## FOCUS ON PRAMA

## VOL.1

Guidelines for the positioning and rehabilitation of PRAMA implants.

**SINGLE CROWNS** 



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## Prama: an overview on its first DECADE OF CLINICAL USE

Among the many advantages of Prama there are the freedom of positioning and prosthetic approach. In these 10 years of clinical history, simple and predictable operating protocols have been consolidated from the experience of thousands of users all over the world. This first booklet was created precisely to share with all of you the main indications for positioning and use regarding rehabilitations on single implants; further volumes will follow, which will deal with multiple rehabilitations, conometric prosthesis, the use of the implant in context with regenerative procedures, and more. This is a summary of some of the data collected through interviews with users who we asked to describe their experience in different clinical conditions, also to the advantage of those who are approaching this very versatile implant for the first time.

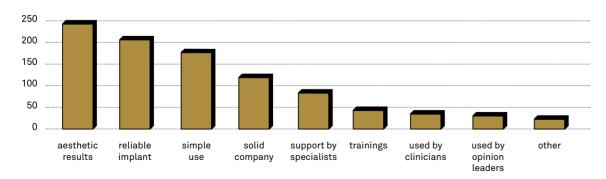
"It is important to systematically analyze data on clinical use in years to understand how experience shapes the use of a versatile device."

#### Cristiano Tomasi

Coordinator of the statistical analysis of users' responses to the interview on Prama



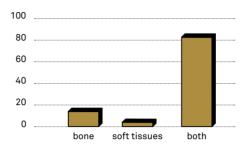
## Why do users choose Prama?



Prama is chosen because it is a reliable system that allows for excellent aesthetic results with simple use.

The solidity of the company has a bearing on the choice of the system to use.

## What reference do users adopt to position Prama?

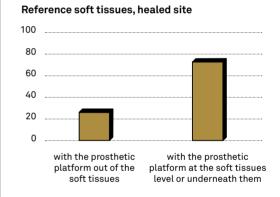


The positioning of Prama is planned considering both the bone level and the thickness of the soft tissues.

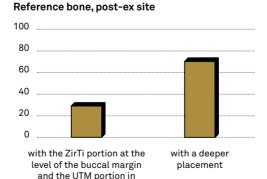
## How do users position the neck when

taking the bone as a reference?

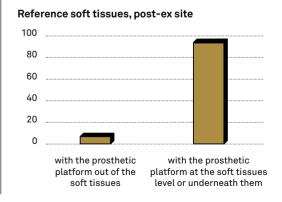
# Reference bone, healed site (not post-ex) 100 80 60 40 20 with all the UTM neck out of the bone insider the bone



when taking the soft tissues as a reference?



contact with the bone



Intramucosal positioning is always preferable.

# The one and only INTRAMUCOSAL IMPLANT

Prama is an intramucosal implant, composed by an endosseous body with ZirTi treatment and a neck with UTM surface.

## The implant is characterized by 3 different areas:

## Neck

Convergent portion with UTM surface

## Neck

Cylindrical portion with UTM surface

## Body

with ZirTi surface





## Neck

Convergent portion with UTM surface

## Neck

Cylindrical portion with UTM surface

## Body

with ZirTi surface

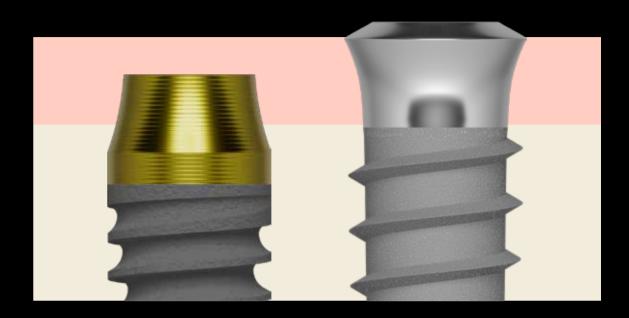
# What does INTRAMUCOSAL mean?

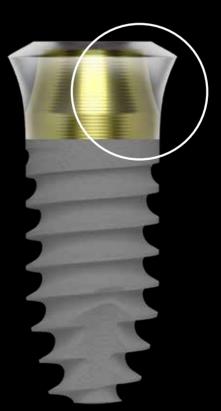
Given their morphology, these implants do not have intrinsic stops that prevent deeper insertion, as normally happens with all transmucosal implants with the characteristic divergent neck, thus allowing the positioning of the connection platform within the soft tissues.

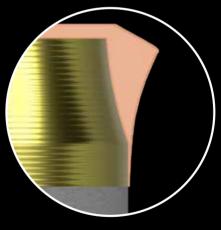
This feature of Prama offers great clinical freedom and many biological possibilities and advantages. The volumes around the coronal portion of the implant are filled, after placement, with the clot and by important regrowth factors, which will turns into thick and functional soft tissues.



Prama implants have the advantages of traditional tissue level implants, as the junction point between implant and prosthesis (the so-called "implant platform") is far from the bone, with all the related and widely known biological benefits. However, the real advantage and distinctive feature of Prama lies in being INTRAMUCOSAL.







Prama implants are designed to maximize the presence of tissues around the implant neck. Convergence leaves more space for soft tissue, and the morphology of the neck, combined with the UTM surface, promotes great adhesion and stability of the connective tissue, in such a way as to favor aesthetics and, at the same time, maintaining the underlying hard tissue levels.

# Guidelines for the insertion of PRAMA with INTRAMUCOSAL PROTOCOL

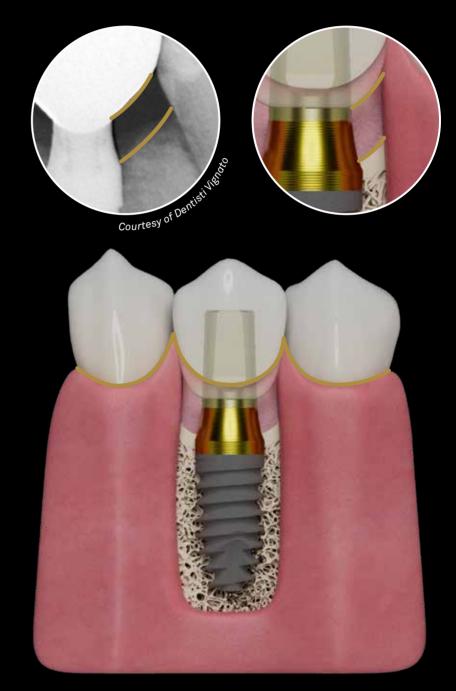
#### **PRE-OP SITUATION**

The insertion of Prama implant should be planned starting from the prosthesis. The desired profile of the parabola is to be taken as a reference, which must be harmonious with the festooning of the adjacent elements or of the contralateral element.



