



A Clinician's Guide to Restoring Fixed Hybrids with NobelProcera®



www.AbsoluteDentalLab.com



Dear Doctor,

Absolute Dental has specialized in fixed and implant restorations for over two decades. During this time, we have seen the introduction of many protocols, some successful and unfortunately, others not so much. One procedure that has proven to be a very predictable treatment option for the edentulous patient has been fixed hybrid restorations.

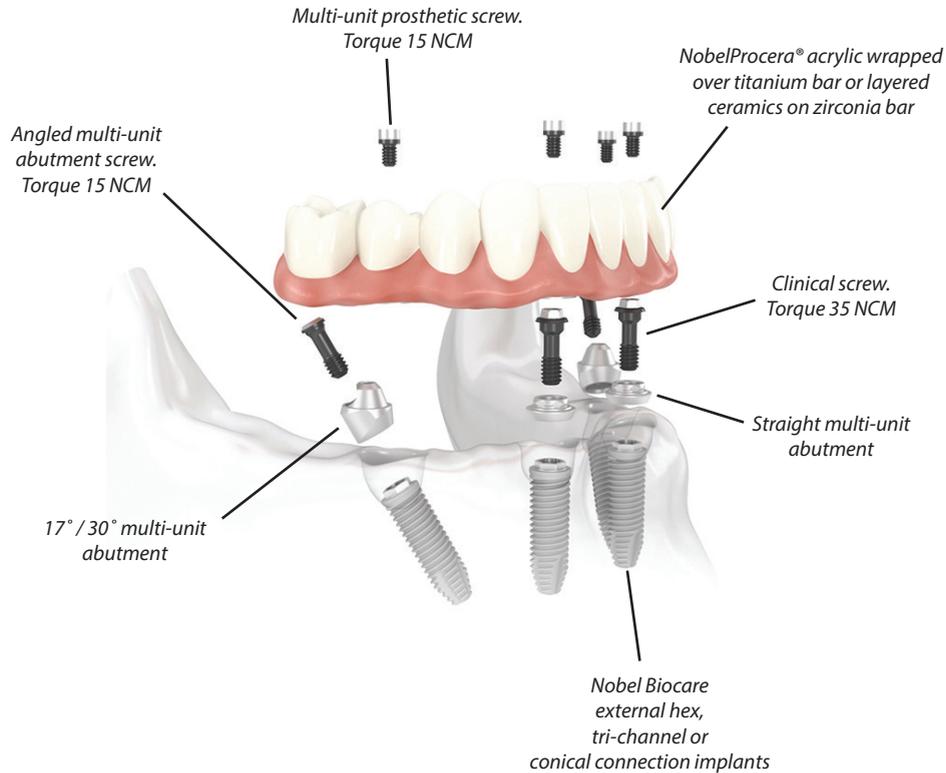
This protocol gives the restorative team the ability to treat the edentulous patient with a prosthesis that is both functional as well as esthetic.

We have found this protocol to be an extremely effective edentulous restorative option. Even first time clinicians agree that this is one of their favorite procedures.

We are very confident in our ability to support both experienced as well as inexperienced clinicians through this procedure. I invite you to contact us when planning your next case and allow us to show you the simplicity and effectiveness of the NobelProcera[®] fixed hybrid protocol.

Conrad J Rensburg

NobelProcera® Fixed Hybrid



What is it?

A fixed hybrid is an implant retained prosthesis prescribed to restore a fully or partially edentulous patient. This protocol is mostly restored on the Nobel Biocare all-on-four principle but can be restored on more implants if desired.

