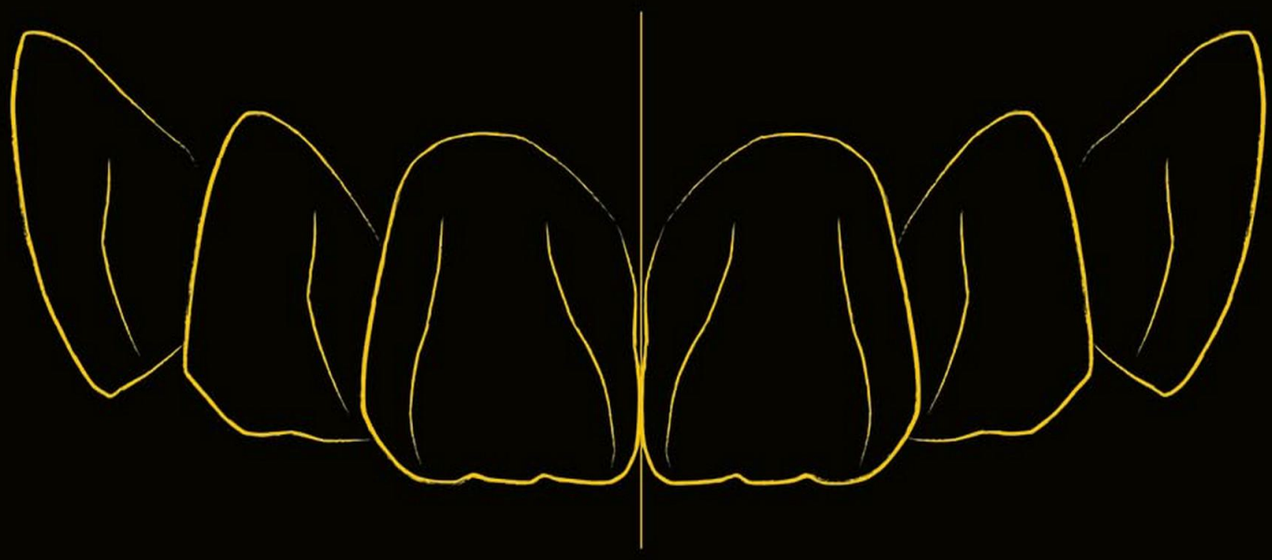
Mario Imburgia

Resmiling

Restyling smiles with vertical veneers



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Restyling smiles with vertical veneers

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Restyling smiles with vertical veneers

by

MARIO IMBURGIA

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The master has failed more times
than the beginner has tried

Stephen McCranie

This book shows a workflow based on the integration of esthetic restoration in the context of the patient's face through the use of completely digital methods, but above all by using minimally invasive techniques that can preserve the dental substance.
This method is reproducible, teachable, innovative, scalable, and close to being a start-up! Like managing a small 'spin-off' of your practice, implementing these concepts provides a better quality and quantity of patient care!

What patients want

Every day, patients ask us to improve the esthetics of their smile, but often we are faced with doubts and uncertainties that can make this pathway a dead end:

- I want to improve the esthetics, but I don't know what I don't like...
- I don't want to have filed teeth because they weaken...
- Can I see the final result first?
- Can you assure me that it will end up like this?

If these are the questions you repeatedly hear from your patients, you will find the answers in this book!

- How to carefully plan esthetic rehabilitation.
- How to achieve simple, fast, but effective and complete data collection.
- Discover the patient's real expectations and integrate them into the treatment plan.
- How to rehabilitate the patient by preparing their teeth as low as possible.
- Adopt a predictable and repeatable workflow every day with a huge benefit for you and your clinic.

The first visit in dentistry and the proposal of esthetic treatments

Author: Prof Dr Michele Cassetta

Pleasures, joys, laughter, jokes, as well as pain and sorrow arise from the brain, only from the brain.
(Hippocrates)

During the first visit, in just a few minutes, the dentist and the patient assess each other on the basis of evaluation criteria that are often subconscious. This judgment will affect the entire relationship.
Communication is a real moment of care, during which the emotional and rational parts of the brain, automatic behaviors, recurring habits, memories of previous experiences, and personal beliefs come into play.
The interpersonal relationship is an extremely dynamic event, which changes according to the communicators and the context; it is important to know how to choose, from time to time, which is the most effective behavior, among the many possible ones.
Each dental treatment plan must be presented in a different way, according to its nature and the individual patient: proposing an esthetic treatment is not like proposing an implant–prosthetic or surgical one because it addresses different types of patients, who are motivated by different needs.
Therefore, it is essential to be able to collect quality information about the patient, understand their expectations, motivate them in a personalized way, explain things in a clear and easy-to-remember way, and check their level of understanding.
This competence can lead to an increase in the acceptance of treatment plans, a greater adherence to therapeutic paths, a decrease in medico-legal disputes, and lower tension related to dental services. These are all aspects that improve the relationship with the patient and the quality of the professional and personal life of each dentist.

Premises

The moment of communication is a real act of care

During the first visit, in the first few minutes of the clinician–patient relationship, the conditions are created for the birth of a healthy therapeutic alliance. The human brain has developed over hundreds of thousands of years with the aim of surviving; therefore, in some situations, such as those related to health, it is particularly receptive to grasping and judging every element needed to reach a quick judgment: the warmth of the welcome, the first words, the looks and smiles, the environment of the office, the feeling of authority transmitted by the dentist, are all aspects that are grasped and judged often at a subconscious level.
The dentist must be aware that communication is an act of care and must be managed with preparation and a sense of responsibility.

The communicator is responsible for the effect of the communication

Communication is not always the same and two communicators are not always on the same level. There are interactions that, by their nature, are symmetrical, that is, those placing people on the same level. Other interactions are complementary, that is, they place someone in the position to be able to take responsibility for the effects that the messages produce. Although a paternalistic model of relationship is abandoned in favor of greater reciprocity, the relationship between dentist and patient is by nature complementary and places the dentist in a position to act as a guide, taking responsibility for the effects of communication and acquiring the skills needed to allow him to create effective relationships with the patient. The clinician should help the patient make the best decision related to their entire treatment.

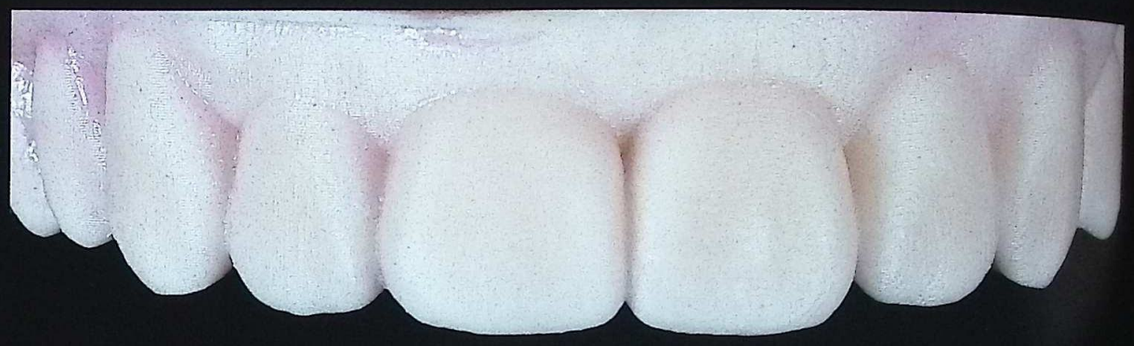
In communication, the result matters, not the intention

The dentist must always be presented with the result that his messages have produced and not only with the positive intention behind them. Indeed, if one feels loyal to one's patient, one might be disappointed that the patient has not understood the nature of the treatment or does not accept the treatment plan.
The moment the result of the message is verified is probably more important than the quality of the message itself; to evaluate it, is necessary to be able to understand the feedback, which is the real controlling factor of every communication.
There is no absolute winning communication modality; the most effective behavior is to carefully choose the modality that is most suitable for that patient and in that particular context. At that point, the results must be interpreted as quickly as possible: words, facial expressions, body gestures, intonations of the voice. If these are not aligned with expectations, change is necessary, putting in place flexibility, which is the indispensable resource of any effective communicator.

STEP 2 Mock-up

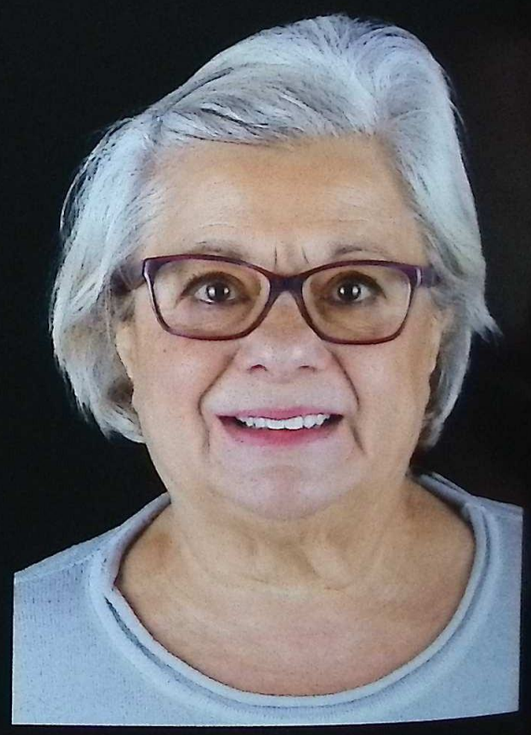
The mock up is mandatory!

Approval from the patient should be obtained with a mock-up try-in. This is the most effective and safest technique if we strive to maintain what we had planned. Showing the patient the simulation should be done on the screen of a computer or iPad.



The printed file of the esthetic project.

Preoperative view of the patient's face.



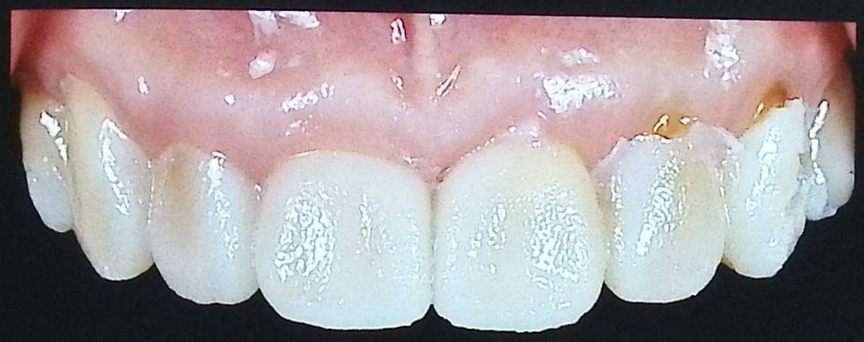
The try-in of the mock-up.

Tips

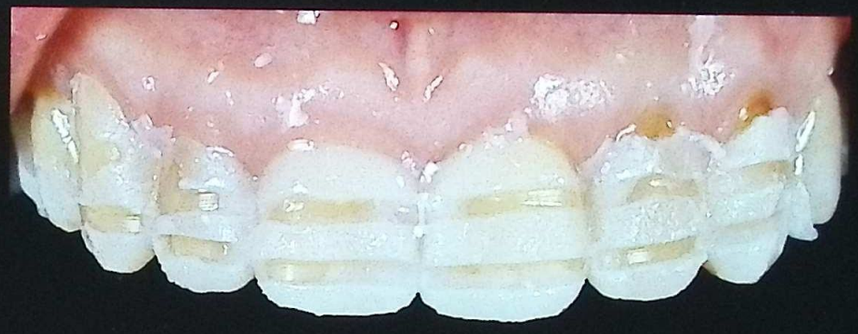
1. *Never show the try-in using a mirror ... the patient should be focused on the imperfections of the resin rather than the final total effect. It is better and more realistic to do the evaluation using images.*

2. *Re-do the face image on the day of mock-up try-in ... the patient will be focused on the only thing that has changed, that is, the smile (e.g. clothes and hair could interfere with the patient's perception).*

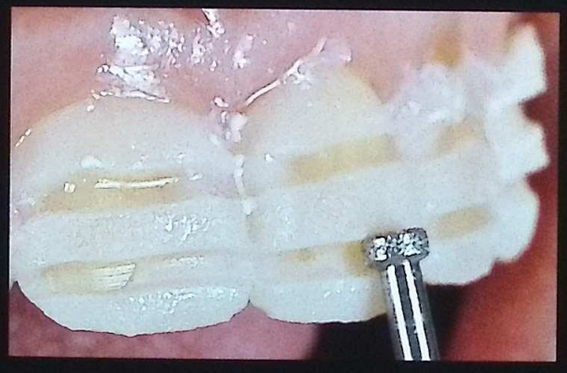
STEP 3 Preparation and impression-taking

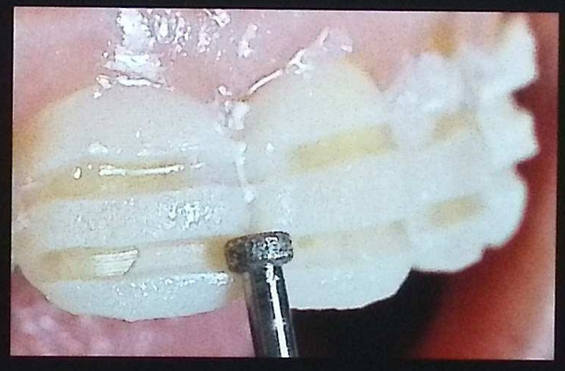


A calibrated preparation should be performed on the mock-up; the bur will work as a caliper, allowing the clinician to obtain the desired thickness.

