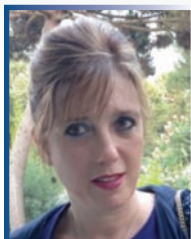


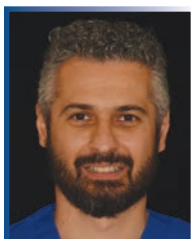
REMOVABLE IMPLANT-SUPPORTED PROSTHESIS



Dr. Loredana Mazzaferri



Giunchi Emanuele



Luca Cattin



Fig. 1a — Initial situation

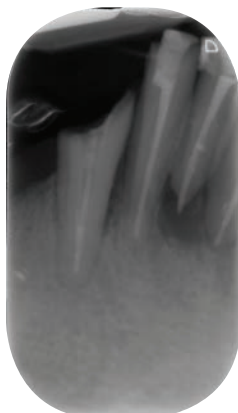


Fig. 1b — after implant surgery

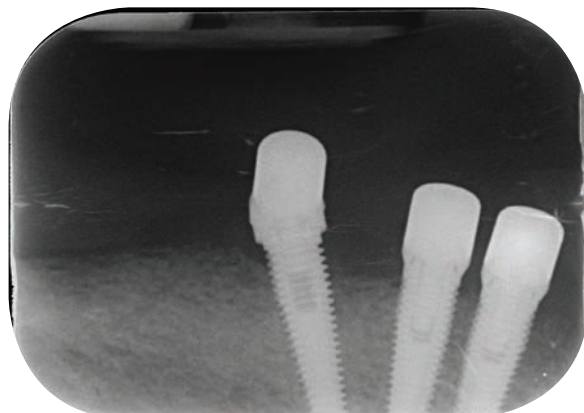


Fig. 1c — former situation

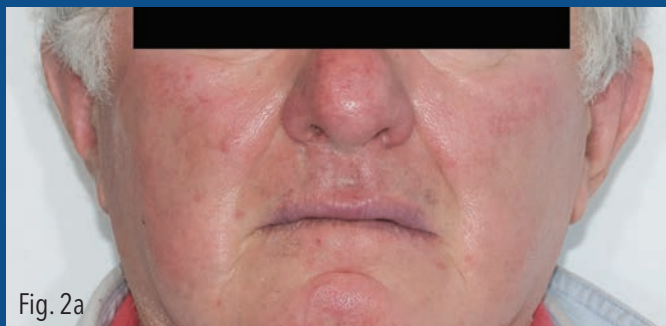


Fig. 2a

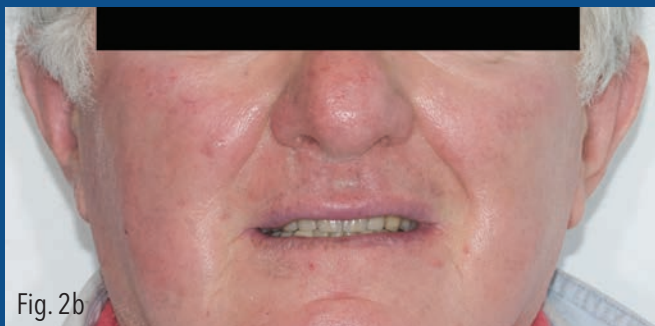


Fig. 2b

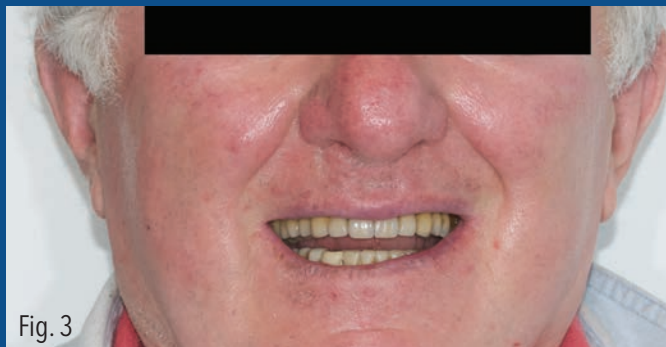


Fig. 3

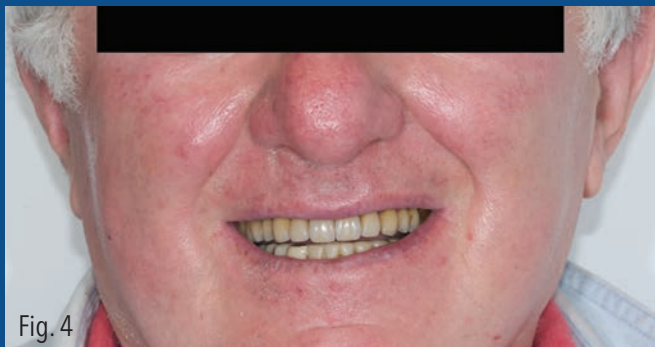


Fig. 4

Fig. 2a - 4 — day 1



Fig. 5 — Patient's teeth



Fig. 6 — Upper master model



Fig. 7 — Upper master model

The case under consideration concerns a patient of 76 years who has a upper fixed rehabilitation on natural teeth and implants, and a partially edentulous jaw with some residual teeth periodontally compromised (Fig. 1a). In Fig. 1 the x-ray refers to a previous situation when the patient was still rehabilitate with a fixed-removable prosthesis with an implant equipped with Sphero Block abutment that had been inserted to stabilize the prosthetic rehabilitation.

In the early stages of this rehabilitation, the evaluation the patient's age and his expectations led to opt for an all-on-four restoration. Nevertheless, the diagnostic phase is one of the more laborious and delicate phases and the patient must be studied as a whole, anatomically, functionally and psychologically. After a deeper investigation, due of a lack of bone distally the mental foramen area, it has not been possible to extend posteriorly the implant's support. Thus, in agreement with the patient, after the implant placement (Fig. 1b), it