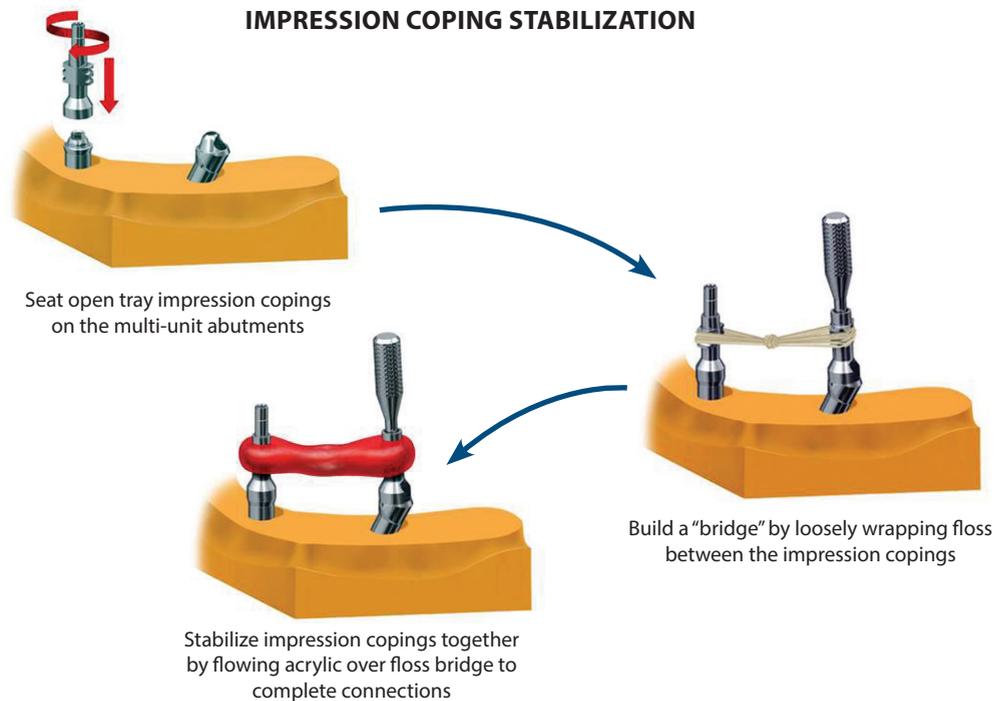
The restoration can be fabricated from either high impact acrylic wrapped around a NobelProcera® CAD milled titanium sub-structure or layered ceramics supported by a CAD milled NobelProcera® zirconium oxide sub-structure. The clinical protocols and appointment timetables for both of these restorative options are similar; the ideal solution can be selected after a patient approved denture try-in has been achieved.

General Information

Your patient will present from the surgeon with either an immediate tissue borne or surgically converted implant retained prosthesis. Even though it is highly recommended to restore a fixed hybrid at abutment level, NobelProcera® offers us the ability to also restore with uncorrected access at implant level.

Pre-restorative needs

A PVS impression using splinted open tray impression copings is required to fabricate a fixed hybrid case. The lab will fabricate a custom impression tray with occlusal cut-out for open tray application from any available pre-op model. If no pre-op model is available and the patient is wearing an implant retained temporary denture, the custom tray can be made on an impression of the temporary denture in the mouth. No need to remove the temporary denture for this impression.



First Appointment

Acrylic AND Ceramic Procera Implant Bar

Impression appointment

Remove the implant retained temporary denture by drilling the composite plug covering the access to the implant screw. Unscrew the prosthetic screw and remove it completely from the denture. Do not remove the multi-unit correction abutments from the implants; this will be the restorative level.

Screw the impression copings onto the abutments using a hand-held screw driver. Do not torque the impression copings in place. If restoring at implant level, verify accurate seating by taking an x-ray.

Using an acrylic material of your choice, build a supporting bridge between the impression copings to tie them together. This will help stabilize the impression copings inside the PVS material and allow for a more accurate impression. Multiple materials prove to be effective i.e. floss with Duralay, Dentsply's Triad Dualine etc.

Flow light or medium body impression material under the “acrylic bridge” as to facilitate an accurate impression of the soft tissue and minimize voids in the impression. Fill the custom tray sufficiently to allow for an impression indexing not only the impression copings but also the vestibule and palate. A good anatomical impression will allow the lab to stabilize the tooth try-in more effectively. Unscrew and remove the impression pins fully before removing the impression tray from the mouth. Verify impression accuracy by lightly pushing against the impression copings. If any movement is detected on the impression copings inside the PVS, a new impression will be needed.

REQUEST FROM THE LAB

Wax-rim for bite registration and model verification jig.

If a traditional bite rim will be unstable, the lab will engage one or more of the implants to fabricate a screw retained bite rim. The model verification jig can be fabricated by using temporary abutments or an economical version can be fabricated using the original impression copings.

5 DAYS IN-LAB REQUIRED FOR THIS STEP

Second Appointment

Acrylic AND Ceramic Procera Implant Bar

Model verification and bite registration appointment

It is important to verify accuracy between the model and mouth before fabricating the NobelProcera bar®. Place the model verification jig in the mouth by lightly positioning it on the abutments. If needed, secure the model verification jig with only one screw to minimize forcing the jig into seating. Visually verify seating of all platforms or if the abutment interfaces are sub-gingival, x-ray to verify interfaces are seated fully.