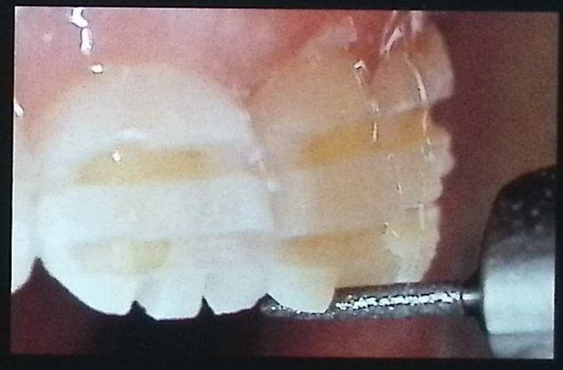


Depth cuts.

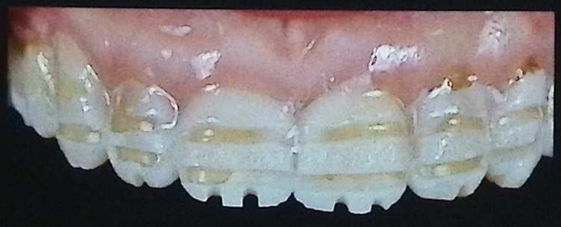




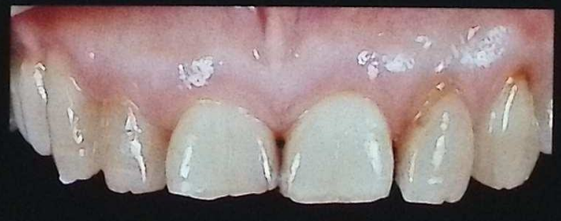
Depth cuts are performed; some areas of the teeth will be involved, while others will not.

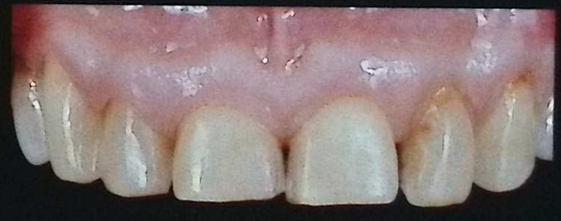


Incisal depth cuts.

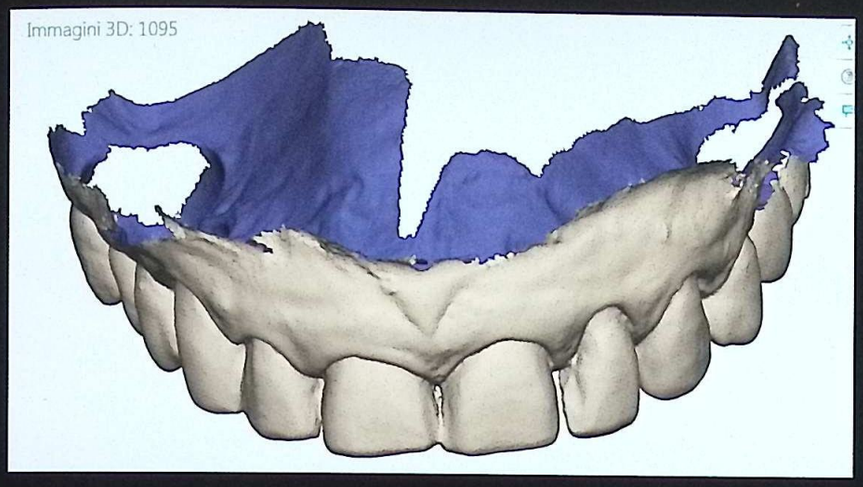


Incisal reduction is necessary only when a redesign of the incisal edge is needed. The thickness ranges from 0.2 to 1.0 mm.

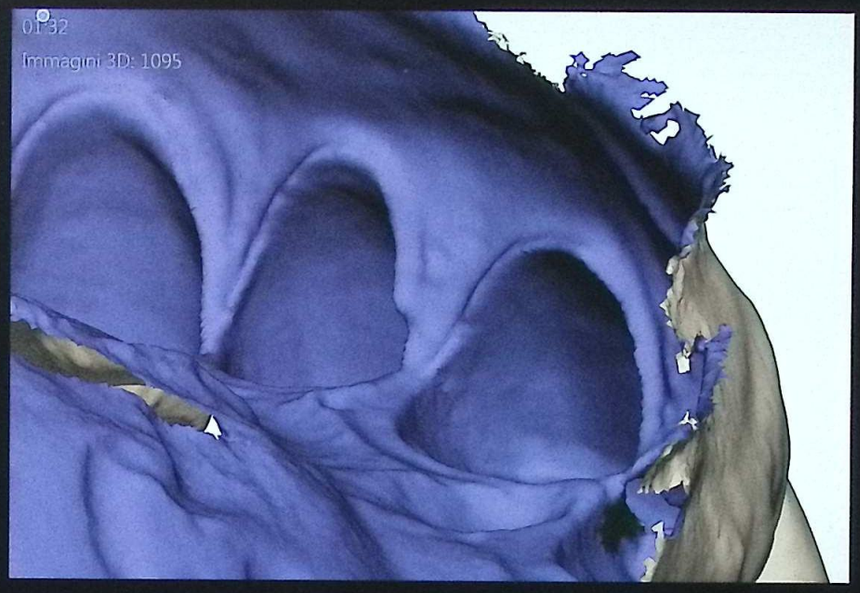




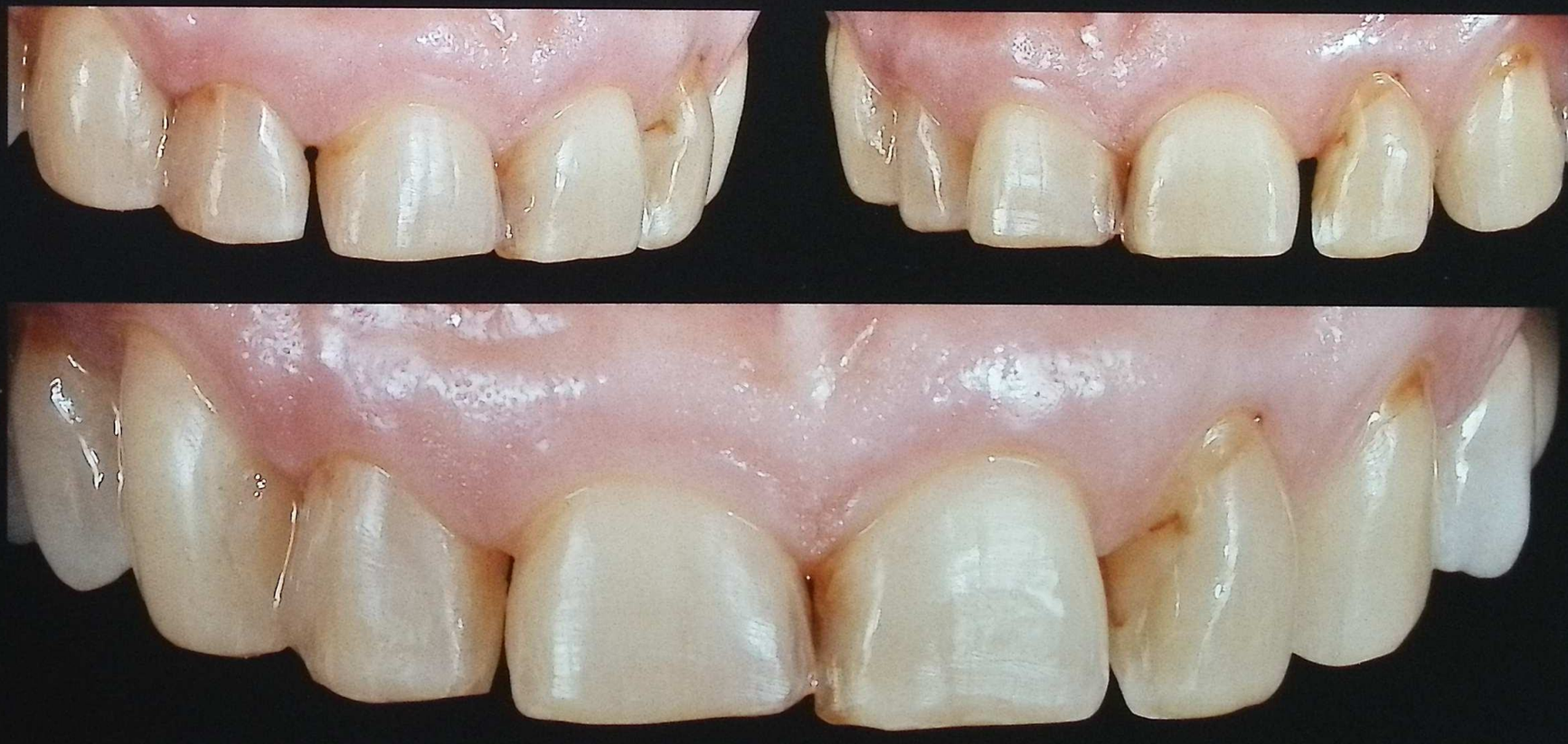
Comparison between preoperative and postoperative preparations. Once the depth cuts are designed on the buccal surface and incisal edge, the mock-up should be removed; some, but not all, areas will be involved in the depth cuts. The buccal preparation is aimed at deleting the depth cuts and round all sharp edges and angles.



Looking at the monochromatic file can better highlight the quality of the preparation surface.

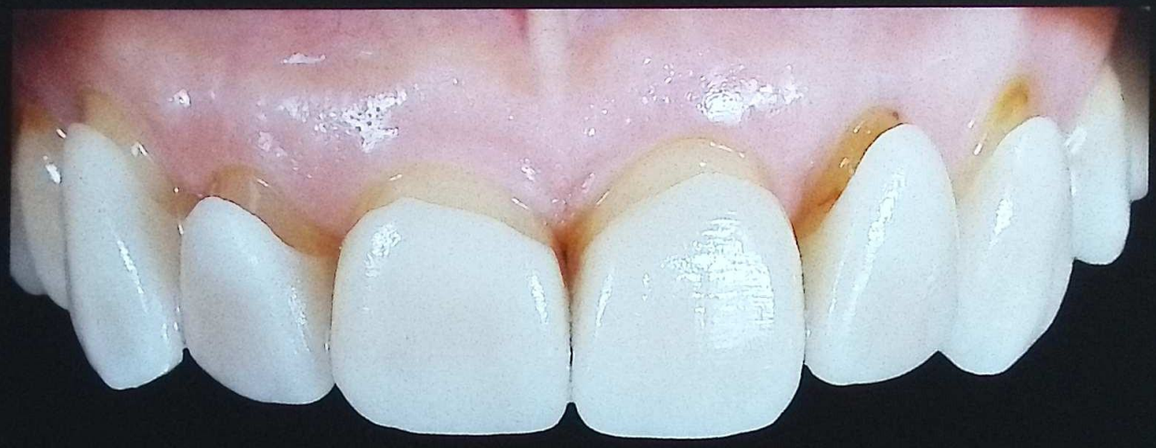


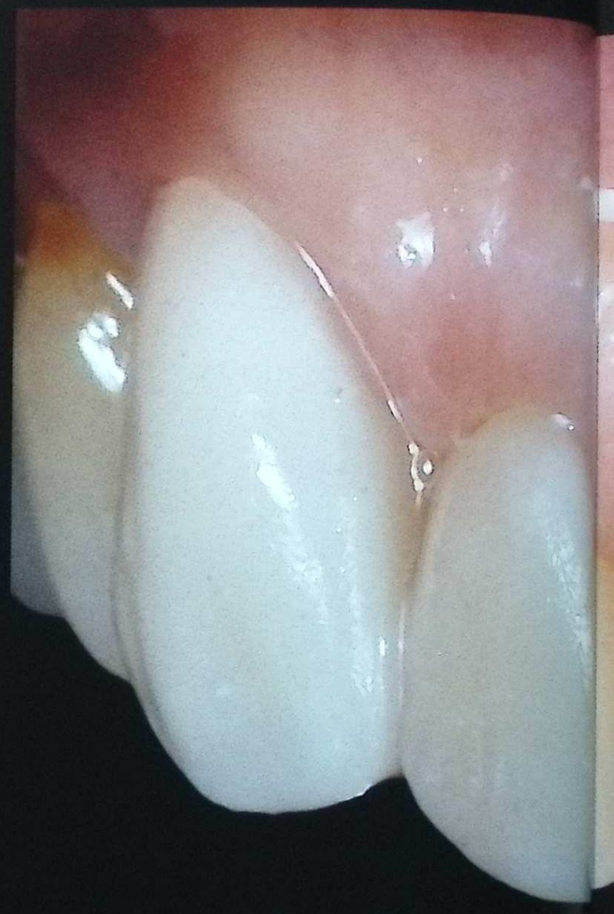
The clinician can easily check the quality of digital impression by examining the internal surface.