#### **FINAL SITUATION**

Literature and clinical experience show that after the healing a bone remodelling occurs, that is parallel to the emergence profile of the prosthetic crown, approximately 3 mm from the latter. Therefore, the positioning of the implant should be such as to maximize the biological space available for the connective tissue. The use of a vertical post will allow the crown to close at the desired level, with its zenith positioned at least 1 mm below the gum margin. Bone remodeling and regrowth of the soft tissues will take place in an optimal manner and maximizing the aesthetic and functional results of the rehabilitation.

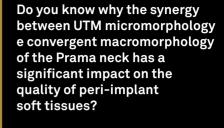


## Surgical phase

In light of what we have just seen, the implant shoud be placed sufficiently deep. Therefore, the advice is to choose the implant at least one length shorter than the depth of the prepared site. For example, if the available bone allows the insertion of a 10 mm implant, a 10 mm long hole will be prepared, but a 8.5 mm implant will be placed, and the insertion depth will be modulated up to the level in such a way as to take advantage of the intramucosal potential of the Prama neck.

Example of surgical phase with intramucosal protocol: preparation of the implant site with a 10.00 mm long drill for subsequent insertion of Prama implant with nominal length FFT3-340 of 8.5 mm.

By inserting Prama implant with the intramucosal protocol, a part of its UTM neck will go inside the bone and a part will be in the soft tissues, in order to fully take advantage of the benefits of the UTM micromorphology and convergent macromorphology.



Read the complete article published on the Clinical Oral Implants Research





## What if the patient has a VERY THIN GINGIVAL BIOTYPE?



#### **PRE-OP SITUATION**

In case of particularly thin gingival biotype (approximately 1 mm of gum), the protocol for intramucosal insertion and for subsequent rehabilitation of a Prama implant does not change. Just further deepen the level of insertion of the implant into the bone, procedure possible thanks to the UTM surface of the Prama neck that works in a excellent way also in contact with hard tissues.

## Surgical phase

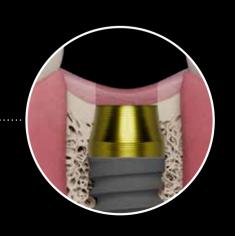


In case of thin biotype, since a deeper placement is needed, it is recommended to choose an shorter implant length. In the example on the left, the drill is used at the depth

of 11.5 mm for the insertion of

a 8.5 mm long implant.





#### **FINAL SITUATION**

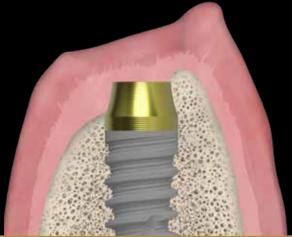
Planning always should start from the prosthesis: once designed the position of the prosthetic crown, whose zenith will always go assumed approximately 1 mm below the gingival margin, the insertion of the implant follows the protocol described in the previous pages.

## Insertion in case of **POST-EXTRACTION PROTOCOLS**

In the case of post-extraction protocols, there is always a discrepancy between the height of the buccal bone and that of the lingual or palatal bone. In some cases, the buccal wall it may also have defects of a certain extent. In these cases, the ideal positioning of Prama implants is to place the platform at the level of the lingual or palatal bone, leaving the UTM surface exposed vestibularly, making sure that the entire ZirTi portion is in the bone.

The recommendation is to always place the ZirTi surface entirely in contact with the bone.

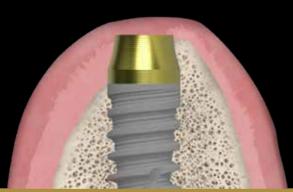
Placement in post-estraction socket



Alternatively, in the case of a post-extraction socket an implant with long neck can be used (PRAMA LONG NECK) in cases where the difference in height between the buccal bone and lingual or palatal bone is excessive and the standard neck is too short to compensate for the difference in height.

X-ray follow up of a Prama Long Neck placed in a post-ex socket.

Healing





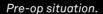
Courtesy of Guillermo Cabanes Gumbau

## Insertion in case of **THIN RIDGES**

In case of particularly thin crests, or with a knife-edge conformation (in which the most coronal part of the crest is very thin, and then widens widely after a few millimeters) the use of Prama SLIM implants allows you to face this type of clinical challenge with greater predictability and confidence.

With Prama even surgery in very thin ridges is simpler and safer thanks to the Slim implant, with a constant diameter of 3.3 mm along the entire implant length. The presence of such a thin ZirTi treated portion allows you to make the most of the scarce amount of bone available and the UTM neck maintains the cylindrical geometry of the implant and exploits the benefits that its particular micro-threaded surface brings both in contact with the bone and with soft tissues.







Insertion of the Prama Slim implant, which thanks to its geometry make



the most of the scarce bone availability. Compensation of the defect with deproteinized bovine bone mineral particles.



After surgery CBCT.



Clinical and radiographic healing 13 months after surgery.



Clinical healing 15 months after surgery.

**Courtesy of Andrea Di Domenico** 

## The choice of the **PROSTHETIC COMPONENT**

Prama's philosophy is to leave more space for soft tissues. Prama implants offer a rich selection of prosthetic components that allow you to rehabilitate single crowns, bridges and full arch in all situations, with digital workflow. Marginless and with margin options are available, and leave to the clinician the decision on where to close the prosthetic margin, either posts or bases with a predefined support base for luting the crown. Both cemented and luting options are available, for digital and traditional workflows. It is possible, in the case of a screw-retained prosthesis, to choose an angled screw hole.

Convergent shoulderless solutions or without base are available, with narrow or convergent profile, in which the crown can be positioned at different levels (L-MD or L-MDT). These solutions promote soft tissue thickening because they leave more space for connective tissue.





When single rehabilitation concerns a last molar element, an option is to use a "Prama IN" prosthetic solution which closes around the implant neck, allowing greater robustness to the rehabilitation, also in light of the important typical chewing loads of that area. The "Prama IN" prosthetic solutions may also represent a valid option in cases where, due to factors related to the patient's immune system response, bone and tissue remodeling was not the desired one.

Standard or cuttable T-Connects for straight or angled screw hole.