Fig. 8 — Lower master model with MUA analogs



Fig. 9 — Lower master model with castabel abutments

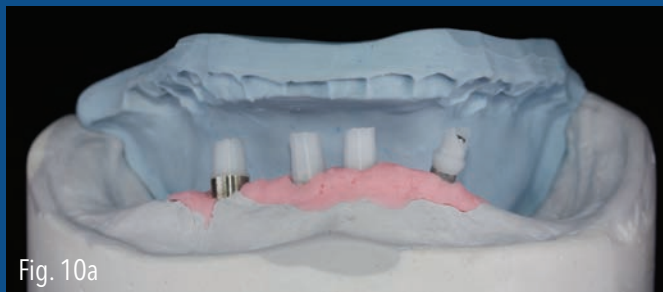


Fig. 10a



Fig. 10b

Fig. 10a - 10b — Evaluation of the prosthetic spaces with the silicone masks



Fig. 11 — Teeth set-up right view



Fig. 12 — Teeth set-up left view



Fig. 13 — Teeth set-up buccal view



Fig. 14 — Insertion axis assessment with the parallelometer

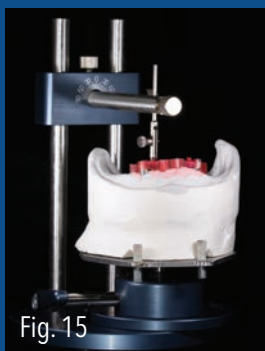


Fig. 15

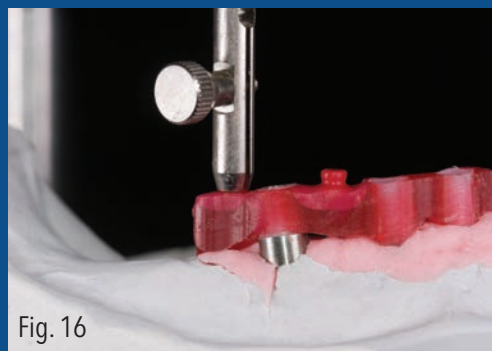


Fig. 16

Fig. 15 - 16 — Positioning of the Ot Equator attachments

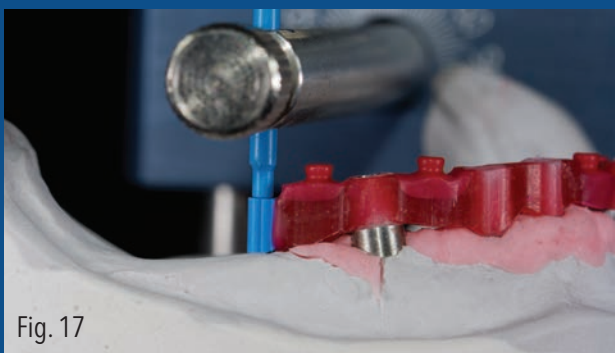


Fig. 17

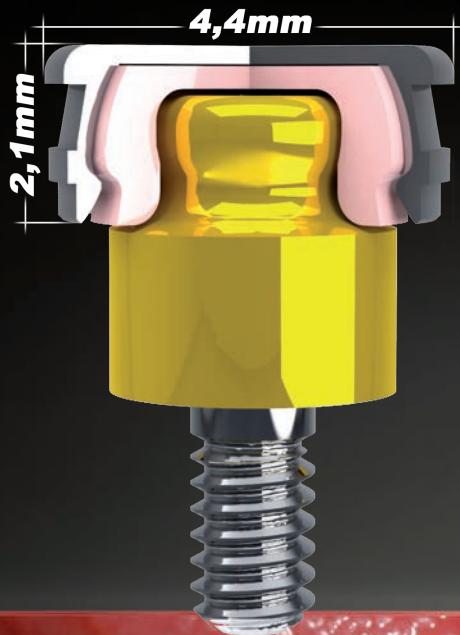


Fig. 18

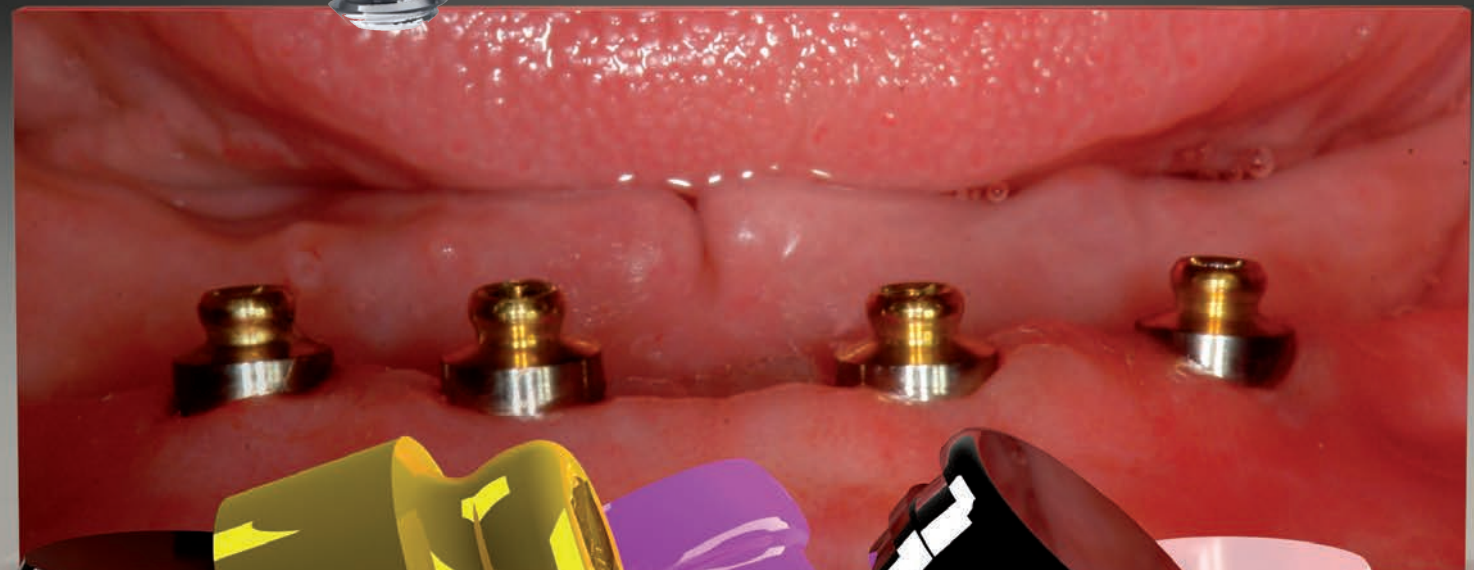
Fig. 17 - 18 — Positioning of the Ot Vertical attachments