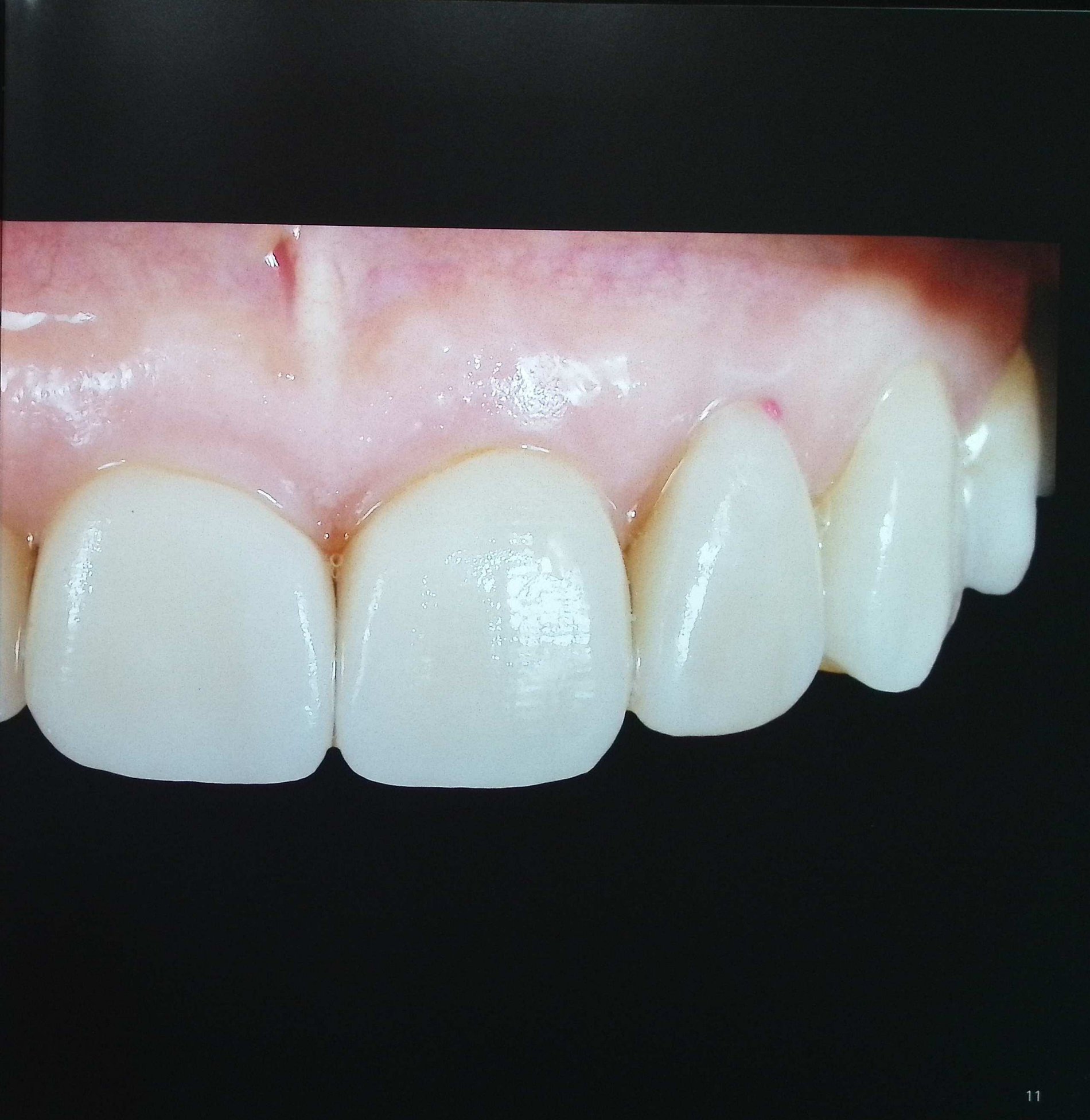
This type of patient can be easily managed without provisional restorations. The difference between preoperative and postoperative views is not significant or visible. The preparation is usually performed without anesthesia; sensitivity is not an issue after the preparation.

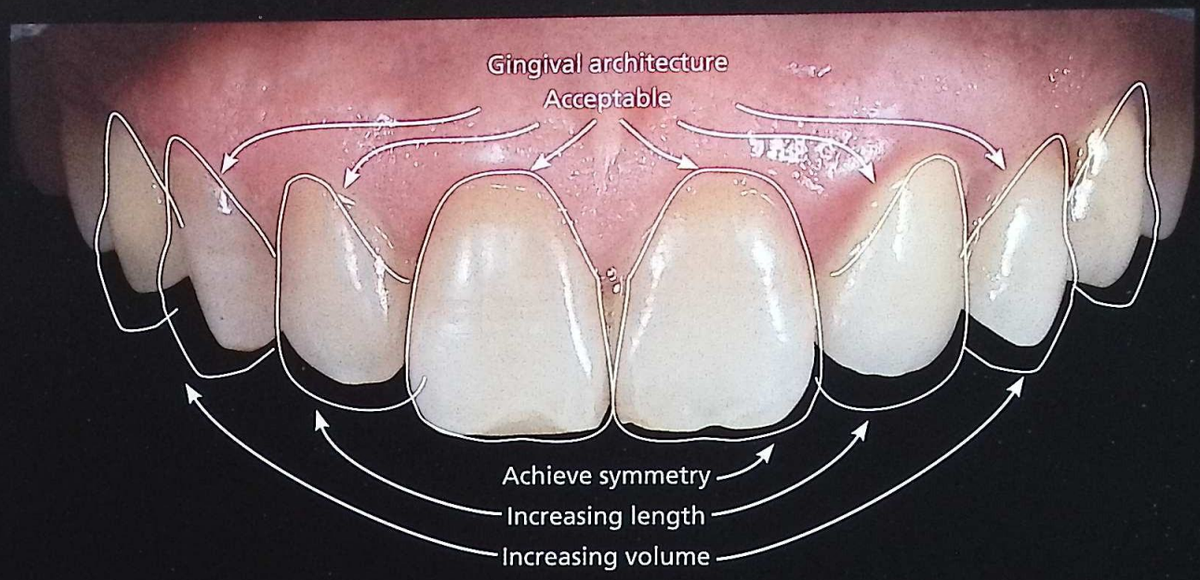
STEP 5 Delivery of restorations

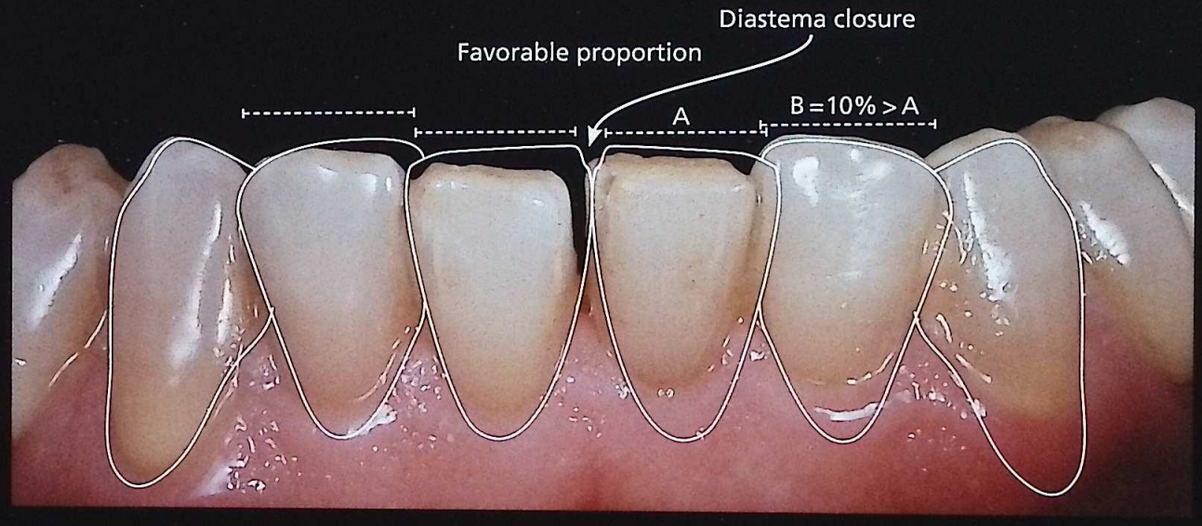


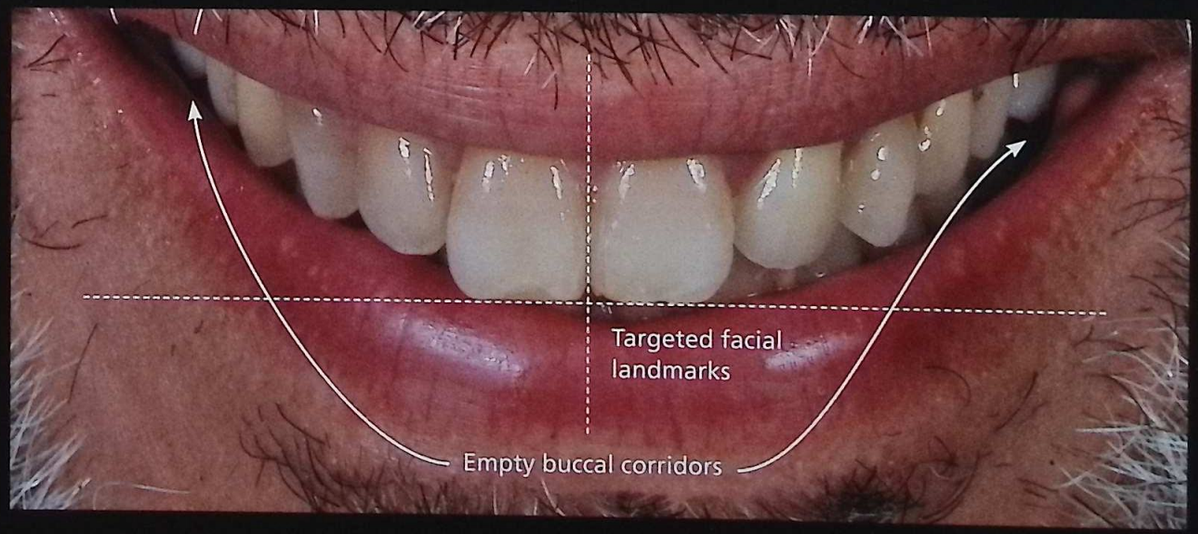


Milled veneers are manufactured according to the initial project.
Variables such as length and shape are not considered because we follow the principle of 'copy and paste' dentistry.
We are just coping and the connecting the prosthetic volumes studied at the beginning with the prosthetic margin.
Note the quality of the soft tissue when luting is applied.
This is the effect of the intrasulcular preparation and finishing.
The try-in is mostly aimed at evaluating the final color.
The veneers are then cemented using a simplified approach, and a final check is performed.




Gingival architecture
Acceptable
Achieve symmetry
Increasing length
Increasing volume


Diastema closure
Favorable proportion
A
B = 10% > A


Targeted facial landmarks
Empty buccal corridors

CASE 2

STEP 1 Esthetic analysis

Restoring a smile in complex cases requires extensive experience on the part of the clinician and technician. The all-digital workflow helps a great deal in performing a complete esthetic remodeling of the smile.

The complexity of the case is due to the change of so many morphological parameters. In addition, extension can make a case complex, which is decided based on the dental exposure when the patient smiles.

In fact, in cases of radical color and shape changes, it is important to extend to all visible areas to avoid 'half smiles.'

What do we see?

- Interincisal line matching with the facial midline
- Empty buccal corridors
- Acceptable gingival outline
- Teeth volume and length to be increased
- Lower incisors: diastema closure and restoration of proportion

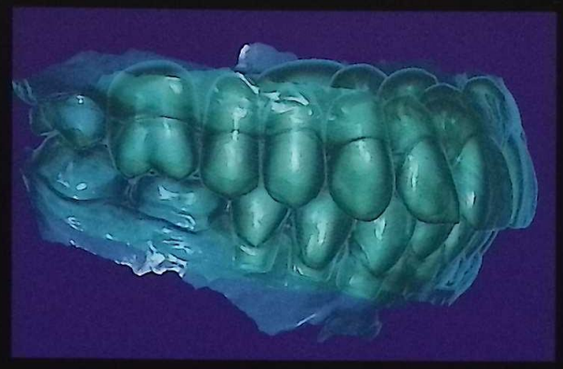
What does the patient feel?

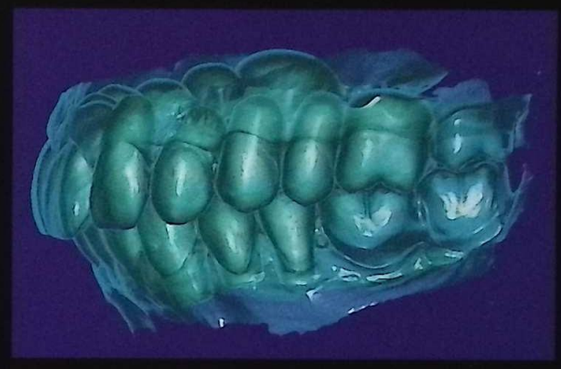
Patient questionnaire

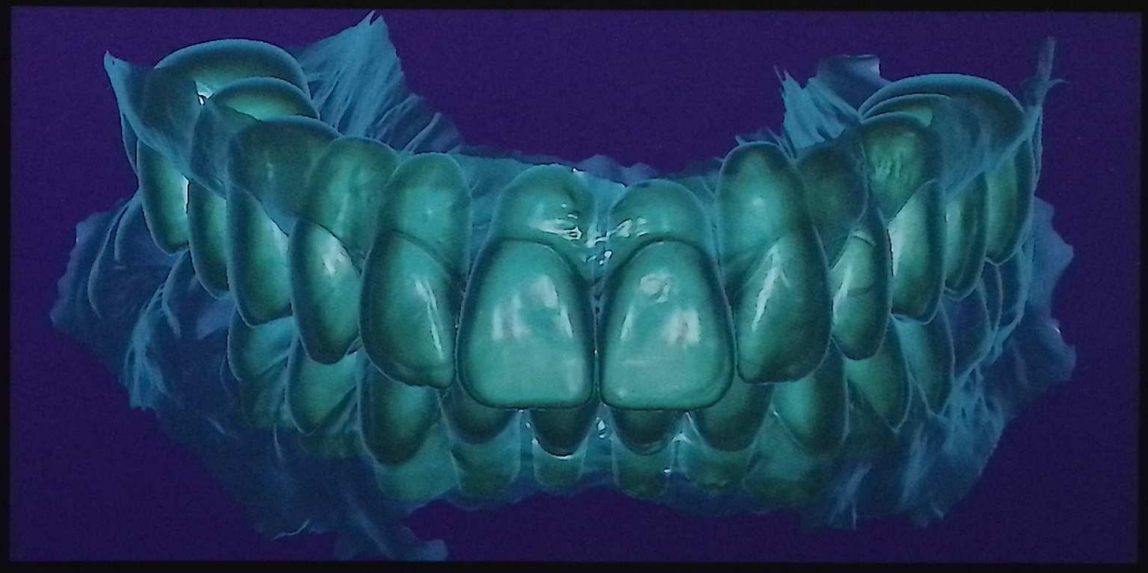
1. **What is your main concern about the smile?** *Poor esthetic crowding and color.*
2. **Would you like to change the color?** *Yes!*
3. **Are the teeth visible enough?** *Yes.*
4. **Is the lateral zone empty or properly filled?** *I don't know.*
5. **What is your preferred tooth shape?** *I don't care about the shape. I would like to have beautiful smile.*
6. **Do you like a perfect smile or a natural one?** *Beautiful but not fake.*
7. **Are you available for periodontal surgery?** *No.*
8. **Are you available for pre-orthodontic treatment?** *No.*

