

Screw-Retained Hybrid Denture

Implant-Level Restoration | Step-by-Step Restoration Protocol



Oral Arts' Screw-Retained Hybrid Dentures are fabricated using Ivoclar Ivobase Acrylic, a state-of-the-art injection processing technology in conjunction with a precisely fitting CAD/CAM Titanium Bar. Premium Teeth are recommended such as Ivoclar BlueLine. You can expect highly predictable results with exceptional fit and accuracy by following the steps within this protocol.

First Appointment | Closed Tray Preliminary Impression

Note: Consider anterior-posterior spread before moving forward with the Screw-Retained Hybrid Denture.

Take an implant-level impression, including the palate and vestibules for maxillary impressions.

- A** - Remove the healing abutments from the implants.
- B** - Seat the impression copings on the implants and tighten the screws (**Fig. 1**). Take a radiograph to verify complete seating. Check the impression tray for proper fit.
- C** - Take an implant-level impression of the edentulous arch (**Fig. 2**). After allowing the material to set, carefully remove the impression tray, loosen the screws and remove the impression copings.
- D** - Replace the healing abutments.
- E** - After attaching implant analogs to the impression copings, carefully replace the impression copings back into the impression.
- F** - Send in the case with a lab RX that identifies the system and diameter of the implants.



Figure 1: Seat the impression copings



Figure 2: Preliminary Impression



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Second Appointment

Verification Jig, Open Tray Final Impression with Custom Tray, and Bite Rim

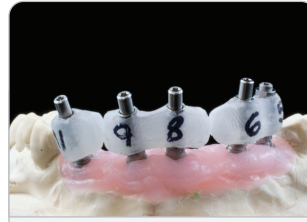
To ensure a passive fit of your restoration, it is vital to obtain an accurate final impression. You will receive a custom tray and an implant verification jig (IVJ) on a working model. This procedure should be followed to ensure an accurate final impression.

Verification Jig

- A** - Remove the healing abutments from the implants. Seat each section of the jig onto the appropriate implant and tighten the guide pin (**Fig.3 & 4**).

Note: The sections should not be in contact. If necessary, remove one section, minimally trim it with a disc, and reseal it. Each section should have a gap about the thickness of a credit card. Visually verify gaps before luting.

- B** -Lute the sections together with a suitable material (e.g., Triad® Dualine® DENTSPLY; Pattern Resin™ GC America; Zapit® Dental Ventures of America or ADDS-IT American Diversified Dental Systems) (**Fig. 5**).
- C** - Allow the material to flow through and completely around the gaps (**Fig. 5**).
- D** - Ensure the material is completely cured (**Fig.6**).
- E** - If any section has a cylinder-implant interface that is subgingival, a periapical radiograph should be taken to verify complete seating.
- F** - If any cylinder is not completely seated, the jig must be sectioned in that area, reluted and rechecked until a passive fit is obtained.
- G** - Check for a passive fit of the Custom Tray (no contact with jig or cylinders) prior to taking the impression.



Sectioned and numbered implant verification jig on initial model



Custom Tray for taking second impression, picking up luted verification jig inside impression

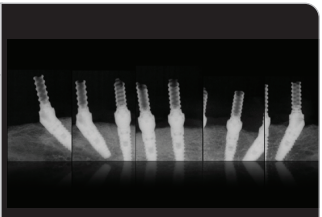
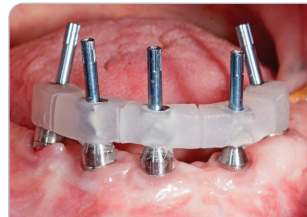


Figure 3 & 4: Ensure each jig section fits passively and is securely seated and tightened

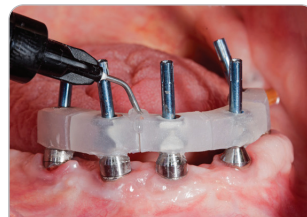


Figure 5: Flow light-cured composite around each section



Figure 6: Cure material completely

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Final Impression

- A** - Using medium body PVS material, take the final impression with an open-tray technique.
- B** - Inject impression material under and around the jig to capture the ridge and all anatomical landmarks as for a full denture including full vestibular extensions and the complete palate (**Fig. 8**).
- C** - Seat the filled impression tray ensuring the heads of the guide pins are exposed through the tray (**Fig. 9**).
- D** - Once the material has set, remove guide pins and then remove the impression (**Fig. 10**).
- E** - Reseat and tighten the healing abutments.

Note: the verification jig is picked-up in the impression. Inspect the impression for the required detail.



Figure 7: Inject impression material under the implant verification jig



Figure 8: Inject light body around tissue and implant sites then load tray with heavy body PVS and seat tray



Figure 9: Remove tray once material sets



Figure 10: Final impression



Figure 11: Seat the bite rim

Bite Rim

You will receive a bite rim from Oral Arts

- A** - With the patient sitting up, use conventional denture techniques to achieve accurate jaw relation records.
- B** - Take an impression of the opposing dentition and an impression of current denture for study model.
- C** - Select the shade and mold of the denture teeth. The study model for the patient's existing denture can be used as a reference regarding the size and shape of the new teeth.
- D** - Return the case to Oral Arts with the master model, bite rim, bite registration, opposing impression and study model.

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Third Appointment

Setup Try-in

You will receive a wax setup from Oral Arts.

- A** - Seat the wax setup (acrylic base with teeth in wax).
- B** - Evaluate the VDO, CR, esthetics, shade, tooth arrangement, occlusion, phonetics and midline (**Fig. 11**). If CR is incorrect, a new bite registration should be taken.
- C** - Send clinical photos with patient at rest and smiling.
- D** - Send in entire case, including the wax setup, opposing model, and lab Rx with reset instructions (if necessary). If a reset is necessary, new bite registration should also be taken (**Fig. 12**).



Figure 12: Evaluate wax setup



Figure 13: Taking a new bite registration (if necessary)



Figure 14: Seat the final prosthesis.

Note: Tooth-colored composite or acrylic should be used for access holes in the teeth, while pink tissue or acrylic should be used for access holes in the prosthesis base

Fourth Appointment

Delivery of Final Prosthesis

You will receive a bite rim from Oral Arts

- A** - Remove the healing abutments or the optional provisional CAD/CAM PMMA verification bridge.
- B** - Seat the final prosthesis on the implants.
- C** - Hand tighten the prosthetic screws, alternating from one side to the other.
- D** - Tighten the screws to the appropriate torque per manufacturer instructions. Wait approximately 5 minutes and retorque the screws (**Fig. 13**).
- E** - Confirm the occlusion (**Fig. 14**). Make adjustments as necessary.
- F** - Place a small amount of cotton in the screw access holes and fill with light cure composite or acrylic to prevent bacteria build-up (**Fig. 15**).



Figure 15: Confirm occlusion



Figure 16: Occlusal view of the final prosthesis in place following sealing of the screw access holes



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Quick Reference

Appointment	Doctor	Oral Arts
First	Implant-level impression	Fabricate implant verification jig and custom tray (4 days)
Second	Lute verification jig, take final impression, jaw relation records, select tooth shade/mold, impression of opposing dentition and current denture for study casts	Fabricate master cast, fabricate bite block (2 days) Articulate casts, set teeth in wax (3 days);
Third	Wax setup try-in, photos	Fabricate final Screw-Retained Denture (12 days) OR reset (if necessary – 4 days)
Fourth	Final prosthetic delivery	