OT EQUATOR

MAXIMUM stability
MINIMUM space



**all implant brands
and platforms
compatible**



RHEIN83 USA

Imported and Distributed By
American Recovery

877-778-8383

www.rhein83usa.com - info@rhein83usa.com



Fig. 19a



Fig. 19b

Fig. 19a - 19b — Bar completed before the investment and casting



Fig. 20



Fig. 20a



Fig. 20b

Fig. 20 - 20b — Insertion axis perpendicular to the occlusal plane



Fig. 21 — Mouth aesthetic try-in



Fig. 22a



Fig. 22b

Fig. 22a - 22b — Aesthetic try-in in the mouth



Fig. 23 — Bar sitting on the implants check-up

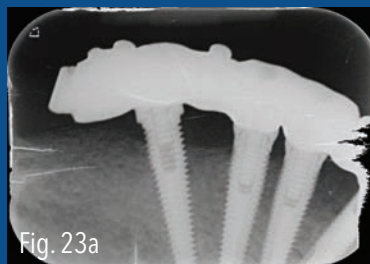


Fig. 23a



Fig. 23b

Fig. 23a - 23b — X-ray check-up



Fig. 24 — refined and polished bar



Fig. 25 — Counter-bar with metal lingual part



Fig. 26 — primary and secondary parts



Fig. 27 — finished prosthesis right side

has been decided to modify the original project by choosing a removable prosthesis with mixed implant and mucous support; this would guarantee an adequate masticatory stability, combined with an adequate extension of the occlusal area. It is important to underline here, that the patient's former prosthesis failed due to his perioral, lingual and masticatory force; indeed he broke the abutments and some radicular element covered with Richmond crowns.

The old prosthesis was then used as a provisional prosthesis in order to fully evaluate all the parameters to avoid a future failure of the new prosthesis with a consequent fixing, as well as the patient's expectations. Moreover, this prosthesis was also used to evaluate the position of the implants within the prosthesis body with some silicone masks. Due to the frontal placement of the implants and the vestibular prominence, a correct occlusal plane could be done but with

a poor hygiene; for that reason it has been chosen to produce a reinforced removable prosthesis with a counterbar to be anchored on the implant bar.

In this stage it is important to underline the dialogue and cooperation between the technician, the dentist and the patient, since this decision was made only after the technical evaluation and accepted by the doctor; the latter then communicated this decision to the patient convincing and reassuring him that the removable prosthesis, was more convenient and safe than the fixed one proposed at the beginning. After the patient approval, we proceed to the final teeth set-up accordingly with the parameters collected to create a full mucous-supported denture (Fig.11 - 13).

