

# labline

DENTAVANTGART

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## INTERVIEW

INSPIRED BY  
NATURE:  
CHRISTIAN  
FERRARI

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A BALANCING ACT  
BETWEEN FUNCTION  
AND AESTHETICS:  
A THIRD DIMENSION  
OF A SMILE

DR. **ATTILA BODROGI** &  
CDT. **SIMONE MAFFEI**

BESPOKE SMILE  
MAKEOVER:  
A FACIALLY DRIVEN  
APPROACH TO  
INDIVIDUALIZED  
OUTCOME

DR. **CYRIL GAILLARD** &  
CDT. **JÉRÔME BELLAMY**

FULL FUNCTIONAL  
AND ESTHETIC  
MINIMALINVASIV  
RESTORATION  
USING IPS E.MAX  
CERAMICS

# FULL FUNCTIONAL AND ESTHETIC MINIMALINVASIV RESTORATION

USING IPS E.MAX CERAMICS

CASE STUDY





**1-5**

The patient attended our practice wishing to restore the aesthetic appearance of her smile.

The clinical examination revealed:

- Caries
- Root fragments on tooth 23
- A crown-free implant on tooth 14
- Cracks in ceramic
- Old prosthetic restorations

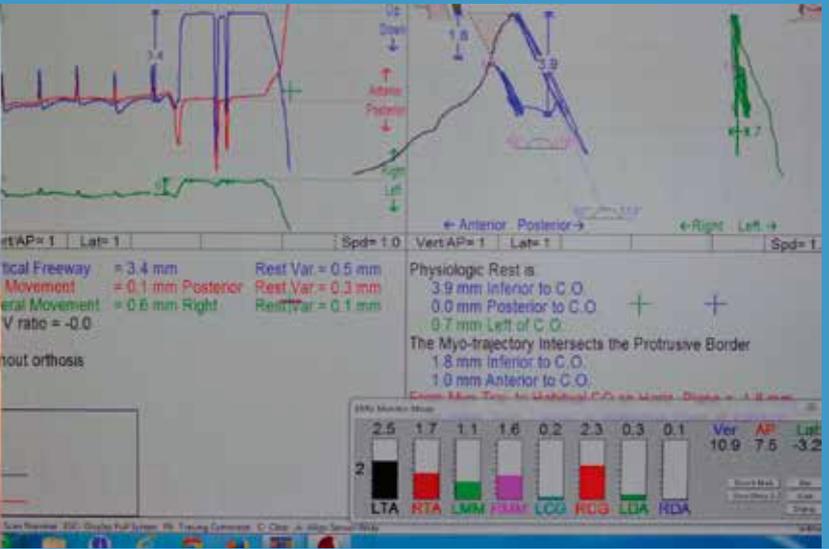
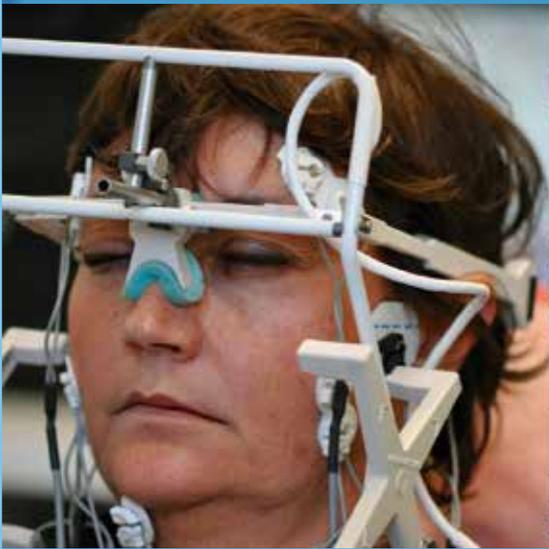
After discussing it with the patient, we agree that both aesthetics and function have to be restored. Then we decide to go for the following treatment planning:

- Identify a new occlusion, because the substantial vertical increase has to be compensated. This will allow two things:
  - find an occlusion which will be more physiological;
  - restore patient's mouth with minimally invasive method which will mainly consist of layering.

After the aesthetic assessment, we decide to

- create a full upper and lower wax-up which will allow to produce an aesthetic occlusal mock-up;
- place an implant in order to replace tooth 23;
- remove old restorations and complete the restoration treatment with IPS e.max dentures.

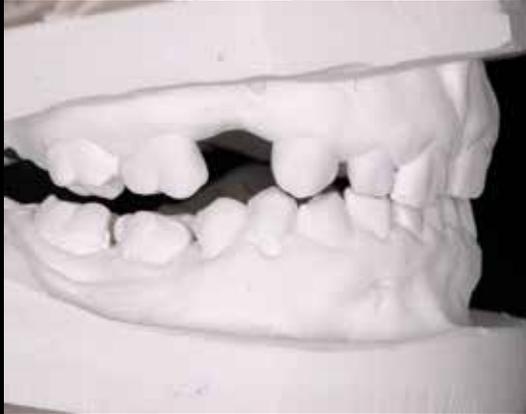


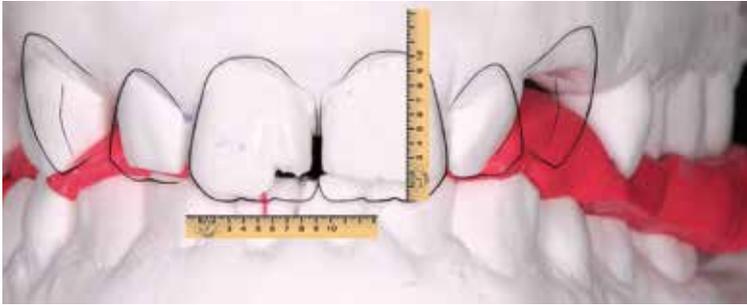


**6-9**  
 The functional analysis is carried out with K7 Myotronics (Bisico). This way, muscles are totally released and, above all, we can see clearly where the lower jaw must set up so that temporomandibular joints are centered and muscles are relaxed.



