



# Screw-Retained Denture

(CAD/CAM Ti Bar / Acrylic Hybrid)

4

## Abutment Level Restoration

### ■ First Appointment

#### – Preliminary Abutment Level Impressions

- Abutments may be required due to the implant inclination or if there is excessive soft tissue thickness. In these cases, the appropriate height and angled abutments should be seated on the implants and an abutment level impression made.
- Remove the healing abutments from the implants.
- Seat and tighten the abutments to the recommended torque (Fig. 1).
- Seat abutment impression copings on abutments and tighten guide pins (Fig. 2).
- Take an abutment level impression, including the palate and vestibules, using a stock or custom tray (Fig. 3).
- Once set, loosen the guide pins and pull the impression (Fig. 4). The abutments stay in the mouth.
- Seat abutment healing caps on the abutments.  
*Note: All procedures will be done at the abutment level rather than at the implant level. This avoids having to take the abutments on and off for every appointment.*
- Take an impression of opposing dentition as well as the denture to be replaced.
- Send in the impressions with your lab Rx.

### ■ Second Appointment

#### – Jaw Relation Records and Shade Selection

- To ensure a passive fit of your custom-milled framework, it is vital to get an accurate final impression. You will receive a bite block. The following procedures should be followed to ensure an accurate impression.

#### Jaw Relation Records

- Remove abutment healing caps. Seat the bite block on the implants and tighten the cylinder screws (Fig. 5).
- With the patient sitting up, use conventional denture technique to achieve accurate jaw relation records.
  - a. For maxillary cases, shape the rim for lip contour – place a small amount of vaseline on the labial aspect of the wax rim and confirm.
  - b. With the patient facing toward you, mark the midline, high lip line and corners of the mouth in the wax rim. Move the central incisors as necessary. From a profile view, evaluate the mid-face support.
  - c. Determine centric relation and (record passively) vertical dimension of occlusion (VDO).

*Note: The patient's existing denture should be evaluated and can be utilized as a benchmark in determining the new VDO. Please see wax rim checklist enclosed with case.*

- i. Place a dot with indelible marker on the tip of the patient's nose and chin.
- ii. Have the patient lick their lips, swallow, then relax their jaw. Measure the distance between the two dots. Repeat this procedure 3-4 times until you obtain a consistent vertical dimension of rest measurement (VDR).
- iii. Have the patient bite together gently. The measurement should be approximately 3 mm less vertical measurement at rest. Adjust the rims, if necessary, so they meet evenly.



Fig. 1 Abutments on implants



Fig. 2 Impression copings on abutments

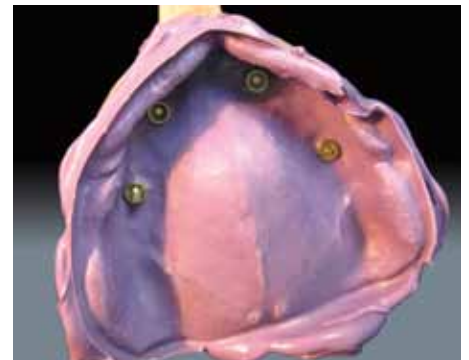
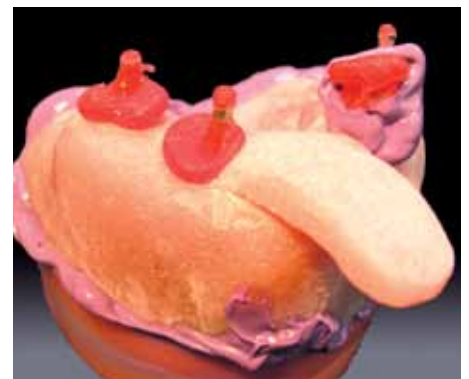


Fig. 3 & 4 Abutment level impression



**Fig. 5** Seat screw-retained bite block



**Fig. 6** Use bite registration material once occlusal dimensions are determined



**Fig. 7** Trial denture try-in



**Fig. 8 & 9** Luting sections of the implant verification jig

- iv. There should be a 2-4 mm speaking space between the rims when the patient pronounces “s” sounds (e.g., Mississippi, sixty, sixty-one, etc.). The incisal edges of the maxillary central incisors should lightly touch the top of the lower lip during “f” sounds (e.g., forty, forty-one, etc).
- d. Once the VDO and a verifiable, repeatable CR are established, inject bite registration material onto the top of the wax rim and into the notches on the bite block. Have the patient bite together gently but completely (Fig. 6).

- Remove the bite blocks.
- Reseat and tighten the healing caps onto the abutments.

### Shade Selection

- Select denture tooth shade and mould. The study model of the patient's existing denture can be used as a reference regarding the size and shape of the new teeth.  
*Note: We will match to VITA/Candulor Premium denture teeth unless otherwise directed. Indicate the selection on the lab Rx.*
- Return the case to Glidewell enclosing all components, models.

### Third Appointment – Trial Set-Up Try-In

You will receive from Glidewell Laboratories trial denture with temporary cylinders.

- Remove abutment healing caps.
- Seat the trial denture and tighten the prosthetic screws.
- Evaluate CR, VDO, occlusion, esthetics/shade, tooth arrangement, and phonetics including “f” and “s” sounds as well as the midline (Fig. 7). Change the set-up if necessary or note the requested changes on the lab Rx. If CR is incorrect, a new bite registration should be taken.
- Please take photos per denture set-up checklist enclosed with case.
- Remove the trial denture and replace the healing caps.
- Return the case to Glidewell.

### Fourth Appointment – Framework / Trial Set-Up Try-In

A custom tray and a verification jig that has been sectioned and numbered on the study model. Each acrylic section contains a non-engaging titanium cylinder.

