



Implant Overdentures

Utilizing Locator® Attachments

Step-by-Step Instructions for Use



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Introduction

Free-standing attachments used to retain overdentures provide numerous advantages, including enhanced esthetics, phonetics, as well as ease of maintenance and simplified hygiene.^{1,2} This type of prosthesis is primarily tissue-borne with the implants providing retention and stability. Therefore, successful treatment begins with conforming to standard denture fabrication principles. This includes ideal border adaptation, extension and full denture occlusion, with an ideal tooth set-up and try-in, to allow evaluation of esthetics, phonetics and support.^{3,4} Typically, the case should be taken through the denture try-in stage to determine the ideal positions of the implants. However, this may not always be the case. This brief instruction guide follows the steps if the overdenture is to be fabricated post-implantation.

Note: Numerous articles and technical information on the use of the Locator attachment can be found at www.zestanchors.com.

- 1 Caravallaro JS, Tarnow DP. Unsplinted Implants Retaining Maxillary Overdentures with Partial Palatal Coverage: Report of 5 Consecutive Cases. *Int J of Oral Maxillofac Implants.* 2007;22:808-814.
- 2 Strong S. Conversion From Bar-Retained to Attachment-Retained Implant Overdenture: A Case Report. *Dent Today.* Jan 2006;25:1.
- 3 Kim Y, Oh TJ, Misch CE, et al. Occlusal Considerations in implant therapy: clinical guidelines with biomechanical rationale. *Clin Oral Implants Res.* 2005;16:26-35.
- 4 Vogel RC. Implant Overdentures: A New Standard of Care for Edentulous Patients—Current Concepts and Techniques. *Funct Esth & Res Dent.* 2007;1:2.

First Appointment

- Utilizing a stock tray, take a preliminary impression, including the palate and vestibules (*Fig. 1*). This impression can be made at the implant level or over the healing abutments, as it will be used to fabricate a custom tray for an open-tray impression technique.

Note: If a closed-tray technique is preferred, this should be noted on the lab slip.



Fig. 1 Preliminary impression

Second Appointment

You will receive a custom tray on the study model from Glidewell Laboratories.

- Remove healing abutments from the implants.
- Seat open-tray impression copings on the implants and tighten the guide pins (take a PA, to verify complete seating) (*Fig. 2*). Check the custom tray for fit. There should be no contact with the impression copings. The heads of the guide pins should extend through the holes in the custom tray.
- Utilizing the custom tray, border mold and take an implant level impression, including the palate and vestibules (*Fig.3*). Once the material has set, remove the guide pins and carefully pull the impression. Inspect the impression for the required detail.
- Take and pour an alginate impression of the opposing dentition as well as the denture to be replaced.
- Replace the healing abutments.
- Send in the case with a lab slip that identifies the brand, type and diameter of the implants.

Note: A Locator core tool will be required for the next appointment. The torque wrench will be needed for final delivery.



Fig. 2 Open-tray impression copings

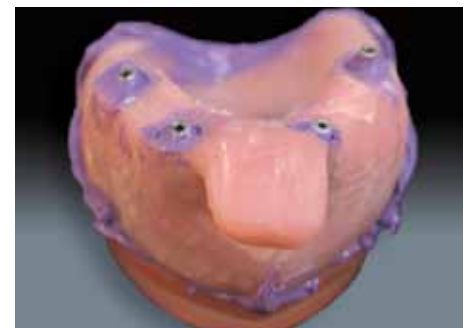


Fig. 3 Final impression with custom tray



Fig. 4 Bite block with bite Locator caps and Locator abutments on Implants

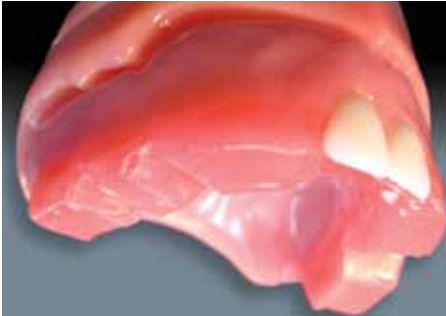


Fig. 5 Bite block



Fig. 6 Bite block with bite Locator caps and Locator attachments

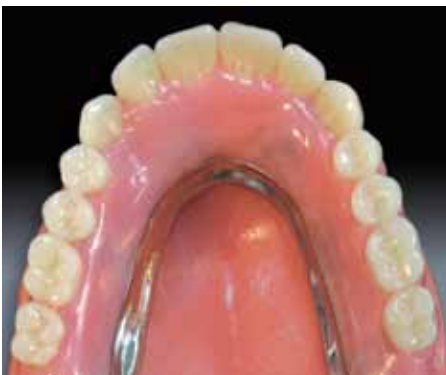


Fig. 7 Seat trial denture on Locator attachments

Third Appointment

You will receive from Glidewell Laboratories a bite block with Locator caps and a master model with Locator abutments (Fig. 4).