If any discrepancy is noted, cut the verification jig between all connections, secure them individually onto the abutments and re-lute the connections with acrylic. Repeat the same PVS open tray impression technique as before.

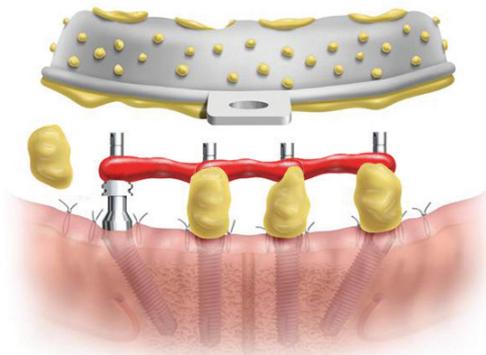
Use the bite-rim to register a bite using traditional protocols for removable dentures.

Determine shade expectations as well as tooth mold and size.

REQUEST FROM THE LAB

Tooth set up for traditional wax try-in. The lab can stabilize the tooth try-in by engaging one or more implants to facilitate a more stable try-in.

5 DAYS IN-LAB REQUIRED FOR THIS STEP



Third Appointment

Acrylic AND Ceramic Procera Implant Bar

Tooth try-in and patient expectation appointment

It is our goal to establish all functional considerations and satisfy patient expectations with this wax based tooth try-in. Any adjustments to the bite, incisal edge position, tooth shape etc. will warrant a second wax tooth try-in before proceeding to the bar fabrication process. To ensure long term success, precisely positioned support structures are crucial. The NobelProcera® support structure (Titanium or Zirconia) will be fabricated based off the tooth positions approved by the patient and cannot be adjusted after fabrication.

If needed, schedule patient for a second tooth try-in.

RESTORATIVE CHOICES

Restorative options can be determined after an approved wax tooth try-in is achieved. These options will be determined based on inter-arch clearance, tooth position, economical and hygienic considerations. NobelProcera® fixed hybrid options include:

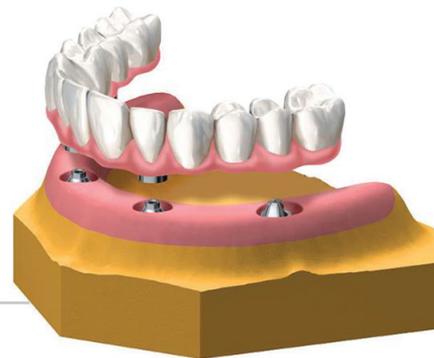
- wrapped acrylic over a titanium sub-structure or removable denture over a titanium clip bar
- layered ceramics over a zirconia substructure

REQUEST FROM THE LAB

Fabrication of the desired Procera Implant Bar (PIB).

- For the titanium PIB acrylic wrapped protocol: lab will transfer the teeth back onto the bar using a facial index to facilitate a final bar and wax tooth try-in
- For the layered zirconia PIB protocol: bar only try-in OR lab will layer ceramics for final delivery

10-15 DAYS IN-LAB REQUIRED FOR THIS STEP



Fourth Appointment

Acrylic PIB or Clip Bar Option

Definitive tooth and titanium bar try-in appointment

This final try-in reflects the exact tooth shape, position and color that will constitute the final prosthesis. An exact bar fit must be verified radiographically and total patient satisfaction must be achieved before proceeding to next step. If any adjustments are needed, schedule patient for an additional try-in before proceeding to final processing.

REQUEST FROM THE LAB

Processing for final delivery

5 DAYS IN-LAB REQUIRED FOR THIS STEP

Fourth Appointment

Ceramic Layered Zirconia PIB Option

Final delivery appointment

- Seat prosthesis by lightly hand tightening the screws. Do all needed adjustments.
- Final seat the layered zirconia sub-structure by torquing the prosthetic screws to 15 NCM. Radiographically verify seating.
- Protect screw heads with cotton or plumber's tape and plug access with composite.

Fifth Appointment

Acrylic PIB or Clip Bar Option

Final delivery appointment

- Seat prosthesis by lightly hand tightening the screws. Do all needed adjustments.
- Final seat the titanium sub structure by torquing the prosthetic screws to 15 NCM. Radiographically verify seating.
- Protect screw heads with cotton or plumber's tape and plug access with composite.