Do you know why cuttable T-Connects represent a versatile and easy-to-use tool?

Watch the video and find it out!



#### **CONICO** prosthetic system:

- fixed prosthesis without screws or cement;
- easy to remove: at any time the clinician can remove the prosthesis to perform a follow up and/or the hygiene;
- the conometric technique allows restorations from single elements to entire arches;
- biological seal and healthy and stable tissues over time.

## ANGLED SCREW HOLE

In the case of implants in the aesthetic area, which need an angulation between the implant and the post axis, it is recommended to place the implants deeper in order to be able to use bases or posts for luting with angled screw hole, so that the screw has a palatal access, consistent with the aesthetic needs.

Solutions for luting are available with support base for the crown, the so-called "Interphases", and without a base of support, the so-called L-MDT, which leave the clinician free to choose where to close the crown.





## **IMMEDIATE PROVISIONALIZATION**

of Prama RF implant in position 2.3



Costantino Vignato, Giuseppe Vignato, Riccardo Finotello

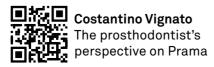


The patient came to our clinic for the extraction of the root of the canine in position 2.3, around which a large part of bone has been lost both in vestibular and palatal sense. The compromised root was replaced with a Prama RF implant immediately provisionalized.

"The Prama implant was essential in the execution of this case because, thanks to the maintenance of the bony peaks, the overlying soft tissues obtain the proper support for a healthy and stable healing."

(cit. Dr. Costantino and Dr. Giuseppe Vignato)











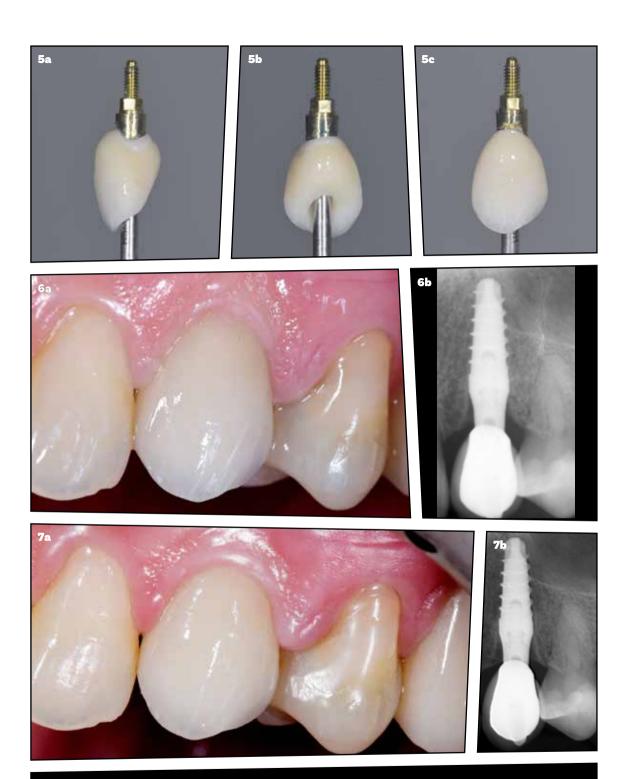








- 1. Initial clinical case.
- 2. Clinical photo and radiograph at the time of implant placement and its covering with a cover screw.
- 3. The day following the insertion of the implant, a temporary crown that entirely covers the post-extraction socket is placed.
- 4. After 2 months, the provisional prosthesis is removed. The healing was successful, resulted in healthy and stable soft tissue, supported by bone peaks.



- 5. Details of the final prosthesis.6. Clinical images and radiograph at final crown delivery.7. Clinical and radiographic follow up at 2 years.

### **DYNAMIC SCREW**

## advantages in the aesthetic area

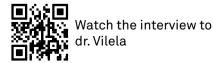




The patient presented with acute pain in the area of tooth 1.1. Upon clinical examination, a large apical reaction with the presence of exudate is noted. Fistulography, a radiological technique that allows the analysis of fistula pathways, reveals that the tooth had undergone endodontic treatment long ago and is apparently fractured. After further investigation with a CT scan and confirmation of the irretrievability of

the tooth, it is decided to proceed with extraction as atraumatically as possible and immediate placement of a Prama implant, after digitally designing a customized healing abutment.

After 3 months, once the implant has osseointegrated, a progressive shaping of the soft tissues is carried out using a provisional restoration. Upon achieving the desired result, a definitive crown obtained through a digital workflow is chosen, which is cemented onto an L-MDT abutment utilizing the possibility to orientate the screw hole thanks to the dynamic screw.









Initial case: an abscess is evident in position 1.1, and the X-ray suggests an apparent fracture.









An extraction is performed as atraumatically and conservatively as possible, and it is decided to place a customized healing abutment with transmucosal emergence.



After 3 months, we can appreciate the healing of the soft tissues and the profile obtained thanks to the customized transmucosal emergence.









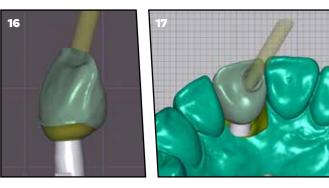
It is decided to begin shaping the soft tissues with a provisional restoration. Already after one week, we observe a positive response from the tissue; however, it is noted that the aesthetics of the gingival contour in relation to tooth 2.1 could be improved. Therefore, a reshaping is carried out through the recontouring of the provisional restoration, and it is positioned back in place. To be noted that the screw entrance of the provisional restoration is vestibular.

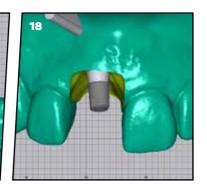


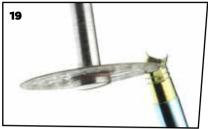


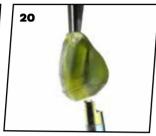


A three-dimensional excellent gingival profile is achieved, maintaining a height of the parabola similar to that of tooth 2.1.





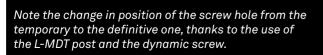






Having already achieved a gingival profile with the morphological and anatomical characteristics we were looking for, it was decided to proceed with a lithium disilicate crown on the L-MDT abutment using a digital workflow. During the design phase, the screw hole was repositioned by tilting it palatally. The final crown has already been cemented onto the L-MDT abutment.

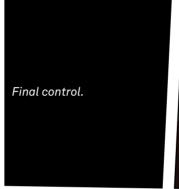








Upon delivery of the final crown, it is decided to also replace the one on the adjacent element.









6 months follow up.