- Remove the healing abutments from the implants.
- Tighten the Locator abutments into the same implants as they are in the model with the Core Tool.
- Seat the bite block (Fig. 5).

Note: This may require significant pressure to engage the attachments.

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

Note: The patient's existing denture should be evaluated and can be utilized as a benchmark in determining the new VDO.

- 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.
- c. Determine centric relation and the vertical dimension of occlusion.
 - i. Place a dot with an indelible marker on the tip of the patient's nose and the 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.
 - iii. Have the patient bite together gently. The measurement should be approximately 3 mm less than the vertical measurement at rest. Adjust the rims, if necessary, so they meet evenly.
 - 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 central incisors should lightly touch 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. Use an excess amount on the anterior labial area. Have the patient bite together gently but completely.

- e. Optional - A cotton swab stick embedded in the excess labial registration material parallel to the pupils can be used to represent the horizontal plane (Fig. 6).

- f. Remove the bite blocks and Locator abutments. Reseat and tighten the healing abutments on the implants. Thread the Locator Abutments back onto their correct locations on the model.

- g. Select the shade and mould of the denture teeth. 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.

- h. Send in entire case, including the models with the Locator abutments and the bite block.

Note: If the denture is intended to be palateless, a narrow-band Vitallium® casting should be requested (the reinforcing casting is an additional fee).

Fourth Appointment

You will receive from Glidewell Laboratories a trial overdenture with Locator caps and a master model with Locator abutments.

- Remove healing abutments.
- Tighten the Locator abutments into the implants with the Core Tool and seat trial denture (denture base plate with teeth in wax) (Fig. 7).

- Tighten the Locator abutments into the same implants as they are in the model with the Core Tool.
- Evaluate the VDO, CR, esthetics, shade, tooth arrangement and phonetics including “f” and “s” sounds, occlusion as well as the midline (Fig. 8). 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.
- Remove trial denture and Locator abutments. Thread the Locator abutments back onto their correct locations on the model.
- Reseat and tighten the healing abutments.



Fig. 8 Evaluate trial denture set-up

■ Fifth Appointment

You will receive from Glidewell Laboratories an overdenture with processing Locator caps and a master model with Locator Abutments.

- Remove the healing abutments.
- Tighten the Locator abutments using the recommended torque with the Core Tool and Torque Wrench into the implants, and deliver the final denture.
- Evaluate fit and occlusion (Fig. 9). Make adjustments as necessary.



Fig. 9 Delivery of final prosthesis

■ One Week Follow-Up Check

- Change out the black caps for appropriate retention caps (the Locator Coring Tool is required) (Fig. 10).

Note: The amount of retention should be based on the number of implants and the strength of the patient. The black caps are not intended for long-term use.

- Check the occlusion and adjust as necessary.
- Relieve any sore spots.



Fig. 10 Change out retention caps

Locator Caps Retentive Order

	Attachment Cap	Retention
Included with case	Black Processing	Processing
	Clear	5.0 lbs
	Pink (light retention)	3.0 lbs
	Blue (extra light retention)	1.5 lbs
	Green (extended range)	4.0 lbs
	Orange (extended range)	2.0 lbs
	Red (extended range - extra light retention)	1.0 lbs



Lab Fees Predictable implant lab fees and no hidden costs

Removable and Fixed-Removable

Price includes: CAD/CAM precision-milled titanium bars from BioCad, BioMet 3i or Nobel Biocare; Locator attachments from Zest Anchors; premium denture teeth from VITA; all labor, model and die work; analogs, set-ups, bite blocks, try-ins and verification jigs.

Removable

- Locator® Implant Overdenture (2 implants)
- CAD/CAM Ti Bar Locator Overdenture (5 implants)

Price includes: CAD/CAM precision-milled titanium bars from BioCad, BioMet 3i or Nobel Biocare; premium denture teeth from VITA (Acrylic Hybrid); 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

- CAD/CAM Ti Bar/Acrylic Hybrid (5 implants)
- CAD/CAM Ti Bar/Ceramic Hybrid (8 implants)

*Note: Prices may vary based on the number of implants and the cost of ancillary components based on the system utilized.

Quick Reference

	Doctor	Glidewell
1st Appointment	Take preliminary impression.	Pour models, fabricate custom tray. IMPCSTT: 5 days.
2nd Appointment	Final implant level impression, impression of opposing dentition as well as the denture to be replaced.	Pour models, select Locator abutments, fabricate bite block. IMPIODENT5: 5 days; IMPIOBB5: 3 days.
3rd Appointment	Jaw relation records and select tooth shade/mould.	Articulate models, set denture teeth in wax. IMPIOSET5: 5 days. (For palateless dentures, or if requested for mandibular cases, anarrow-band casting is added for reinforcement. CPALI: 5 days).
4th Appointment	Trial denture wax try-in.	Process denture incorporating Locator processing caps. IMPIOFIN5: 6 days.
5th Appointment	Final prosthetic delivery.	
One week post-delivery check	Change Locator caps, check occlusion, relieve any sore spots.	



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