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

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*
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**

- 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).
  - The sections should not be in contact. If necessary, remove one section, minimally trim it with a disc, and reseat it. Each section should have a gap about the thickness of a credit card. Visually verify gaps before luting.
- 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).
  - Allow the material to flow through and completely around the gaps (Fig. 5).
  - Ensure the material is completely cured (Fig. 6).
- If any section has a cylinder-implant interface that is subgingival, a periapical radiograph should be taken to verify complete seating.
- If any cylinder is not completely seated, the jig must be sectioned in that area, reluted and rechecked until a passive fit is obtained.
- Check for a passive fit of the Custom Tray (no contact with jig or cylinders) prior to taking the impression.
Final Impression

- Using medium body PVS material, take the final impression with an open-tray technique.
  
- a. 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. 7).
  
- b. Seat the filled impression tray ensuring the heads of the guide pins are exposed through the tray (Fig. 8).
  
- c. Once the material has set, remove guide pins and then remove the impression (Fig. 9).
  
  Note: the verification jig is picked-up in the impression. Inspect the impression for the required detail.
  
- Reseat and tighten the healing abutments.

Bite Rim

You will receive a bite rim from Oral Arts.

- With the patient sitting up, use conventional denture techniques to achieve accurate jaw relation records.

- Take an impression of the opposing dentition and an impression of current denture for study model.

- 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.

- 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.

- Seat the wax setup (acrylic base with teeth in wax).
- 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.
- Send clinical photos with patient at rest and smiling.
- 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).

**FOURTH** Appointment

Delivery of Final Prosthesis

You will receive the final prosthesis from Oral Arts.

- Remove the healing abutments.
- Seat the final prosthesis on the implants.
- Hand tighten the prosthetic screws, alternating from one side to the other.
- Tighten the screws to the appropriate torque per manufacturer instructions. Wait approximately 5 minutes and retorque the screws (Fig. 13).
- Confirm the occlusion (Fig. 14). Make adjustments as necessary.
- 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 12:** Evaluate wax setup

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

**Figure 14:** Seat the final prosthesis

**Figure 15:** Confirm occlusion

**Figure 16:** Occlusal view of the final prosthesis in place prior to sealing the screw access holes

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.
## Screw-Retained Hybrid Denture

### Quick Reference

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<td>Implant-level impression</td>
<td>Fabricate implant verification jig and custom tray (4 days)</td>
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<td><strong>SECOND Appointment</strong></td>
<td>Lute verification jig, take final impression, jaw relation records, select tooth shade/mold, impression of opposing dentition and current denture for study casts</td>
<td>Fabricate master cast, fabricate bite block (2 days) Articulate casts, set teeth in wax (3 days);</td>
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<td><strong>THIRD Appointment</strong></td>
<td>Wax setup try-in, photos</td>
<td>Fabricate final Screw-Retained Denture (12 days) OR reset (if necessary – 4 days)</td>
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