STEP 2 Mock-up

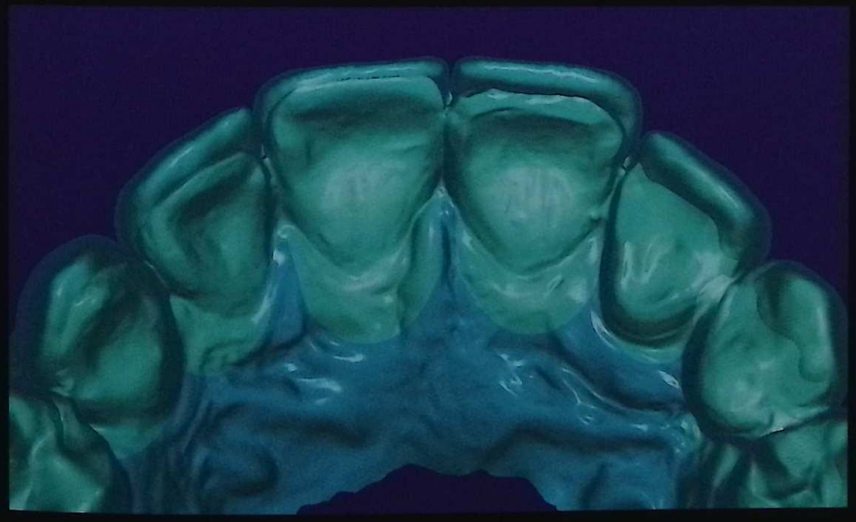
Following the patient's questionnaire, a rehabilitation of the complete upper arch and lower anterior group is planned, limiting this only to the dental elements visible during the natural smile and during speech. The length of the laterals is increased and the buccal corridors are filled. An enhanced incisal outline is created.

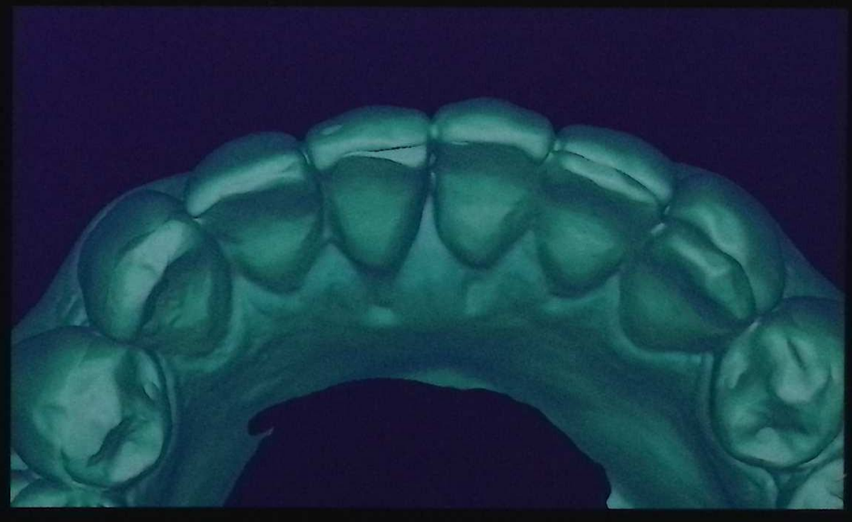




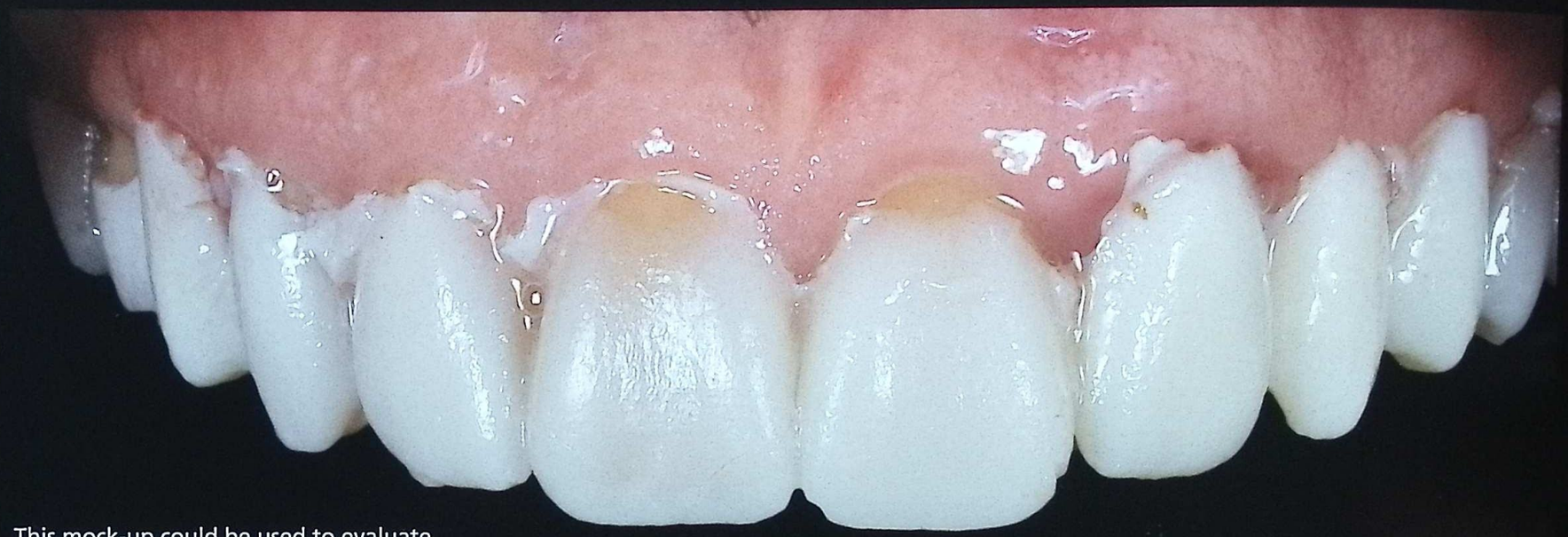


To develop the mock-up, the meshes are positioned outside the dental arch. The aim is to reach a position that allows the most complete coverage of the existing morphology with the minimum thickness possible.





What we say before is science,
what we say after are just excuses.



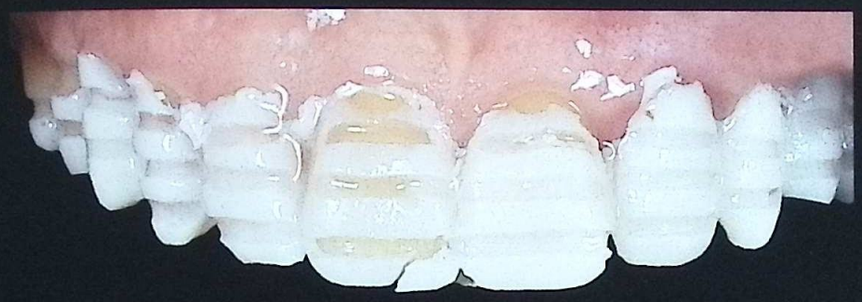
This mock-up could be used to evaluate the planned esthetic modifications, to motivate the patient, and to prepare the teeth through the mock-up.

Tip

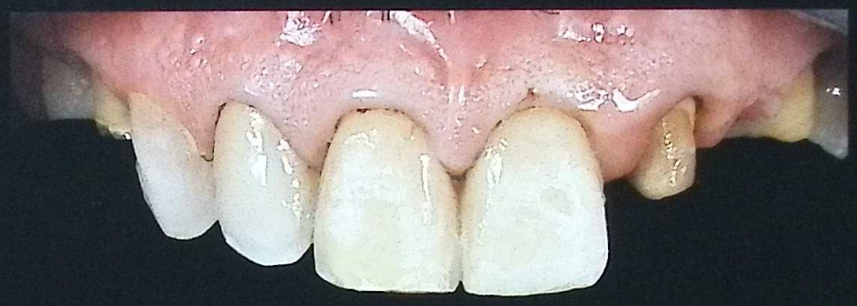
It is very important to realize that the mock-up is the ugly copy of the final restoration, which is slightly outside the arch. As we are designing a new smile, in the mock-up we are using a character size of 14; in the final restoration we will use the same character style but the size will be 12.

Approval of the esthetic design before the clinical procedures should be made on the photograph of the patient's face while wearing the mock-up.

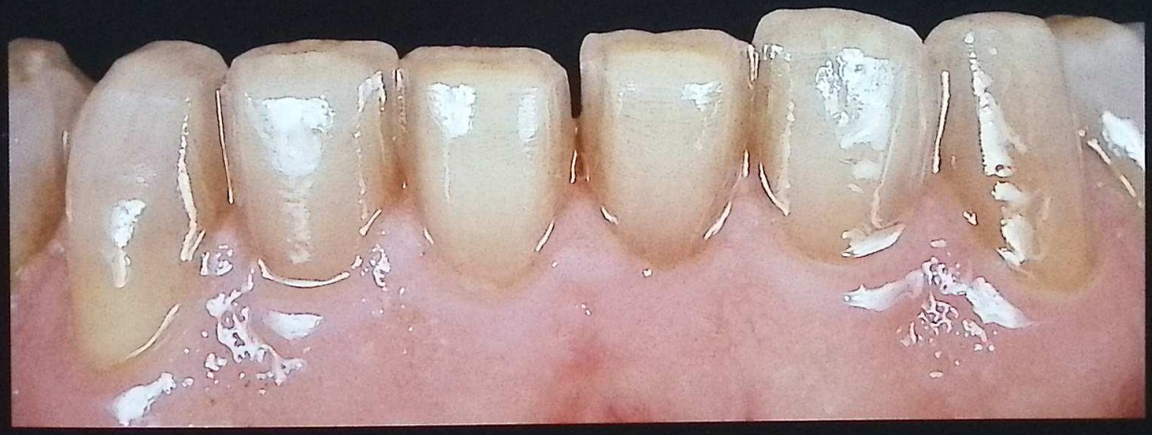
STEP 3 Preparation and impression-taking

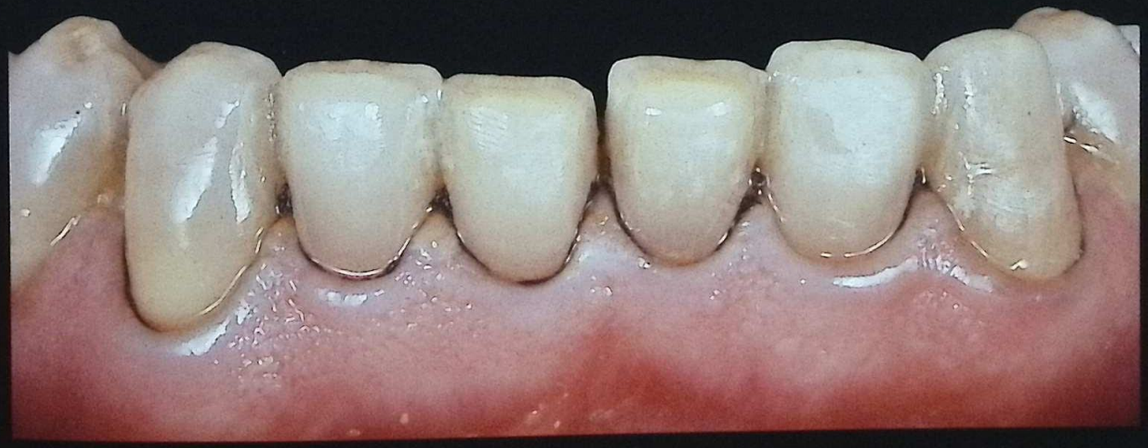


Preparation through the mock-up reduces the chairside time needed to deliver the preparation with the correct thickness.

