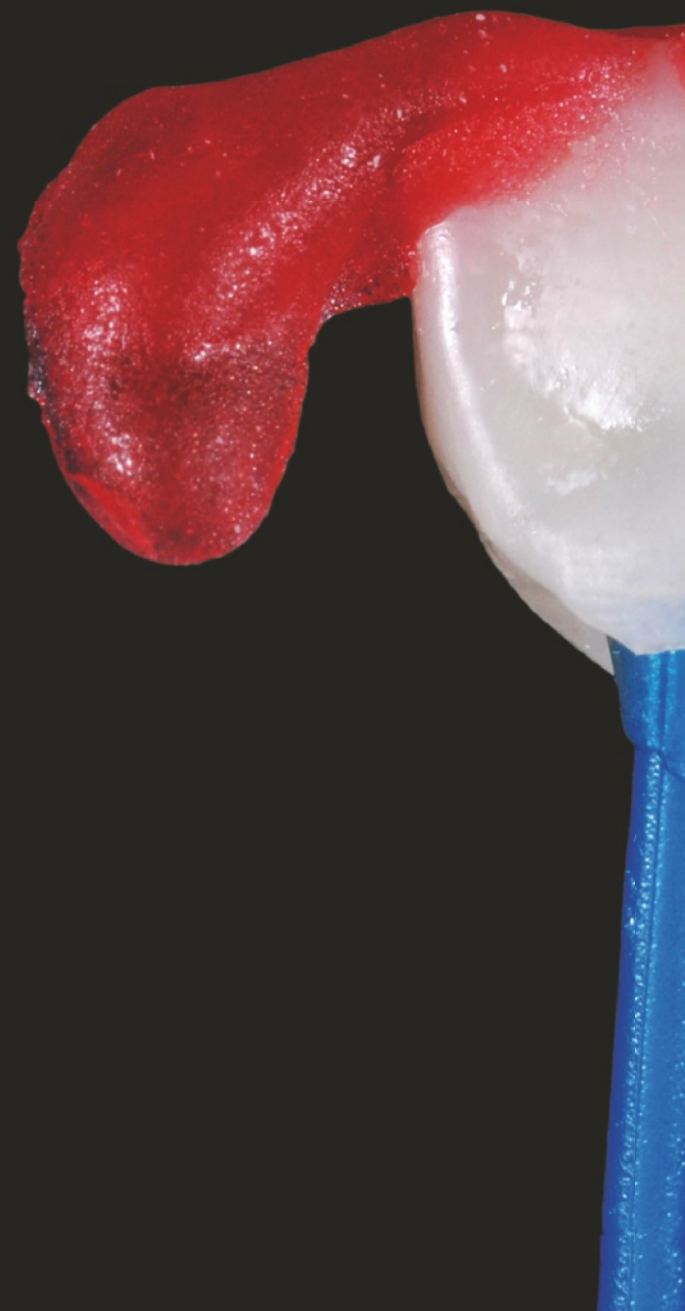
A Duralay resin index is made, which allows the prosthetic tooth to be repositioned in an exact 3D position during the extraction and implantation procedure. Another way to do this would have been to have a provisional made with distal and mesial fins for temporization at the implant stage.

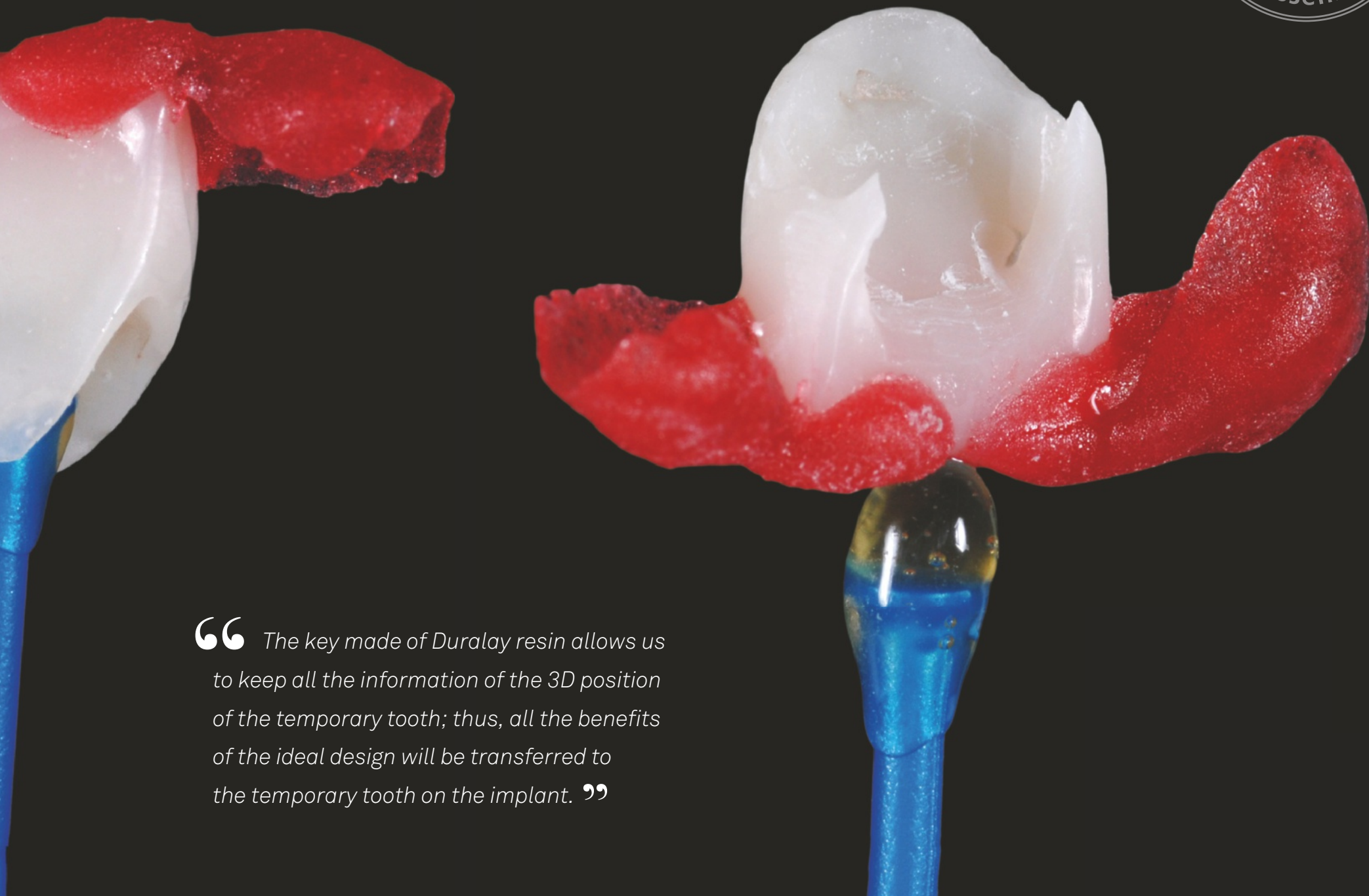
“ Visualizing the final design before performing any surgical or prosthetic act is key to success and will allow you to right treatment plan for your patient. ”



Tips and tricks

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“ The key made of Duralay resin allows us to keep all the information of the 3D position of the temporary tooth; thus, all the benefits of the ideal design will be transferred to the temporary tooth on the implant. ”