## **REHABILITATION OF SEVERELY RESORBED RIDGE** in the gesthetic area with Prama Slim.



Andrea D. Di Domenico



The 38-year-old patient came to our observation with a Maryland bridge in position 1.2, asking to improve the aesthetics and stability of the rehabilitation. Clinical examination shows severe three-dimensional tissue contraction in position 1.2, later confirmed by Cone Beam images. During the anamnestic phase, the patient says that she lost her tooth when she was 26, as a result of a traffic accident. Severe bone

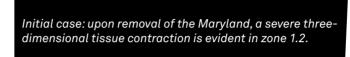
resorption, in the bucco-palatal direction, is attributed to the loss of the buccal alveolar wall after traumatic avulsion of element 1.2. Based on the patient's requests, we decide to replace the outdated Maryland bridge with an implant-supported prosthesis. Once studied the morphology of the residual bone crest, we choose to place a Prama Slim implant with a 3.3 mm diameter that will allow the complete housing of the rough portion inside the bone. The 1.8 mm high neck will facilitate the management of the vestibulo-palatal discrepancy, interacting on one side with the soft tissues and on the other with the bone. In the first surgical phase, through a conservative crestal incision, the implant is inserted and immediately restored with a screw-retained provisional crown. At 3 months, we decide to increase the volume of the vestibular soft tissues by inserting a crosslinked collagen membrane slowly reabsorbable. A half thickness flap is opened, with coronal repositioning, and the membrane is stabilized in the periosteum with a suture. The rounded cervical profile of the provisional crown has the function of supporting and stabilizing the flap. After a month and a half, the interproximal areas are modified to make room for the development of the papillae. At this stage an excellent maturation of the mucous tunnel can already be recorded. After 6 months, the temporary crown is replaced by a final screw-retained zirconia-ceramic crown. The aesthetic result at 13 months, with papillae perfectly adapted to the profile of the crown and supported by a very natural vestibular contour, meets the expectations of both the patient and the clinician.



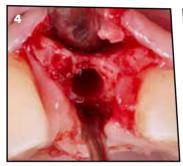
Find out dr. Di Domenico point of view on Prama















Exposure of the surgical site, preparation of the implant site and positioning of a Prama Slim implant.

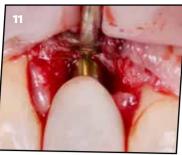






Preparation of the previously prepared immediate provisional.





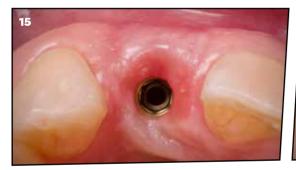


Preparation of the sleeve for the provisional crown, positioning of the previously prepared immediate provisional and repositioning of the flap around the crown.





Healing at 3 months: given the vestibular depression which compromises aesthetics, we opted for the insertion of a crosslinked collagen membrane to increase the vestibular volume of the soft tissues.





Comparison between 45 and 90 days healing.



Healing at 3 months.

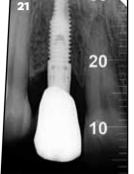






Healing at 6 months.









Healing at 13 months.



## **GUIDED PLACEMENT OF PRAMA** IN THE ESTHETIC ZONE:

the benefits of accuracy



**Andrea Fincato** 

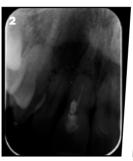


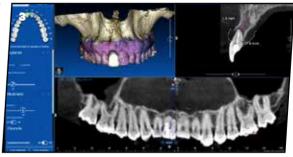
The patient, 33 years old, presents to our clinical observation with: evident discoloration, percussion pain, and grade 2 mobility of element 1.1. The bidimensional and tridimensional radiographic analysis reveals severe resorption of the vestibular wall. It is essential to emphasize the concept of accuracy in the prosthetic and anatomical principles. A digital workflow is used, integrating the aid of computer-guided

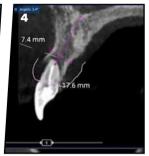
surgery. It is decided to prosthetically restore element 1.1 with immediate loading. The prosthetic element has the right characteristics for excellent healing.



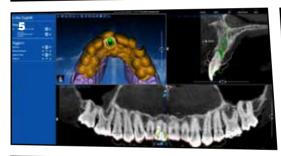
Objective examination.







Initial X-ray and CBCT revealing severe resorption of the vestibular wall.



The planning is carried out with the help of the Archiplan 3D software, a program with a simple and intuitive graphical interface that allows diagnosis, planning, and modeling from any computer or tablet using DICOM and STL files.

Thanks to the full-digital approach, it is possible to prepare an immediate provisional with high aesthetic value and test its emergence profiles on the printed model.





Atraumatic extraction.



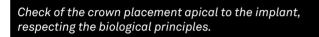
Watch the interview o dr Fincato



Vatch the video of



Guided implant placement, which allows emphasizing the concept of prosthetically/anatomically guided surgery.







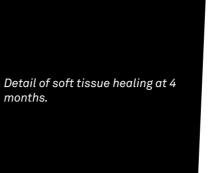


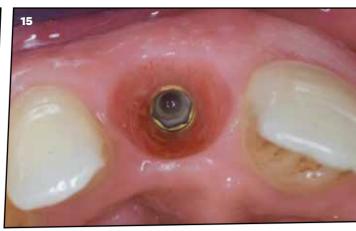
Placement of the previously prepared provisional crown: the perfect adaptation of the soft tissues is noted.





Adaptation of the soft tissues around the provisional at 30 days.







Delivery of the final crown.





Clinical and radiographic follow-up at 4 years.

## **IMPLANTOPROSTHETIC RESOLUTION** of upper lateral incisor agenesis

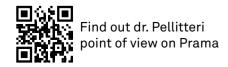


Giuseppe Pellitteri



The 40-year-old patient presented to our observation with a request to restore the harmony of her smile, compromised by the agenesis of the upper lateral incisor. After creating the necessary space with orthodontic treatment, we proceeded with the insertion of a 3.8 diameter Prama implant, taking advantage of the convergence of the neck. The vestibular contour was recreated using a graft harvested from the

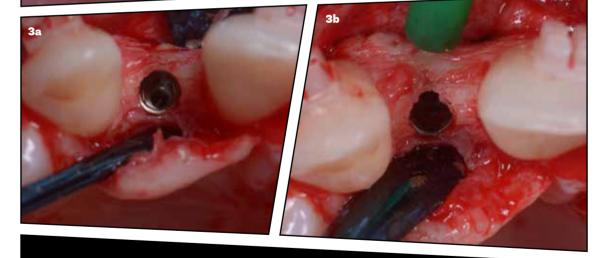
palate. During healing, the healing abutment was covered by a provisional shield fixed to the orthodontic arch, so as not to exert any pressure on the implant. At five months, a provisional supported by a metal sleeve was installed, useful for appropriately shaping the mucosal tunnel. After six months, the definitive zirconia restoration was delivered, with a profile designed to encourage papillary embrace of the crown. At the two-year follow-up, the complex of hard and soft tissues around the implant was stable and healthy.