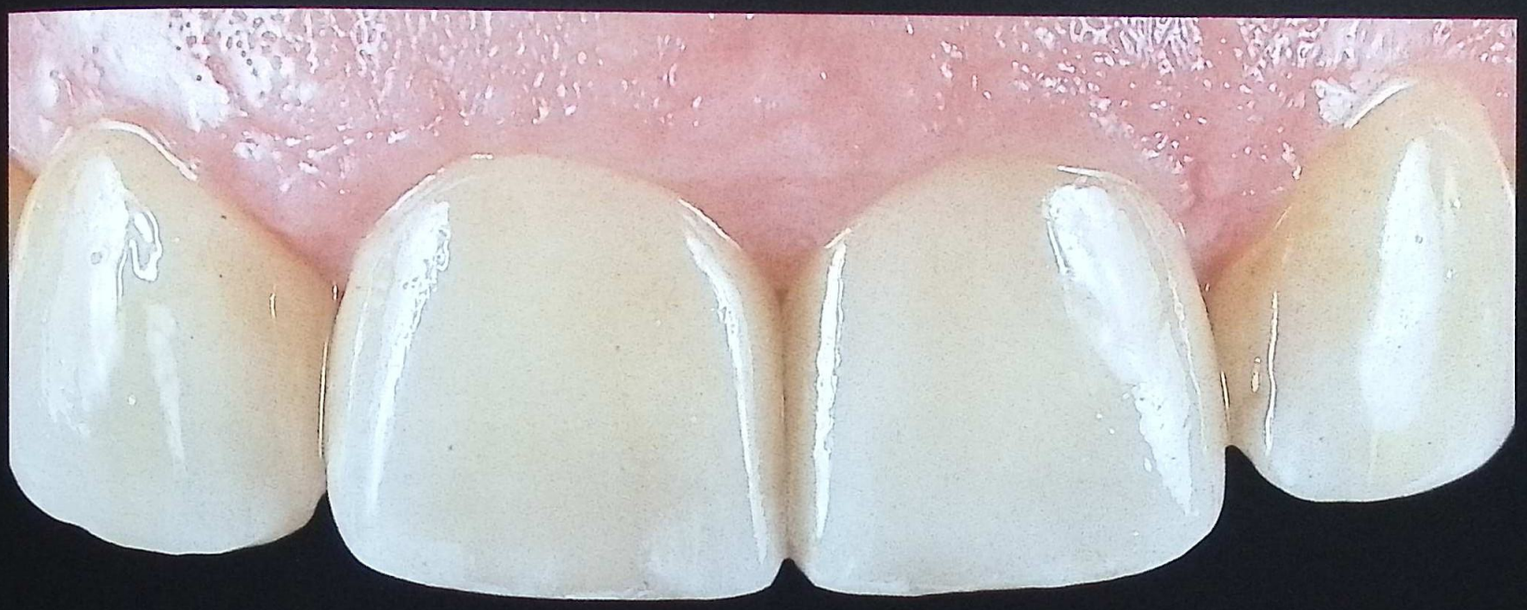


The preparation through the mock-up was performed by selecting a homogeneous thickness of 0.5 and 0.3 mm on the third cervical.

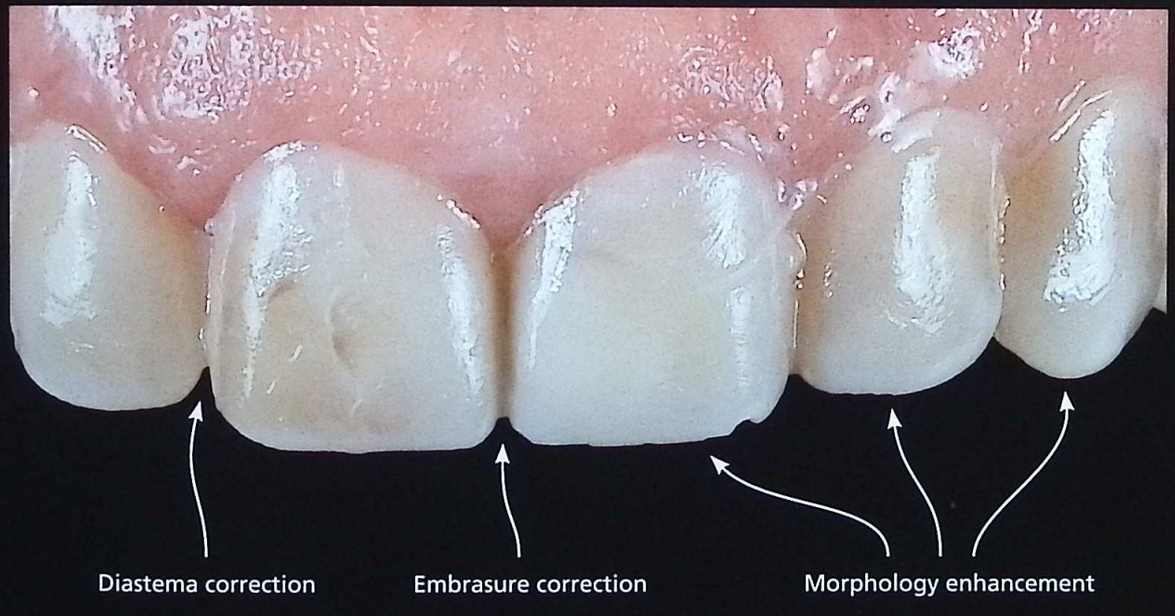




Regarding the lower incisors, the difference in terms of volume and shape between the initial situation and after the preparation is minimal. The final impression is taken immediately after the teeth are prepared.



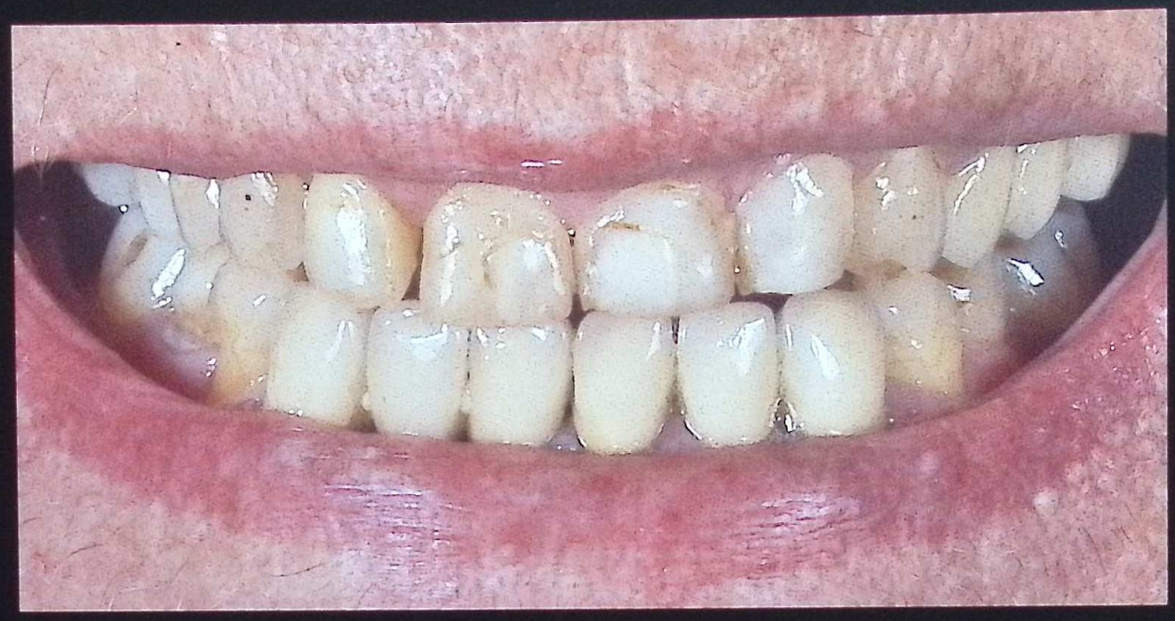
Situation after the intervention.



If the S.M.I.L.E. algorithm reveals a low attitude to a smile makeover, after evaluation of the patient's age and the presence of old restoration(s), we should improve but trying to be chameleonic. Our mock-up will be focused on morphological enhancement. The S.M.I.L.E. algorithm is aimed at detecting patient preferences. One of the key points is to align our treatment with patient expectations. The desired result will have a direct influence on the preparation, thickness, and opacity of the selected material. This approach is the most time-saving procedure for the clinician because it allows them to carry on complex treatment in a straightforward way. The motto is 'design twice, restore once'.

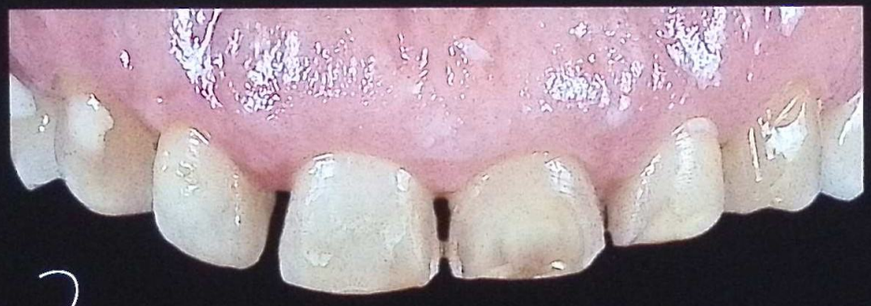
Tip

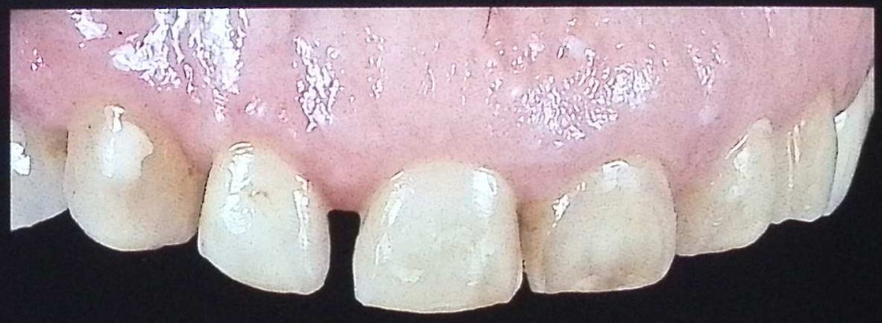
Most patient ask for an improvement to their smile.
The subjective meaning of improvement should be evaluated to better analyze patient preferences, thus it is very risky to start esthetic treatment before the S.M.I.L.E. algorithm.



1

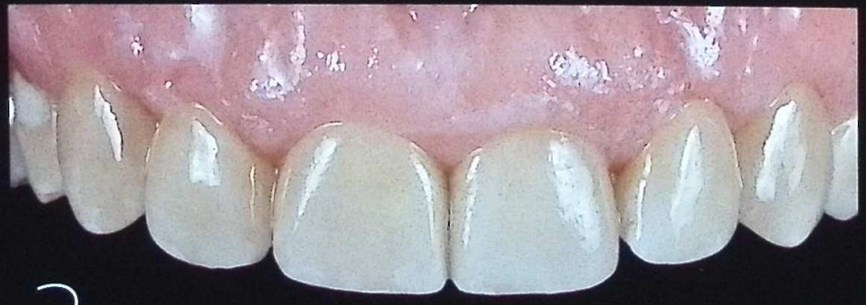
Especially when other restorations are present, we do not want to use a significant prosthetic approach. The clinician should respect the patient's requests, avoiding pushing the patient toward too bright a smile.

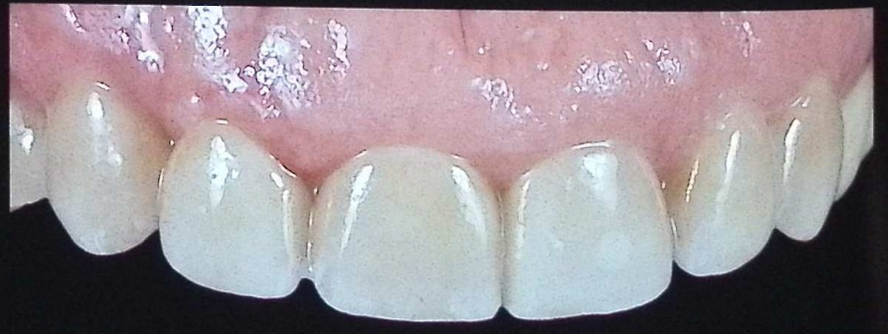




2

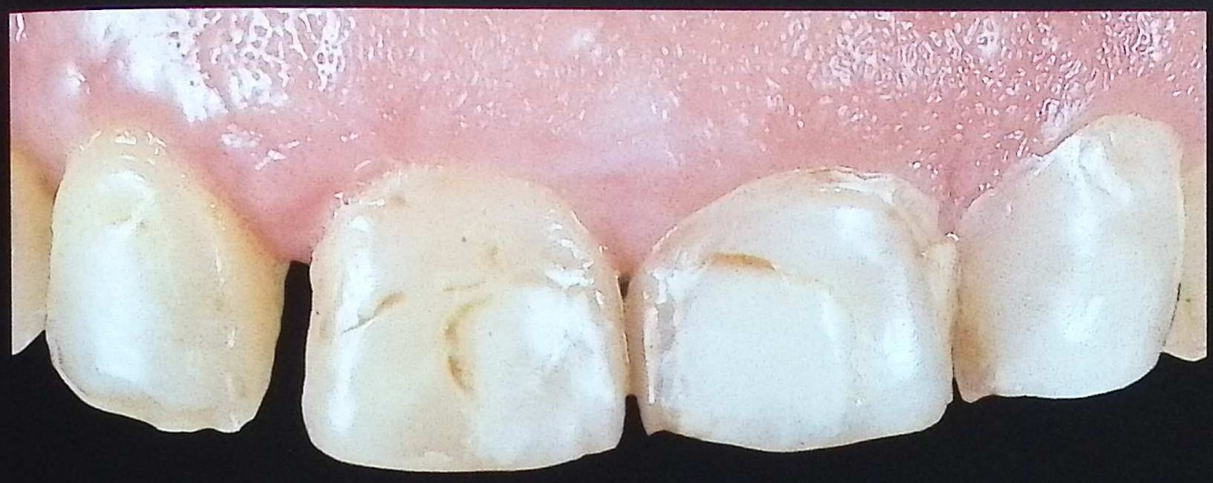
The age of the patient, the intraoral conditions, and the questionnaire are key points when choosing the right approach.