Fixed Hybrid Case Study

Fixed Hybrids, Functionally Spectacular



CASE STUDY COURTESY OF DAVID HEDGECOE, DDS - HEDGECOE DENTISTRY, FAYETTEVILLE, NC

FIRST APPOINTMENT



Patient presents from surgeon with screw retained surgically converted denture or traditional tissue borne healing denture. Expose access and unscrew the denture.



Nobel Biocare multi-unit abutments exposed after removing the healing denture. Do not remove these abutments; this will be the restorative level.



Multi-unit impression coping.
Nobel Biocare REF # 29089.



Open tray impression copings in place.



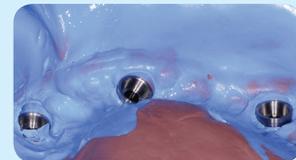
Splint the impression copings using an acrylic material of your choice. Dentsply Triad Dualine or Duralay over floss works well.



Flow light or medium body PVS material under the "bridge" to allow for accurate indexing of the soft tissue. Fill tray and take impression.



Remove the impression pins from the tray before removing the impression from the mouth.



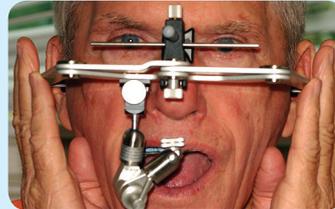
Stable impression copings equate to an accurate impression. Re-take the impression if any movement is detected in the copings.

Fixed Hybrid Case Study

SECOND APPOINTMENT



Traditional bite registration using the tissue borne or implant retained wax-rim.



Facebow registration.



Verify model accuracy by placing the model verification jig on the abutments. Secure with only one screw or with hand pressure. Visually or Radiographically verify interface integration.

THIRD APPOINTMENT



Wax based tooth try-in of implant retained denture.



Establish the bite, incisal edge position and arch plane. Achieve patient's esthetic expectations at this appointment.

If any changes are required schedule patient for an additional tooth try-in.

Do not proceed to next step until try-in reflects final result.

FOURTH APPOINTMENT



Teeth in wax over finalized Titanium sub-structure.



At this stage the Titanium bar will be finalized with teeth wrapped in wax. Hand tighten bar utilizing all supplied screws. Radiographically verify exact seating of bar to abutment interfaces. Achieve accurate bite and patient acceptance with teeth in wax for final processing.

FIFTH APPOINTMENT



Torque Nobel Biocare prosthetic screws to 15 NCM. Protect screw head with plumbers tape or cotton and fill access hole with composite.



Final delivery of titanium frame wrapped in high impact acrylic.

Restorative Variation

In most cases your patient will present with a surgically converted, implant retained healing denture. This denture can be used to establish an initial bite and mount the case without the need for a wax bite-rim registration.

At the impression appointment, verify the occlusion and vertical position of the temporary denture to be satisfactory, register a bite and facebow registration with the provisional in place.

Remove the temporary denture and take an abutment level impression as described earlier. After pouring the impression, mount the case using the facebow and temporary denture. Index the incisal edge, mid-line position and vertical clearance on the articulated models. Deliver the temporary denture back to the patient.

Your next clinical appointment will be a wax tooth try-in and model verification appointment, effectively shortening the procedure by at least one appointment.

Absolute Dental Lab

Established in 1994, Absolute Dental started as a fixed prosthetics lab in the Triangle area of North Carolina. Two decades later, Absolute's restorative focus is much broader but their attention to product detail and exceptional customer service has not changed.

Today, the Absolute team is renowned for their expertise in creating world-class dental esthetics. Their use of cutting edge technology in CAD and milling departments, as well as their extraordinary dental implant and high end removables sections, enables them to deliver lifelike and functional dental prosthetics.

Staying abreast of new technologies, yet only implementing relevant protocols and procedures, has earned Absolute a reputation for being a trusted partner to discerning clinicians throughout the United States.

Serving their customers with Absolute Excellence has always been the primary focus of the owners, branch partners and team members...this remains true today.

This protocol manual represents the opinions and restorative protocols based on Mr. Conrad J Rensburg's experience in restoring fixed hybrids over the last decade. These are not necessarily the opinions and protocols of Nobel Biocare or NobelProcera®. Please contact the author directly with any questions regarding these suggested protocols.





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