After an occlusal recording, models are placed in the articulator with the help of an HIP table (Hamular notches and incisal papilla) (gad-center), which will help us to place the upper jaw in relation with the base of the skull, as well as match the future smile line and the bipupillary line.





**10-13**

The aesthetic analysis is based on pictures of face and smile. The placement of incisal edges of the central incisors is of utmost importance at this stage. The width/length ratio of the central incisors is the second feature to take into account. It should be around 75%. Teeth are virtually designed with the help of Keynote software. Then, a digital ruler is used for measurement and data are forwarded to the laboratory. These measures will guide the technician in creating the wax-up.



**14, 15**

Self-moulded mock-ups are created from the wax-ups and with the help of double-mix silicone/composite keys. They integrate the new aesthetic and vertical dimension. These mock-ups are placed in the patient's mouth for three months to ensure that modifications are well-accepted by the patient. Phonetics is approved. At this stage, root on 23 is removed and a Nobel implant is placed. Old crowns are removed and endodontic treatments are continued. However, not any of the natural teeth has been prepared as wax-ups have been layered.



#### 16-20

After four months in the patient's mouth, the mock-up has helped implant bone-integration. Then, the teeth are prepared directly through the mock-up, as this technique is minimally invasive. Penetration grooves are created with a ball bur. Then, they are emphasized with a graphite lead. The remaining mock-up is removed and the prepared teeth are finished with a chamfer bur. Subsequently, occlusion is segment-recorded. We use double-mix vinylpolysiloxane for impression taking, and temporaries are created with the technique we previously used for the mock-up.



### 21-26

Adhesive cementation is carried out as follows:

- Temporaries are removed and prepared teeth are cleaned with chlorhexidine

We choose IPS e.max Press layered restorations. Lithium disilicate, in addition to its optical properties, offers the possibility to be etched, which guarantees a good cementation.

- IPS e.max Press ceramic restorations are tied in, one after the other, to check they fit properly.
- Subsequently, IPS e.max restorations are tried together to adopt the contact points. At this stage, it may be recommended to use Variolink try-in pastes to secure veneers and select the correct luting composite shade.
- After the patient approved of the ceramic restorations, they are conditioned before cementation. First, hydrofluoric acid 9% is applied in the inner faces of the restorations for 20 seconds. After copious rinsing and drying, the silanisation agent Monobond Plus is applied on the inner surfaces for 60s, then dried and heated with a hair-dryer to evaporate the water molecules that appeared after chemical reaction between ceramic and silane.
- Teeth conditioning must be carried out as follows (one tooth after the other):
  - place a rubber dam
  - finely sandblast the prepared teeth
  - selectively apply orthophosphoric acid 37% on enamel for 30 s, then on dentin for 15 s.
  - apply the adhesive without polymerization
- The luting composite is placed on the inner surfaces of the IPS e.max restorations, then restorations are inserted in patient's mouth. Using ultrasonic technology with micro tip may be recommended to set the ceramic restorations and then remove excess more easily.
- Finally apply some glycerine on the cementation joint and polymerize for 30 s on each face.



**27-29**

The completed restoration.



**DR. CYRIL GAILLARD**

- 1998 Degree from Bordeaux University
- 1998-2000 Certificate Fixed Prosthodontics
- 2000-2002 D.U Implantology (Bordeaux)
- 2003 Certificate Bone grafting (Yvan Poitras)
- 2005-2006 D.U Maxillo facial surgery (Paris 7)
- 2005-2008 Graduate from Las Vegas Institute in aesthetic, neuro muscular dentistry and full mouth rehabilitation.

Founder and President of Global Advanced Dentistry ([www.gad-center.com](http://www.gad-center.com))

Dr. Cyril Gaillard, graduated from the University of Bordeaux II in 1998, followed by numerous post-graduate trainings in cosmetic, implant and prosthetic rehabilitation complexes in France and in Europe, Canada and the USA, as well. The mission of Dr. Gaillard's Cabinet is to accompany the patient to regain health, beauty, confidence, helping them in their therapeutic choice. It aims to contribute to the dignity, appearance, quality of life, self-esteem and sociability. The main value of the offered treatments is represented by listening to their patients, the human relationships, and the multi-disciplinary approach to the best achievements of science.



**JÉRÔME BELLAMY**

- Graduated in 1995
- 2004-2007 Ceramist trainer for Ivoclar France
- 2007-2013 Director ceramist section
- 2013-now Member of Dr. Cyril Gaillard's team (Bordeaux)





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