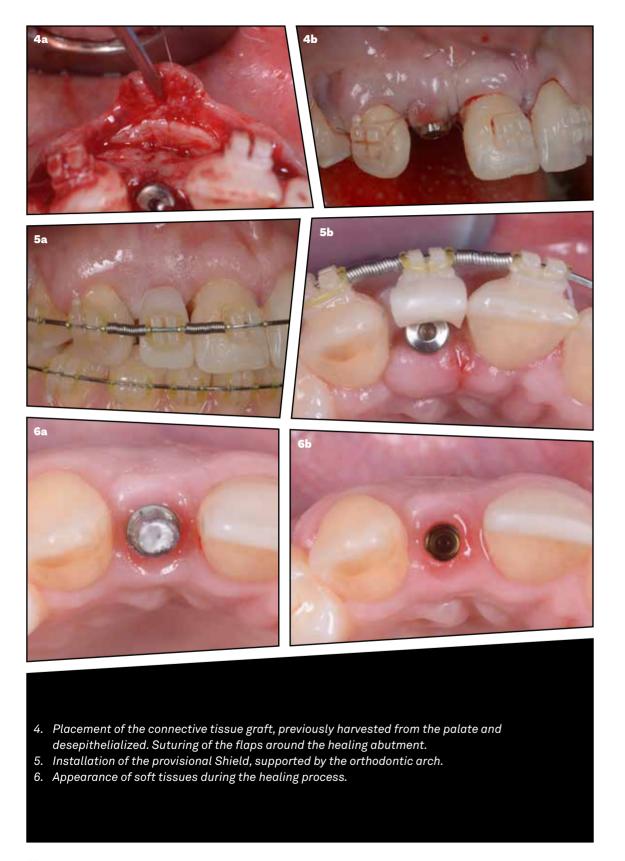








- 1. Initial case before and after orthodontic treatment.
- 2. After canine repositioning and creation of space for the missing lateral incisor, the depression corresponding to the vestibular contour is highlighted.
- 3. Flap opening and implant insertion. As can be noted, the positioning of the neck is very deep.

















- 7. Placement of the definitive zirconia restoration. A ceramic was applied on tooth 2.2 to correct hypoplasia.
- 8. Case finalized.
- 9. Two-year follow-up.
- 10. Five-year follow-up.
- 11. Comparison of vestibular contour maintenance at two and five years.



## Prama RF - IMMEDIATE **LOADING** in the esthetic zone



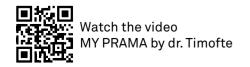
Timofte Costin, Talpos Serban



The 24-year-old patient come into our clinic after a traumatism that caused the loss of his left central incisor. We performed the surgery using a Prama RF implant for optimal primary stability in the maxillary zone and grafted with xenograft material and a collagen membrane. We made an immediate load on the implant using a PMMA crown. After 6 months we did the final zirconiaceramic restauration. The big advantage was

the excellent primary stability and that the connective tissue was firmly adherent on the neck of the implant.

Traumatisms in anterior region can often happen, and a tooth loss is an immediate emergency due the esthetic requirements. Treatment can be a bridge or inserting an implant. If we choose to insert an implant the problem is the temporary solution. This can be a provisional crown on implant if the implant has good primary stability (>35 Ncm) or a Maryland provisional bridge.





The 24-year-old patient came into the clinic after a traumatic event. The solution was to place an implant in 2.1 position and make a provisional crown as fast as possible.



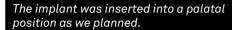
On the initial CBCT we see that the thick of the bone is not so good and we knew already that bone augmentation is needed to ensure a proper bone thick around implant.



Because it was an esthetic area, we decided to use a Prama RF implant 3.8 mm diameter and 10 mm height with a 2.8 mm collar. We used a Cad Cam PMMA provisional crown.



After incision we raised a full thickens flap to see the bone because the direction of the implant was very important in order to make a screw retained crown.





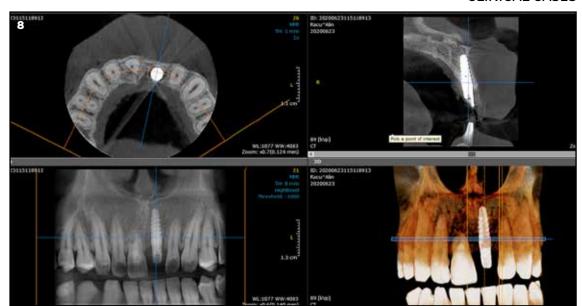


After insertion, a bone graft was added vestibularly, using deproteinized bovine bone covered by a collagen membrane.

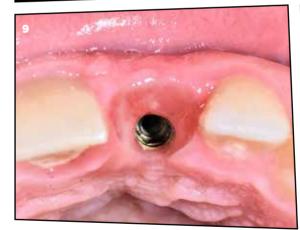
No CTG was needed because we managed to restore the vestibular volume. In the same surgery an apical resection on tooth 1.1 was done.

The provisional restauration had no contact with the lower jaw and was out of any guidance. However, the esthetic outcome of the provisional was not the desired one.





After 6 month the patient came back to the clinic for the final restauration. We performed a control CBCT to evaluate the peri-implant bone.





We used a custom impression technique that helped us to maintain the same emergence profile, being it stable. The dental technician made the zirconia crown over a straight repositionable abutment.

Afterwards the vestibular part was layered with ceramic. We corrected the zenith of the crown to make it look more natural. The part of the crown which is in contact with gingiva is just manually polished and not glazed. After the try in, we fastened the crown at 25 Ncm. The hole was filled with composite material.



Final restoration try in.









Two years follow up.

The Prama implant have the proprieties to support immediate loading. Insertion torque was above 50 Ncm witch in great. The converging neck had a big impact on soft perimplant tissues stability, avoiding any bleeding during disconnections and connections of the provisionals, like a One abutment-one time approach.

