



## Introduction

Free-standing attachments used to retain overdentures provide numerous advantages, including enhanced esthetics, phonetics, as well as ease of maintenance and simplified hygiene.<sup>1,2</sup> 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.<sup>3,4</sup> 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](http://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 Mabel Dental Lab.*

- 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 mould 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



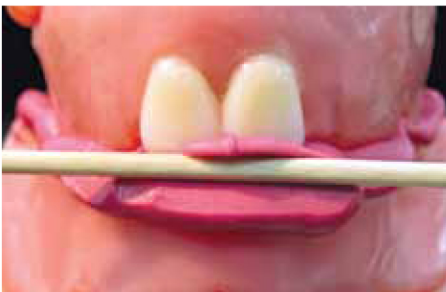
**Fig. 3** Final impression with custom tray



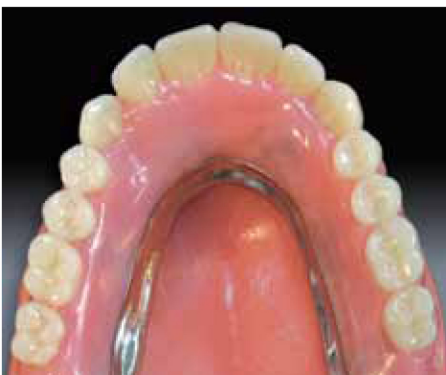
**Fig. 4** Bite block with Locator caps and Locator attachments



**Fig. 5** Bite block



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



**Fig. 7** Seat trial denture on Locator attachments

## Third Appointment

You will receive from Mabel Dental Lab 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. **Please see wax rim checklist enclosed with case.***

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

## Fourth Appointment

You will receive from Mabel Dental Lab 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.
- Please take photos per denture set-up checklist, enclosed with case.
- Remove trial denture and Locator abutments. Thread the Locator abutments back onto their correct locations on the model.
- Reseat and tighten the healing abutments.

## ■ Fifth Appointment

You will receive from Mabel Dental Lab 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.

## ■ 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. 8 Evaluate trial denture set-up



Fig. 9 Delivery of final prosthesis



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

## Quick Reference

	Doctor	Mabel
<b>1st Appointment</b>	Take preliminary impression.	Pour models, fabricate custom tray. IMPCSTT: 5 days.
<b>2nd Appointment</b>	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.
<b>3rd Appointment</b>	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, a narrow-band casting is added for reinforcement. CPALI: 5 days.)
<b>4th Appointment</b>	Trial denture wax try-in and photos.	Process denture incorporating Locator processing caps. IMPIOFIN5: 6 days.
<b>5th Appointment</b>	Final prosthetic delivery.	
<b>One Week Post-Delivery Check</b>	Change Locator caps, check occlusion, relieve any sore spots.	