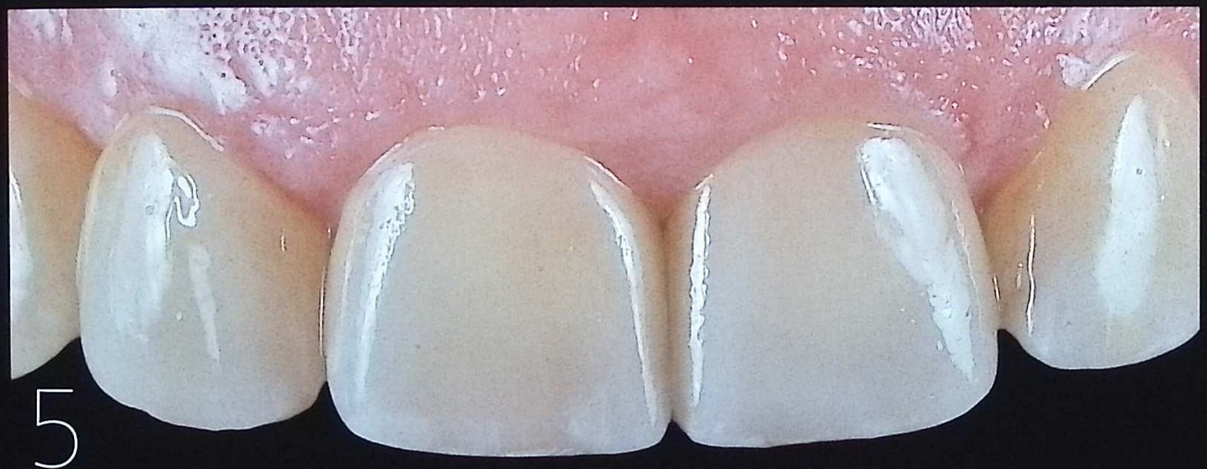
3

Designing a new but natural smile is the main request for 90% of patients.



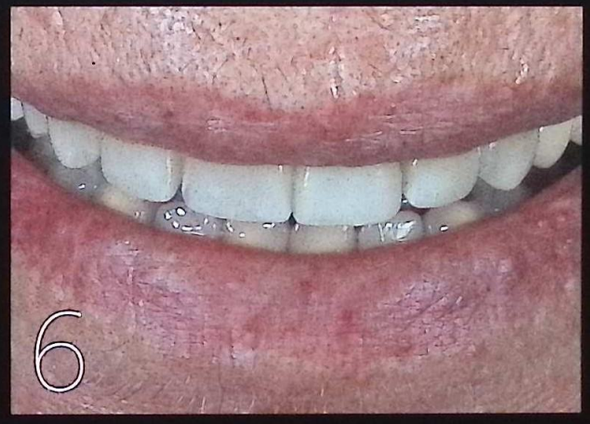
4

Moreover, improvement of soft tissue health could be achieved using the VertiCAD approach.



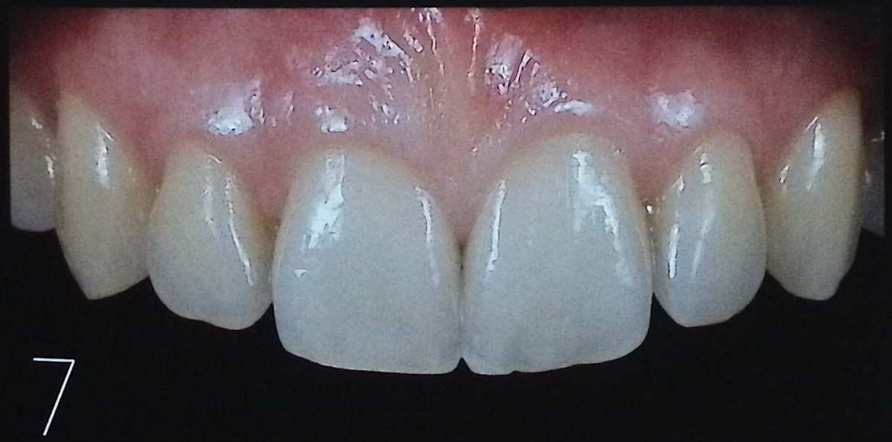
5

Improvement of the papilla is due to the new emergence profile.

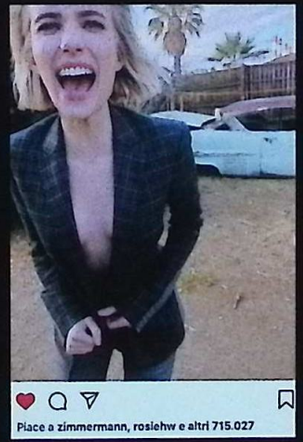


6

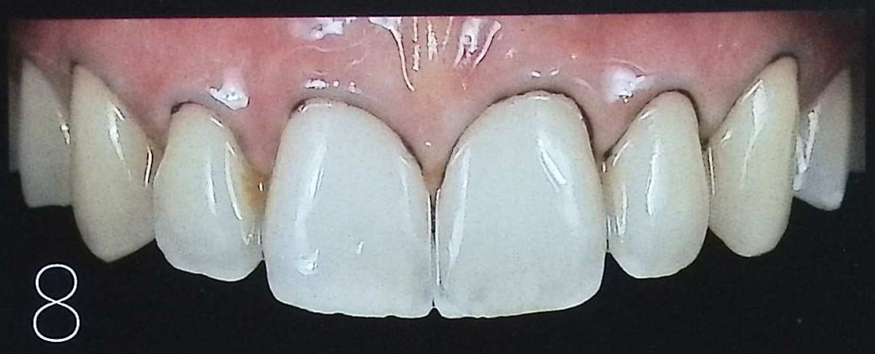
The newly designed smile, according to the lips outline, offers a natural appearance.



7

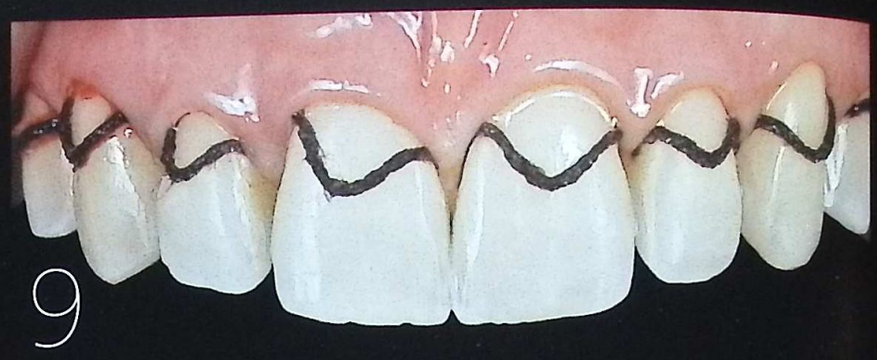


There are opposite clinical situations, when the patient asks for the whitest color possible. The patient comes to our clinic complaining of dissatisfaction with the shape and color of the dental elements. Faced with an almost intact dentition, it is imperative to focus on the final objective and minimize treatment invasiveness.
The patient asked us to emulate the smile of the model in the photograph. Barring some recognizable peculiarities, we can take some of these details and insert them in the mock-up.



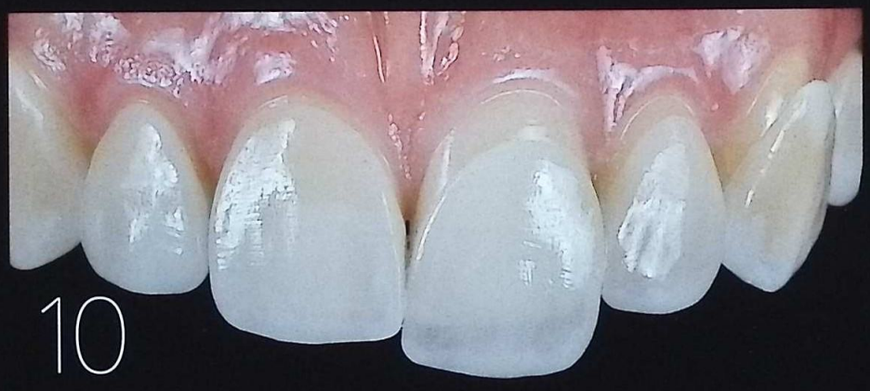
8

The minimal vertical preparations, present on 100% of the surface after preparation, have maximized enamel preservation.
The single-cord retraction technique is clinically satisfying.



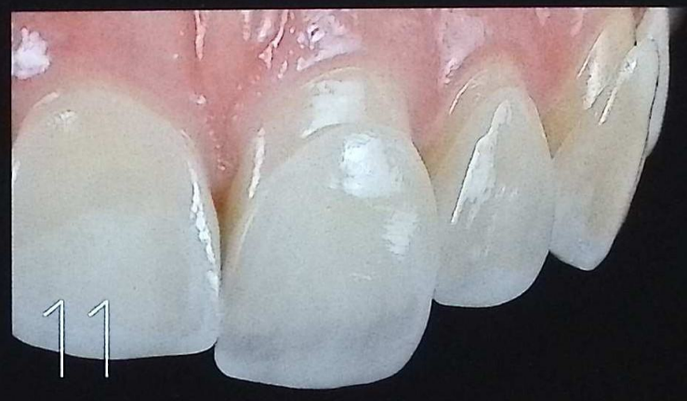
9

We are not necessarily detecting the most apical part of the preparation, but we are defining where the veneers start, producing a proper emergence profile.



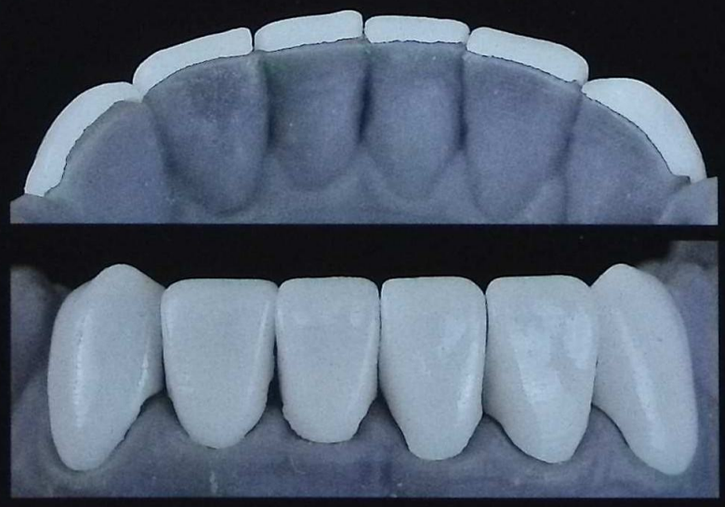
10

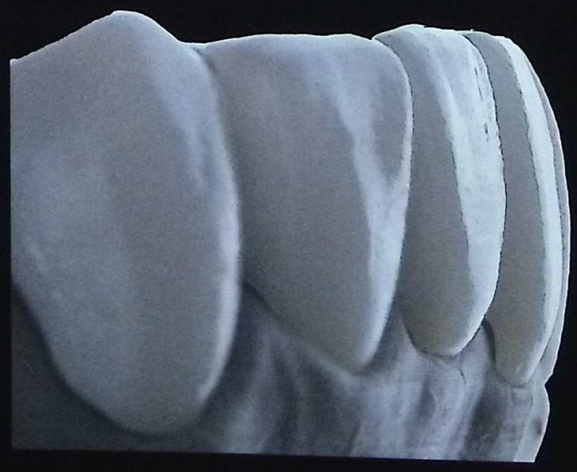
Using the vertical preparations, the last portion of the tooth is visible, which at this point represents the finishing area of our preparation.



11

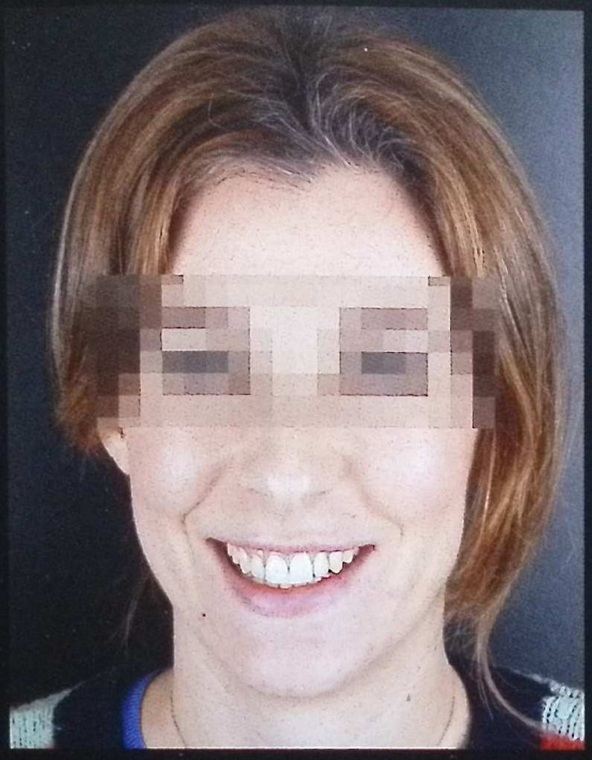
Therefore, it is delineated more by the retraction carried out rather than by the drill. The impression is minimally traumatic for the soft tissues; only minimal bleeding without any trauma, even transient, is likely. So, the relationship between the margin of the veneers and the soft tissues will be ideal.