In the construction of this type of prosthesis it is mandatory to pay attention to the insertion axis of the counterbar on the bar taking

into account the occlusal plane. This particular factor, seemingly trivial, is fundamental for the long lasting of the prosthetic restoration. Underestimating this aspect, would in fact led to a premature wear of the retentive cap with the need of its continuous replacement with the eventual risk to wear also the metal and thus the shape of the retentive attachments. An apparently trivial error that would lead to the technical failure of the entire work. The insertion axis, considering also the main implant axes, should therefore be chosen with the parallelometer (Fig. 14); once assessed this axis, the modeling of the bar can start along with the positioning of the attachments (Fig.15-16-17-18), with the aid of the silicone masks (Fig.10-10a-20-20a-20b). It has been chose as retentive attachments four OT Equator and two Ot Vertical to give the maximum stability while maintaining the minimum resilience of the retentive caps (Fig.19). The cast bar is then checked both by the technician



Fig. 28 — finished prosthesis left side



Fig. 29 — finished prosthesis before delivering to the dental office



Fig. 30 — macro and micro texture of the flanges



Fig. 31 — bar screwed definitely on the implants


in the laboratory, and by the clinician in the mouth of the patient (Fig. 23), as long with the aesthetic try-in of the teeth set-up. (Fig.21-22b). in this

session, also an x-ray was performed to check the correct seating of the bar on the implants connections (Fig.23a -23b). A careful polishing of the bar

was performed (which will limit the formation of plaque) paying particular attention to the implant connections (Fig.24). To limit the lingual thickness



CAD/CAM Waxes



Grey and Beige
The newly launched blanks are characterized by their multifunctionality and by the know-how of Yeti-Dental.

Blue and White
Optimal economical wax blank—Top “Made in Germany” quality leaves nothing to chance.

Schütz Dental Group US
431 Howe Ave, Shelton, CT 06484
Phone: 866-922-1484
Fax: 866-924-9738
Email: john@sdginnovations.com
www.yeti-dental.com




Fig. 32 — finished work



Fig. 33 — finished work



Fig. 34 — occlusal view of the finished work

of the counterbar, it has been decided to leave this part of metal exposed (Fig.25-26). After the placement of the teeth on the silicone masks, we proceed to the resin the counterbar with the use of a verticator, injecting the resin. In this case, the resins used were of two different colors in order to better individualize the prosthetic work. At this point a double check of the occlusal pattern was performed before proceeding to a meticulous finishing of the aesthetic details that will individualize the prosthesis; those details will be maintained in the process of polishing (Fig.27-30). 

About the authors:

Dr. Loredana Mazzaferri has degree in dentistry with honors in 1989 in the University of Ancona, she attended several courses of Periodontology and Prosthodontics.

Giunchi Emanuele, attended the Institute "L. Dehon - Villaggio del Fanciullo" in Bologna

obtaining the Degree of Dental Technician in 1995. He worked as employee for about 6 years focusing mainly on complete and partial prosthetic dentures.

He became a co-owner of the dental laboratory Unilab Foschi, Giunchi and Cattin snc. in Ravenna in February 2002 involved predominantly in fixed prostheses and casting. He attended several training courses including the casting course in the 2004 held by the M.D.T. Sergio Strega, and in 2010 a course of gnathology with Dr. Monica Casadei. In 2012 a functional anatomy course with Claudio Nannini. In 2013 he attended the Rhein 83 Basic course and in 2016 the Rhein 83 Master course.

Luca Cattin attended the Institute "L. Dehon - Villaggio del Fanciullo" in Bologna obtaining the Degree of Dental Technician in 1993/94.

He worked as an employee for 7 years focusing mainly on complete and partial prosthetic dentures, as well as with fixed-removable restorations.

He became a co-owner of the dental laboratory Unilab Foschi, Giunchi and Cattin snc. in Ravenna in February 2002, involved in the complete and partial prosthetic dentures, fixed-removable prosthesis, and, later also in bites. In 2004 he attended a course in Milan focused on the "Diagnostic Approach to the Dysfunctional Patient".

In 2009 he involved himself in the study of the Gerber's technique with the Master dental technician Davide Nadalini a Candulor speaker, and mastered the aesthetic technique of flange colouring to emphasize the complete removable prostheses and the overdentures on implants.