## Bicortical anchorage to the maxillary sinus with IMMEDIATE LOADING.



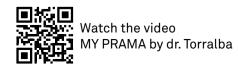
Diego Torralba García



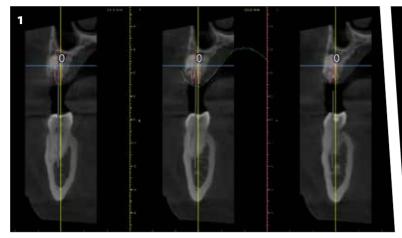
Dental implantology has undergone a significant revolution with the introduction of advanced techniques such as guided surgery and immediate loading. In particular, the maxillary sinus lift has proven to be a crucial procedure to overcome anatomical limitations and provide a solid foundation for implant placement. This case explores the spectrum of guided surgery as a tool to plan the sinus lift, aiming to achieve bicortical

anchorage to facilitate sufficient stability for immediate implant loading. The strategic combination of these practices not only offers significant aesthetic and functional advantages but also presents an advanced approach to improving the effectiveness and predictability of outcomes in oral rehabilitation. Clinical cases like this support the synergy between guided surgery and prosthetic design, outlining a path towards a paradigm capable of transforming modern implantology. The maxillary sinus lift, or anchoring to its cortical bone with minimal invasion, is a predictable and widely used procedure to facilitate the placement of dental implants in the posterior region of the atrophic maxilla. However, the immediate loading of the implant after the sinus lift remains a significant clinical challenge, particularly in terms of implant stability and long-term success. In this context, guided surgery emerges as a promising tool that optimizes the precision and safety of the procedure, while also improving clinical outcomes. Guided surgery technology allows detailed three-dimensional planning and precise implant placement, reducing surgical invasiveness and minimizing the risks associated with the maxillary sinus lift. However, the feasibility of immediate loading depends not only on the surgical technique but also on the minimum torque required to stabilize the implant in compromised maxillary bone, whether due to height deficits or

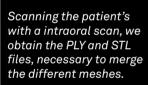
bone quality, as described in this case.



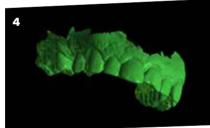
57-year-old patient, with no significant medical history, presents at clinical examination with the absence of tooth 1.5, which was extracted due to a vertical fracture. Alveolar preservation was performed using particulate bone, presumably a xenograft, the manufacturer of which is unknown as the procedure was carried out in another dental clinic.



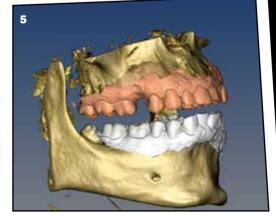
The patient states that more than 12 months have passed since healing. In the CBCT, we can observe that the particulate bone seems to have integrated with the soft tissue without achieving clear bone remodeling of the socket.



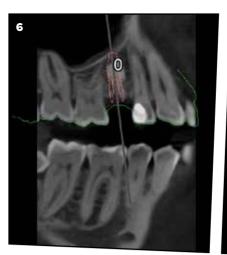




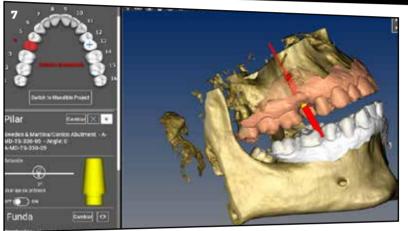




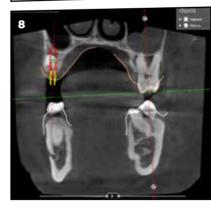
We then merged the meshes obtained from the CBCT files and those from the scanner. This allows us to verify both the bone tissue and the soft tissue, to make a prediction about the type of abutment to use in terms of both height and diameter.

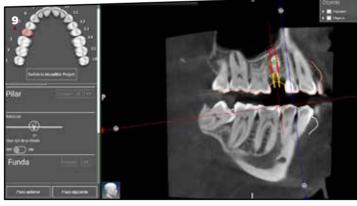


We planned the implant positioning using the Archiplan planning software (Sweden & Martina, Italy). In this case, we decide to place a Prama implant with a length of 11.5 mm and an intramucosal neck height of 2.8 mm, providing a total length of 14.3 mm. The RF SL body features a wider thread compared to a conventional Prama RF implant, which is ideal for providing higher primary stability and torque, required for immediate loading cases.

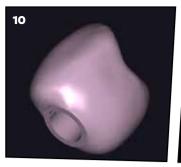


Thanks to the versatility of the libraries included in the Archiplan software, we can calculate the ideal prosthetic component for the crown, taking into account the thickness of the soft tissues and the gingival biotype.

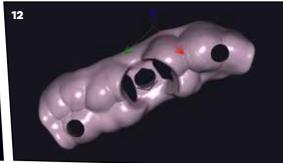




Once our project is completed, the software automatically generates a milling protocol as established by the manufacturer Sweden & Martina. This ensures that the milling is as effective as possible for the selected implant model, adjusting the diameter and length of the drills to the characteristics of the implant body. We utilize the guided surgery kit specifically designed for Prama implants.







We create the crown design using a design software based on the exports of the meshes created in the Archiplan planning software. We draw the position of the abutment and the surgical guide.



We perform the segmentation of the maxillary CBCT to obtain a 3D printed bio-replica in polyamide to achieve a sensation as close as possible to the bone texture. This enables us to conduct a more realistic simulation of the surgery before performing it on the patient.



For further verification, we have 3D printed a crown in transparent acrylic, allowing us to see through it and check all the adaptations we had planned in the design. The final crown (fig. 14) will exactly replicate this morphology.

#### SURGICAL PHASE

After a successful virtual and physical simulation of the patient and the surgical process, we can proceed with our guided surgery through immediate load prosthetics.





We apply the surgical template to the patient (fig. 16) and, using a circular scalpel, we make the mucosal incision and remove the tissue cleanly. We then proceed with the milling sequence established in the initial design.



We mount the Prama implant using the mounter, which serves as a guide through the abutment inserted into the surgical template to achieve the correct angulation, easily observing the coincidence of the intended hex position. This phase is the most critical of the surgery as even a slight deviation of the implant hex could result in the inability to place the crown in its position. We adjust the final degrees of position manually using the carrier attached to the ratchet, which shows us an insertion torque of 50Ncm.