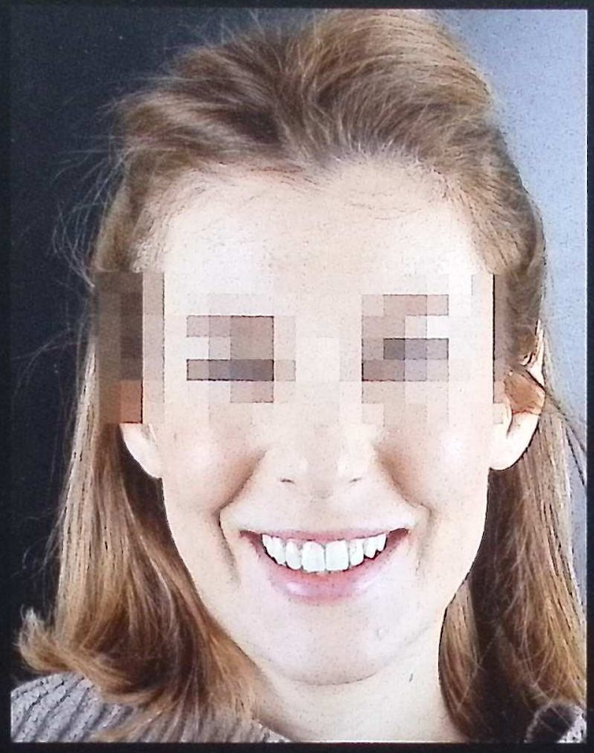




12

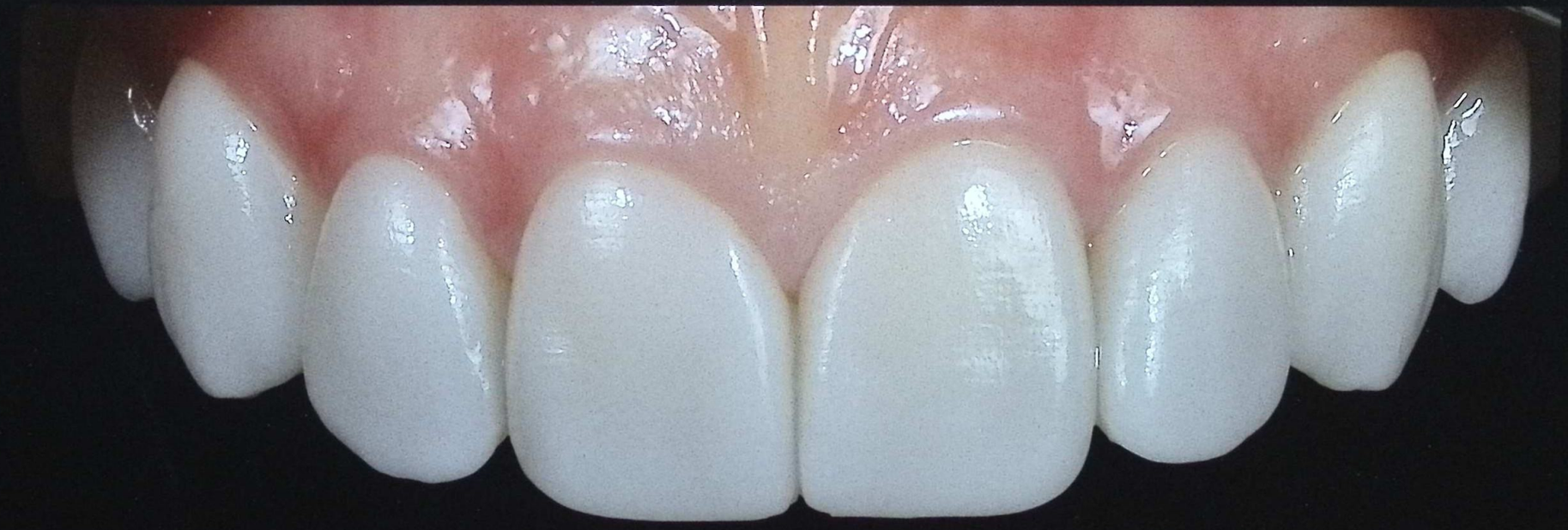
In the lower milled veneer, note the perfect combination of regular thickness, milled texture, and anatomy.

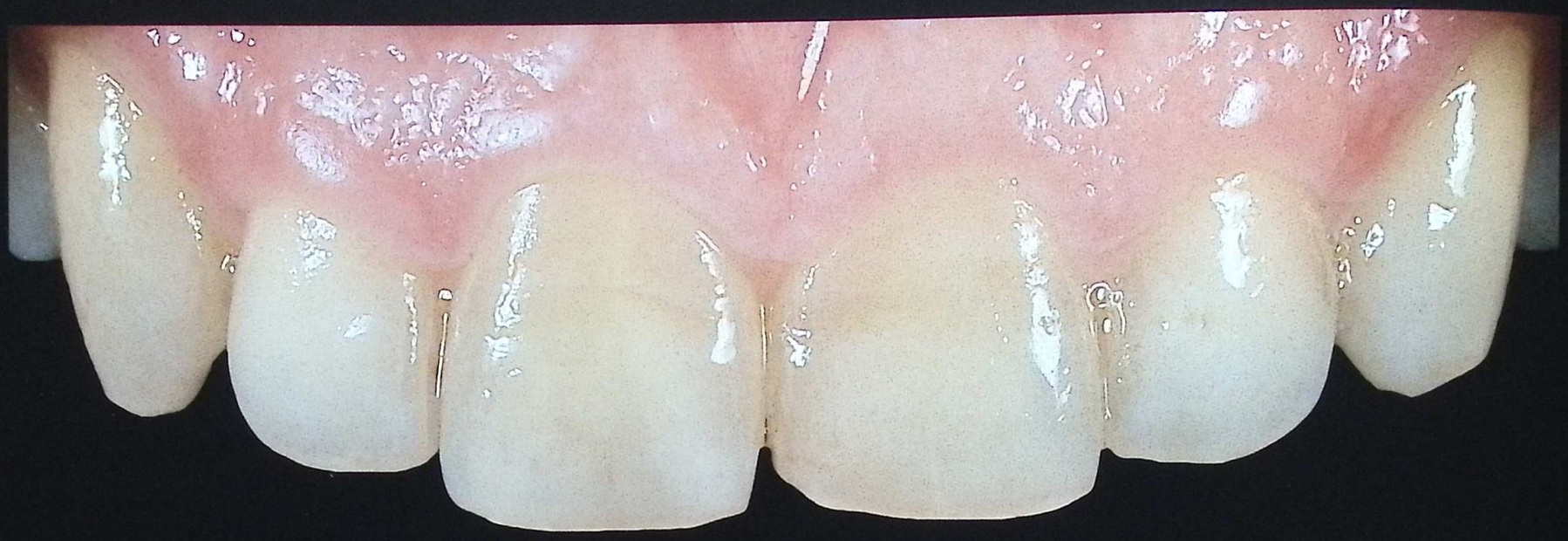




13

This kind of treatment should be carried out with the utmost caution; communication with the patient should intensify. The patient may ask for the whitest color, but this could affect the natural beauty of the smile.

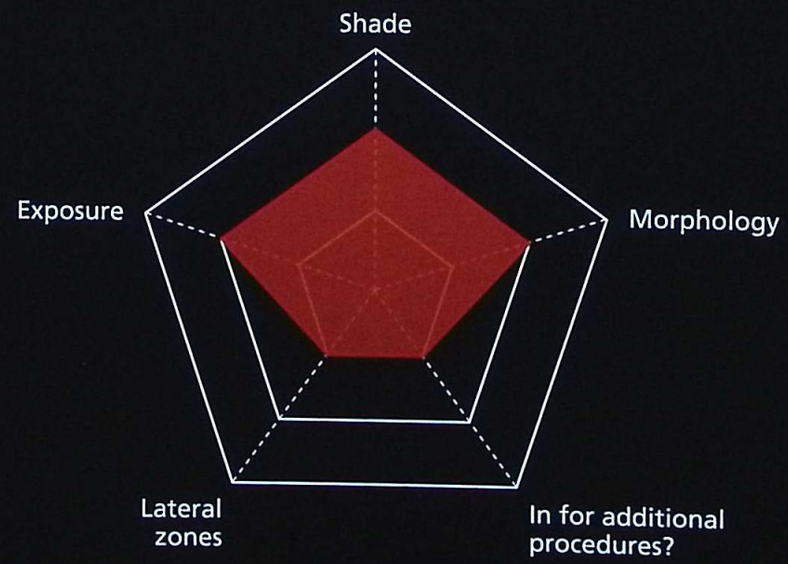


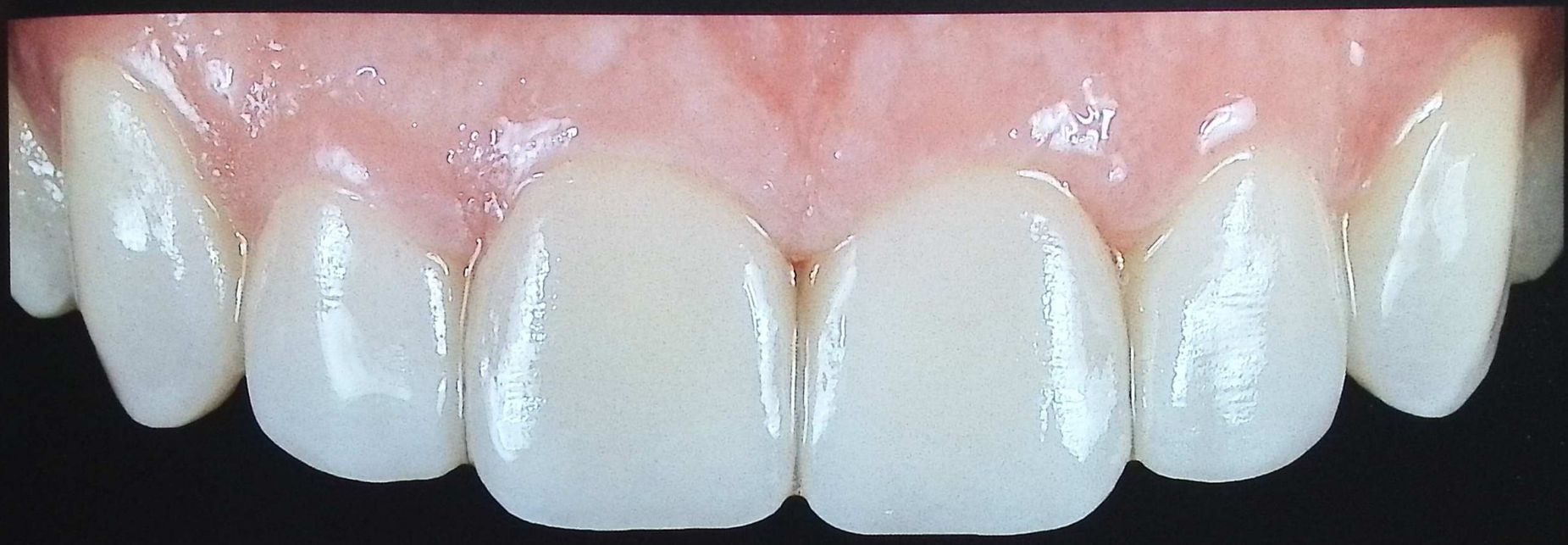


Situation before the intervention.

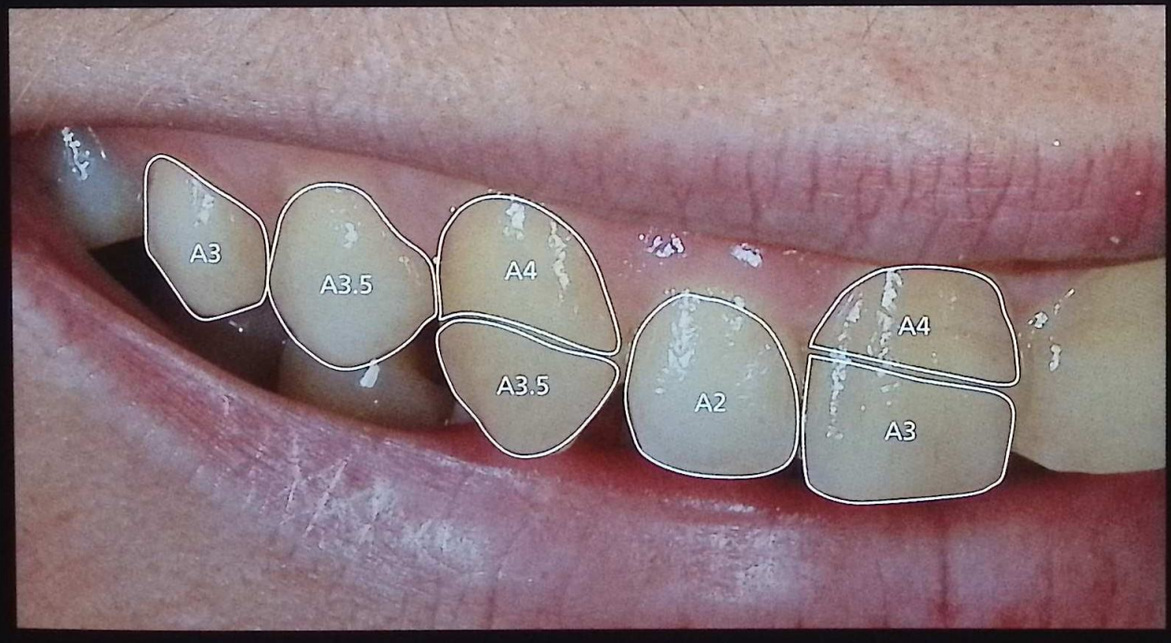
CASE 4

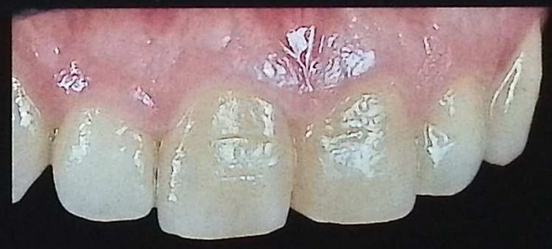
Increasing the uniformity of color





Situation after the intervention.