#### Verification Jig

- Seat each section of the jig onto the appropriate abutment and tighten the guide pin.
  - a. 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 business card. Final check of the gap should be done with floss.
- Lute the sections together with a suitable material (e.g., Triad® DualLine® - DENTSPLY; Zapit® - Dental Ventures of America or ADDS-IT- American Diversified Dental Systems) (Fig. 8 and 9).
  - a. Allow the material to flow through, and completely around, the gaps.
  - b. Ensure the material is completely cured.
- Loosen and remove all the guide pins. Remove jig as one unit for visible inspection.
- Very important** – Replace the cured jig back onto the abutments. Tighten a single guide pin into one of the distal abutments. No lifting of the jig should occur. Check for a passive fit by visually inspecting completely around each cylinder for complete seating. Repeat this process for each abutment.
  - a. If any section has a cylinder-abutment interface that is subgingival, a periapical radiograph must be taken to verify complete seating.

- b. If any cylinder is not completely seated, the jig must be sectioned in that area, reluted and rechecked until a passive fit is obtained.

### Final Impression

- Seat the verification jig on the abutments using all the guide pins.
- Check the custom impression tray for fit. (No contact with the jig or pins.)
- Using medium body 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 (Fig. 10).
  - b. Seat the filled impression tray, ensuring the heads of the guide pins are exposed through the tray (Fig. 11).
  - c. Once the material has set, remove guide pins and carefully pull the impression and the final impression containing the jig.

*Note: The verification jig is picked-up in the impression.*

### Fifth Appointment

#### – Framework/Trial Set-Up Try-In

*You will receive from Glidewell Laboratories trial denture set-up on the titanium framework.*

- Remove abutment healing caps.
- Seat the trial prosthesis.
- Evaluate the fit of framework. Tighten one screw and verify a passive fit on all abutments (no lifting of the framework). Remove the screw and repeat the process for each abutment (Fig. 12).
- Re-evaluate the VDO, CR, occlusion, esthetics/shade, tooth arrangement, phonetics and midline.
- Remove the trial prosthesis and replace the healing caps.
- Return the case to Glidewell.

### Sixth Appointment

#### – Delivery of Final Prosthesis

*You will receive from Glidewell Laboratories the final prosthesis and a complimentary night guard.*

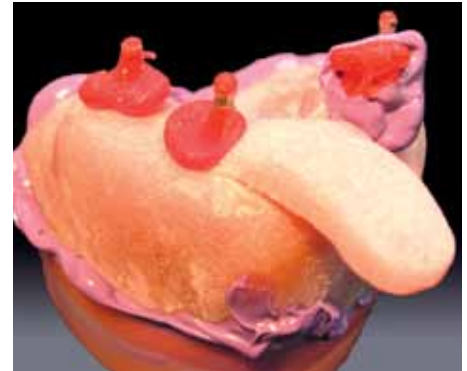
- Remove abutment healing caps.
- Seat the prosthesis on the abutments.
- Hand-tighten the prosthetic screws, alternating from one side to the other.
- Tighten the screws to the appropriate torque. Wait approximately 5 minutes and retorque the screws.
- Check the occlusion. Make adjustments as necessary (Fig. 13).
- Place a cotton pellet or piece of gutta percha over the head of the screw and seal the openings with composite or acrylic.

### One Week Follow-Up Check

- Check occlusion.
- Review oral hygiene instructions.
- Set recall schedule.



**Fig. 10** Inject impression material under jig



**Fig. 11** Take an open-tray impression



**Fig. 12** Framework try-in



**Fig. 13** Delivery of final prosthesis



# *Lab Fees*

## **Predictable implant lab fees and no hidden costs**

### Removable and Fixed-Removable

Price includes: CAD/CAM precision-milled titanium bars; Locator attachments from Zest Anchors; Kenson Teeth (Locator Implant Overdenture) or premium denture teeth from VITA (Ti Bar Locator Overdenture); all labor, model and die work; analogs, set-ups, bite blocks, try-ins and verification jigs.

#### **Removable**

- Locator® Implant Overdenture (2 implants per case)
- GL CAD/CAM Ti Bar Locator Overdenture (unlimited implants per case)
- CAD/CAM Ti Bar Locator Overdenture (5 implants per case)

Price includes: CAD/CAM precision-milled titanium bars; premium denture teeth from VITA (Acrylic Hybrid) or individual zirconia crowns and composite gingival architecture (Ceramic Hybrid); all labor, model and die work; analogs, set-ups, bite blocks, try-ins and verification jigs.

#### **Fixed-Removable**

- GL CAD/CAM Ti Bar/Acrylic Hybrid (unlimited implants per case)
- CAD/CAM Ti Bar/Acrylic Hybrid (5 implants per case)
- CAD/CAM Ti Bar/Ceramic Hybrid (8 implants/12 crowns per case)

### Quick Reference

	<b>Doctor</b>	<b>Glidewell</b>
<b>1st Appointment</b>	Take preliminary impressions of edentulous arch and opposing dentition as well as the denture to be replaced.	Pour models; fabricate bite block. 3-5 days
<b>2nd Appointment</b>	Obtain jaw relation records, select denture tooth shade and mould.	Pour master cast, articulate models, set denture teeth in wax. 5 days
<b>3rd Appointment</b>	Trial denture set-up try-in and photos.	Fabricate implant verification jig and custom tray. 2-4 days
<b>4th Appointment</b>	Lute verification jig, and take final impression.	Fabricate titanium framework, reset denture teeth on framework. 4-15 days
<b>5th Appointment</b>	Combination framework/set-up try-in.	Process acrylic and denture teeth to the framework. 6-4 days
<b>6th Appointment</b>	Final delivery of prosthesis and night guard.	
<b>One Week Post-Delivery Check</b>	Check occlusion.	

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