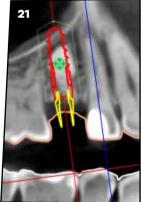




The position of the implant head remains subgingival, just as we had planned when overlaying the meshes from the intraoral scanner with those from the CBCT. After tightening, we observe that the position of the crown, both at the gingival and occlusal levels, is identical to the digital simulation we used for the design.

After placing our Teflon cap and verifying that the occlusion is as light as previously planned, we perform a follow-up radiograph. We then observe that the result is 100% overlapping with what was virtually planned and confirmed in the biomodels.









Two weeks follow up. Once again, it is demonstrated that preoperative planning is the foundation for the success of our surgeries.

## Restoration of the upper central incisor using a Prama Long Neck and a LUTED PROSTHESIS.



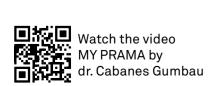
Guillermo Cabanes Gumbau

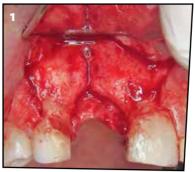


Implant-prosthetic rehabilitation of a 77-year-old male patient with the absence of tooth 1.1 using a PRAMA LONG NECK LSL implant (3.8x13 mm) and a luted prosthesis with a dynamic screw. The peculiar 3.8 mm long conical head of Prama Long Neck facilitates the correct positioning of the implant according to the crest morphology with bone dehiscence. An adequate emergence profile on the provisional screw retained

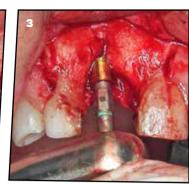
crown is generated through the clinical procedure of filling and adding photopolymerizable flowable composite at the cervical level, applied conveniently and effectively using a rubber stop on the implant analog positioned extra-orally.

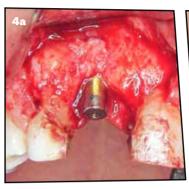
The definitive luted prosthesis features a customized emergence profile, with interproximal contouring that varies in its mesial and distal aspects, depending on the existing thickness at the base of the gingival papilla derived from the distance between the lateral wall of the implant and the adjacent tooth.

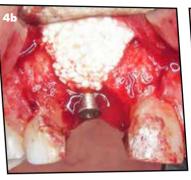


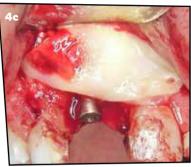








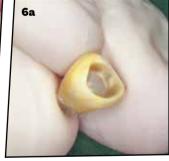




Insertion of a Prama Long Neck LSL-3.8x13 mm in a thin ridge with vestibular bone dehiscence using conservative drilling and threaded bone expanders. Application of autologous bone from the drilling combined with resorbable synthetic biomaterial and L-PRF (platelet-rich fibrin) on the bone defect.

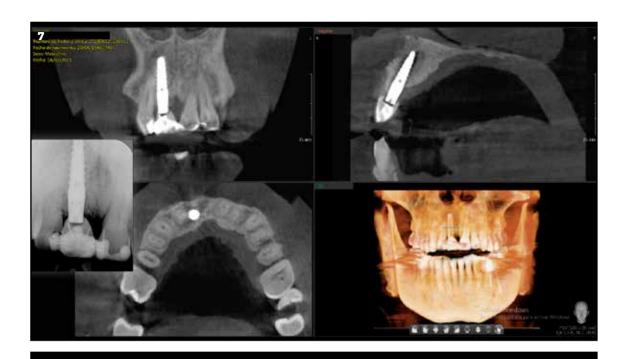








Partial isolation with Teflon and adhesion of the crown of the previously extracted tooth to the adjacent teeth during the osseointegration period.



Intraoral xray and tomographic sections showing the three-dimensional position of the implant and the biomaterial used for regeneration.

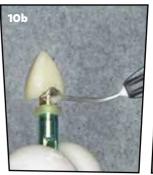




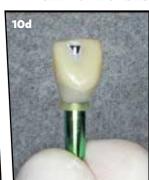


Maturation of the soft tissues around the healing abutment and its replacement with a chairsideadapted, cement-retained provisional crown.











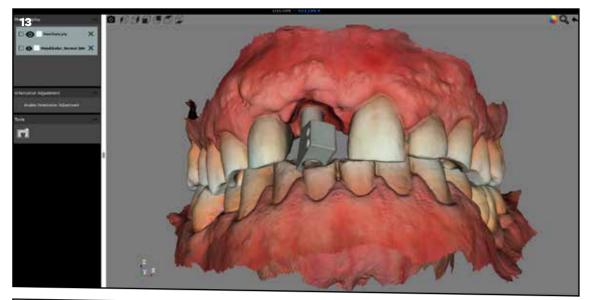


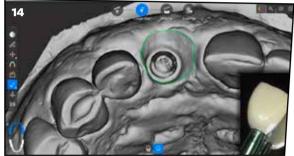


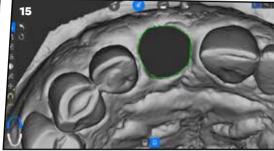
Chairside adaptation of a screw-retained provisional resin crown. After positioning the abutment inside the crown through relining with autopolymerizing resin, the emergence profile is created extraorally using a flowable photopolymerizable composite, applied conveniently and precisely with the use of a rubber guide on the implant analog. Proper final polishing of the generated emergence profile is essential for the correct evolution and adaptation of the peri-coronal mucosa.

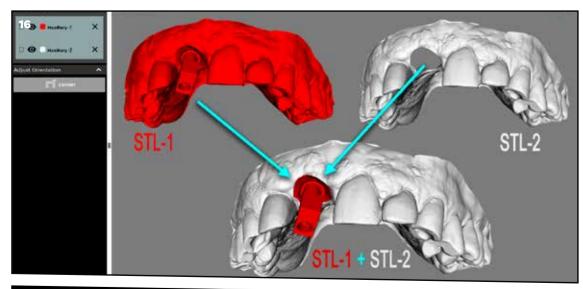












The impression-taking process is performed digitally using an intraoral scanner. Then, the desired cervical design is indicated to the laboratory using the software integrated into the intraoral scanner.







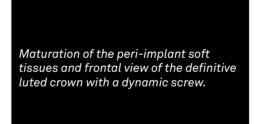








A metal coping with a customized morphology of the interproximal festooning is positioned on the Prama abutment for angled screw channel. The luted ceramometallic crown is placed on the prototyped model.







## **SCREW RETAINED CROWN**

on Prama implant in aesthetic area.