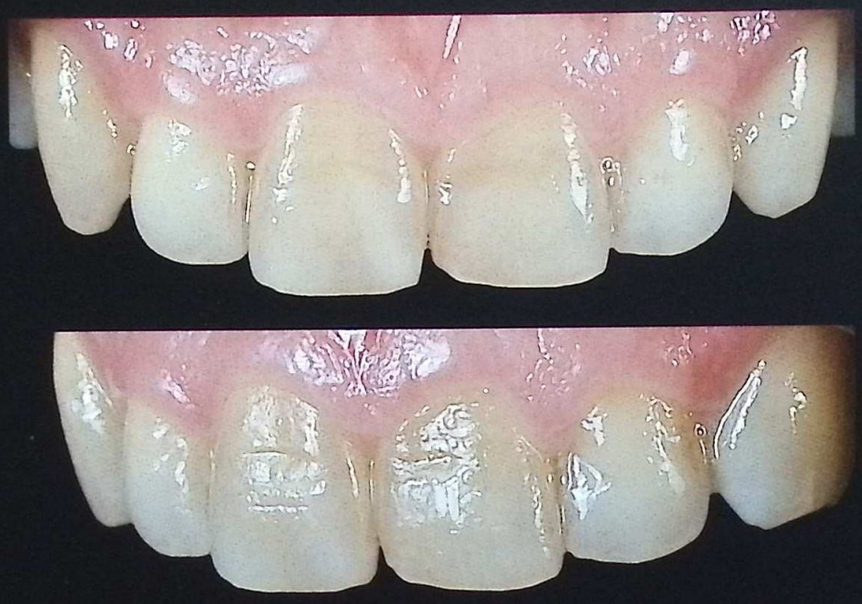


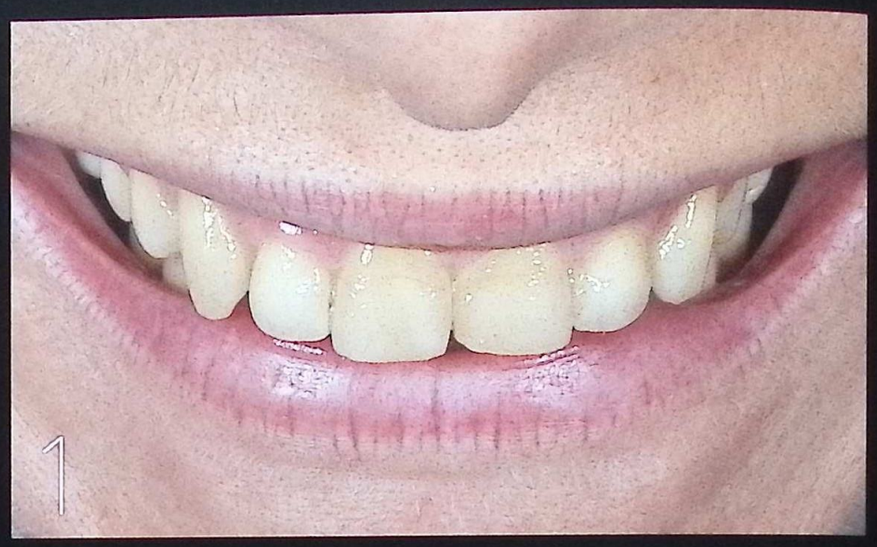


The patient complains of differences in color and irregular margins on the incisal edges. The previous treatments were based on bleaching (internal and external procedures), but with a poor outcome. Observation of the lateral highlights the brighter lateral incisor, with heavy chromatic saturation on the cuspids and centrals.

Tip

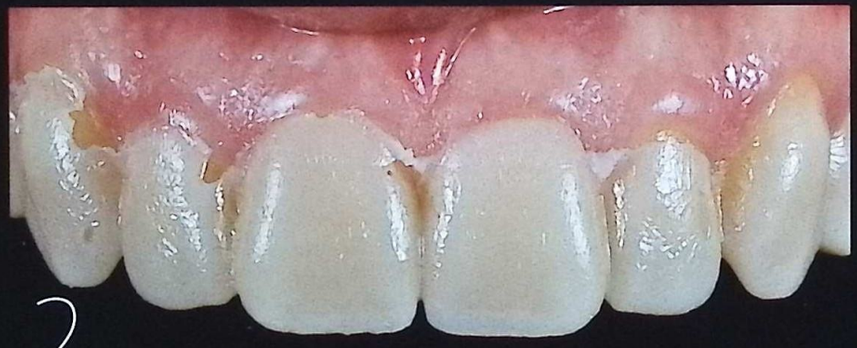
Natural differences in color can be amplified by dental erosion and enamel wear. Restoring the uniformity of color has a rejuvenation effect on the smile.





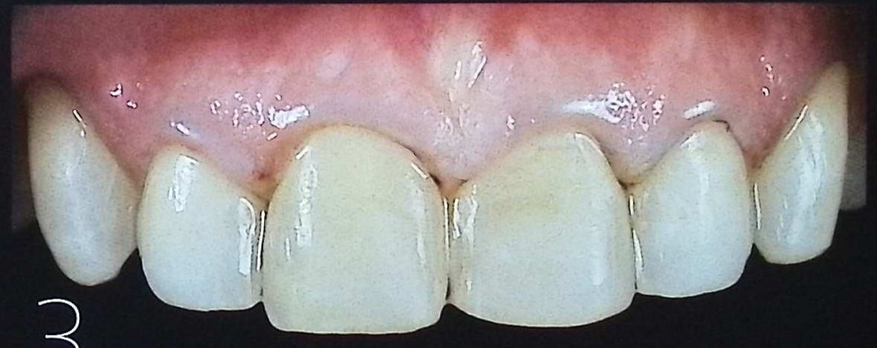
1

The buccal surface of the enamel presents some irregularities, probably with erosive etiology.



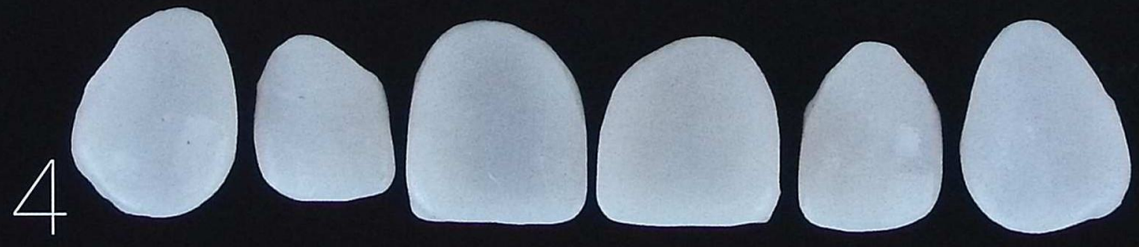
2

The developed mock-up is aimed at increasing the outline of the incisal edge, achieving a 0.5-mm thickness after the preparation.



3

If dyschromia has already been treated, the clinician should pay attention to the color of the substrate after the preparation. Indeed, even after minimal preparation, the color of the substrate can worsen.



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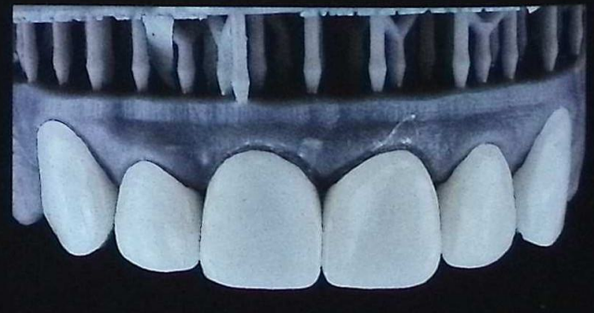
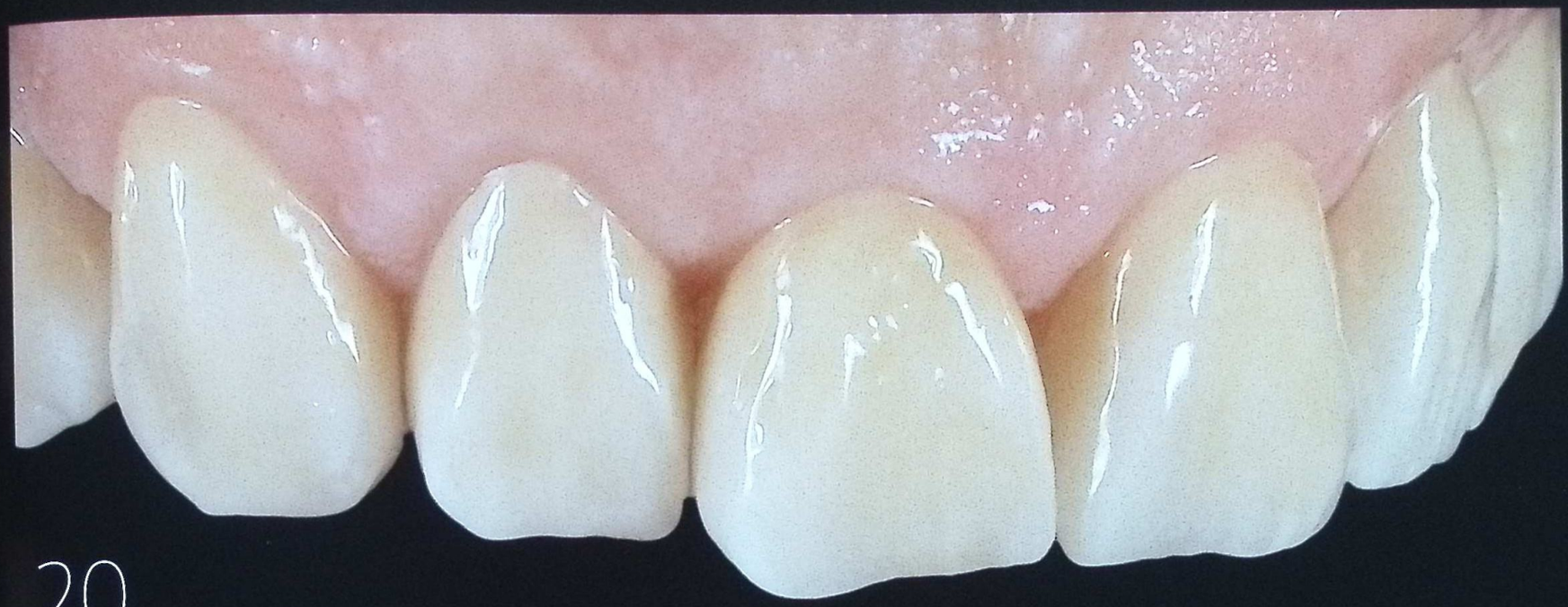
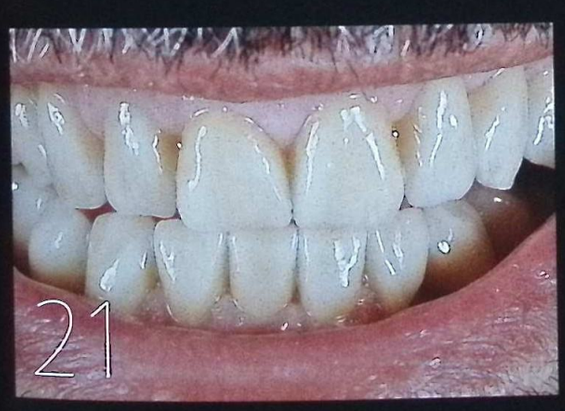


Three factors are particularly important to achieve an optimal final outcome:
1. minimum thickness of the veneers, but 0.5 mm on the medium third
2. right choice of translucency of the blocks to be milled (in this case an MT A2).

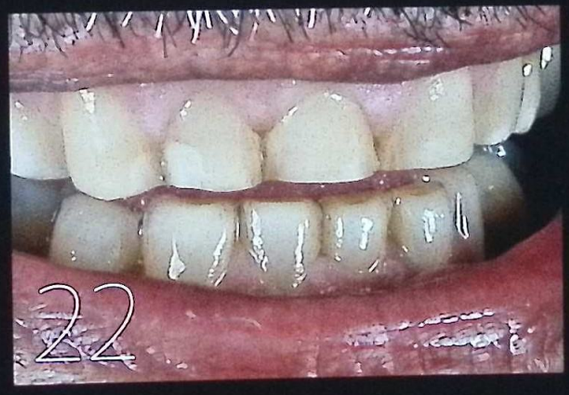


20

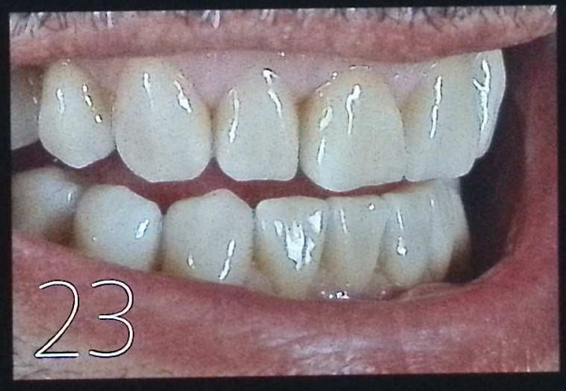
The 3-year follow-up: note the perfect integration with the soft tissues.



21



22



23

The improved dentolabial esthetics.