Paolo Nardinocchi and Laboratorio Camaioni Odontotecnici



The patient came to the clinic with a deep fracture of the 2.1 element that had affected the buccal wall. The tooth had a very short root but was mobile as it ankylosed. The restoration started from the extraction of the fractured element and the insertion of a Prama implant in a prosthetically ideal position: the emergence of the neck is positioned at the level of the apical margin of the adjacent teeth, being careful not

to come in contact with the buccal bone plate. This type of positioning is contraindicated when using tissue level implants with divergent or cylindrical neck because, being inserted in a more palatal position to avoid future recession of hard and soft tissues, they would force a prosthesis with a horizontal over-contour that could negatively influence the elimination of plaque by the patient, thus precluding the possibility of a cemented prosthesis due to the difficulty of removing excess cement. In this case, thanks to this positioning, it would have been possible to realize a definitive crown both screw retained or cemented. A screw retained crown was chosen, taking advantage of the benefits of the angulation offered by the Interfase Dynamica supports.

"The Prama implant allowed me to plan an ideal rehabilitation from the prosthetic point of view, positioning the emergence of the convergent neck at the level of the coronal edge of the adjacent teeth. This way it was possible to create a screw retained crown in the aesthetic area with an ideal and very natural emergence profile, also thanks to the possibility of realizing an angled prosthesis using the Interfase Dynamica."

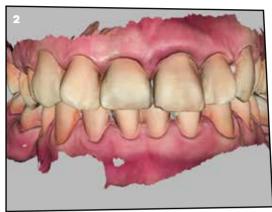
(cit. Dr. Paolo Nardinocchi and Laboratorio Camaioni Odontotecnici)

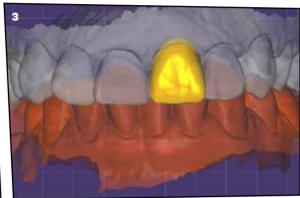


Find out dr. Nardinocchi oint of view on Prama





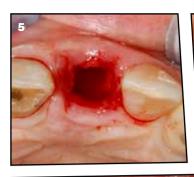








- Clinical image and initial radiograph: the fractured on the element 2.1 is noted.
- 2. Before the extraction of the fractured element, an intraoral scan is performed for the digital design of the temporary prosthesis, which will be delivered the same day of the surgery.
- Design of the temporary crown with CAD software.
- Occlusal and frontal view of the radicular residue.

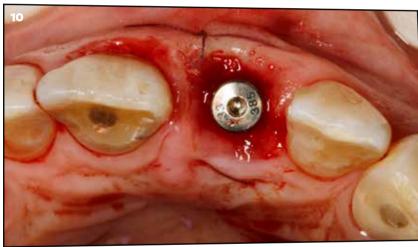










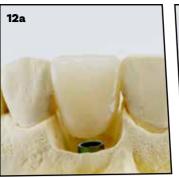






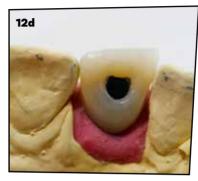
- 5. Occlusal view of the post-extraction socket.6. Insertion of a parallelism pin to verify the insertion axis of the implant.
- 7. Prama implant in situ.
- At the same time as the impression is taken, a gingivectomy is planned on the element 1.1 to normalize the incisor parabola and thus obtain a better aesthetic result. The 4 mm sulcus
- allows us to intervene without having to resort to a surgical crown lengthening.

  9. After the impression is taken, the alveolar sockets are filled with bovine bone mineral based biomaterial in particles.
- 10. Positioning of a healing abutment and sutures.
- 11. Post-surgery intraoral radiograph.







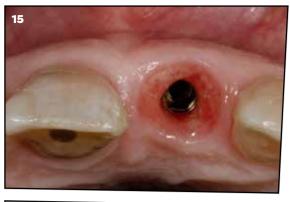








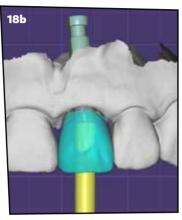
- 12. Laboratory phases for the realization of the temporary crown.
  13. Positioning of the temporary crown in PMMA, designed before surgery with CAD software.
- 14. Clinical situation after 1 and 2 weeks from the insertion of the provisional crown: the tissues appear healthy and the healing process is progressing favorably, even if the papillae have not yet fully occupied the interproximal spaces.

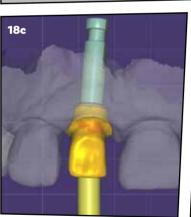


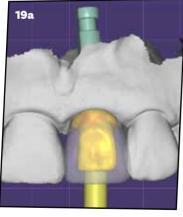


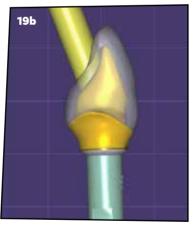












- 15. 3 months after implant insertion it is possible to appreciate the healing progression of peri-implant soft tissues.
- 16. A digital impression is taken with an intraoral scanbody in PEEK.
- 17. Intraoral impression acquired by software.
- 18. The crown design on the Interfase Dynamica support, which allows the realization of a screw retained crown with palatal displacement of the screw hole, in favor of the final aesthetics.
- 19. Final phases of the planning of the definitive crown.















- 20. Print of the 3D model with the Interfase Dynamica support inserted on the analogue.21. Interfase Dynamica support onto the analogue: note the peculiar structure that allows to
- angle the prosthesis thanks to the tilted screw hole.
- 22. Definitive crown luted on the Interfase Dynamica support.
- 23. Layered zirconia screw retained crown.
- 24. Final radiograph.
- 25. Clinical photo 4 months after surgery: parabolas are harmonized, and soft tissues are stable and healed.



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#### Sweden & Martina Mediterranea S.L.

Sweden & Martina Lda Portugal - info.pt@sweden-martina.com

info.us@sweden-martina.com

Sweden & Martina Inc. Distributor for U.S. 4700 S Mill Ave. Ste B-16 PO Box 23748 - Tempe, AZ 85282 Toll free 1-844-8MARTINA (1-844-862-7846)

Sweden & Martina S.p.A.

Tel. +39.049.9124300

35020 Due Carrare (PD), Italy

info@sweden-martina.com

Via Veneto, 10

Sweden & Martina Ltd

Toll free 0800 1123575

Amberley Court, Whitworth Road

Crawley, West Sussex, RH11 7XL

info.uk@sweden-martina.com

España - info.es@sweden-martina.com



www.sweden-martina.com

