



# Mandibular implant-retained overdenture relining procedure with an attachment system

A step-by-step demonstration of the technique

Nick Polychronakis, DDS, MSc, Dr Dent; Giorgos Kontakiotis, DDS; Nikolaos Soldatos, DDS, MSD, PhD

## ABSTRACT

**Background and Overview.** Because of continuous alveolar bone resorption, implant-retained overdentures need to be relined. The purpose of this study was to describe a method for relining an implant-retained overdenture.

**Case Description.** The authors present a step-by-step technique. A 65-year-old patient sought care for trauma and pain in the oral mucosa underneath his mandibular implant-retained overdenture. The overdenture had been fabricated 4 years previously. In addition, the patient mentioned the denture's lack of stability during function. On the basis of the patient's dental history, and clinical and radiographic examination results, the authors found alveolar bone resorption.

**Conclusions and Practical Implications.** In this case report, the authors describe the technique, analyze the procedure of implant-retained overdenture relining with a Locator attachment system (Locator abutment, H3, SP MB SZL03 for internal hex implants; MIS Seven), and describe how to restore the contact of the denture base with the denture-bearing tissues. The goal of this technique for the general dentist is to eliminate patients' tissue trauma and pain and increase the stability and support of the prosthesis.

**Key Words.** Denture; dental implants; impression material; alveolar bone.

JADA 2018;149(1):67-71

<https://doi.org/10.1016/j.adaj.2017.07.001>

The implant-retained overdenture is an alternative treatment option for patients who are edentulous that provides better retention, stability, function, esthetics, and oral health-related quality of life.<sup>1</sup> The use of implants in patients who are edentulous preserves the existing bone around the implants.<sup>2</sup>

A 2-implant-retained overdenture often requires relining because of the inevitable continuous alveolar bone resorption in the posterior region, resulting in misfit between the denture base and the underlying tissues.<sup>3-6</sup> This situation may compromise the prosthesis's adaptation and the occlusion, which, in turn, may cause denture instability and lead to accumulation of food and dental plaque. A nonhygienic environment is created surrounding the implant abutments, and adverse forces may result in retention system breakage or detachment from the prosthesis.<sup>7</sup> Therefore, the clinician must assess the denture base carefully to detect any maladaptation issues and correct them through proper relining.<sup>5</sup>

While relining implant-retained overdentures, the clinician must follow certain steps. These steps are similar to those followed for complete dentures. However, the approach is more technique sensitive, and expensive, because of the components used.<sup>8</sup> Despite numerous reports by various authors,<sup>9-14</sup> this procedure rarely has been described in detail, especially for implant overdentures retained by unsplinted retention systems such as Locators, ball attachments, and magnets.

## DESCRIPTION OF THE TECHNIQUE

A 65-year-old man wearing a mandibular Locator implant-retained overdenture (Locator abutment, H3, SP MB SZL03 for internal hex implants; MIS Seven) sought care in our dental clinic. The patient complained about the lack of stability in and support of his denture, which had been

Copyright © 2018  
American Dental  
Association. All rights  
reserved.



**Figure 1.** Fitting surface of the overdenture with 3 tissue stops.

fabricated at the private practice of the authors by modifying his conventional complete denture. Four years previously, the patient had undergone full-mouth extractions because of periodontal disease and received 2 mandibular implants in the regions of teeth nos. 22 and 27. Two weeks later, a conventional complete denture with a cast metal framework was fabricated. After 3 months, it was converted into an implant-retained overdenture. Locator abutments provided the connection between the implants and the overdenture. Clinical examination revealed an unstable mandibular implant overdenture retained with the 2-Locator attachment system. The nylon inserts were noticeably worn out, but the Locator attachments were in satisfactory condition, so they could be used.

## PROCEDURES

Relining a mandibular implant-retained overdenture with a Locator attachment system on 2 implants is achieved by following these steps:

### Clinical steps part 1

- Remove all large undercuts and a thin layer from the tissue surface of the denture.
- Create tissue stops by using low-viscosity modeling compound impression material (Impression Compound Green, Kerr), which is placed in 3 regions of the denture's fitting surface (second molars and between the 2 canines) (Figure 1). The tissue stop is mainly to maintain the vertical dimension of occlusion when obtaining the impressions, but in some cases, like this, in which visual examination and use of a pressure indicator material (Mizzy, Keystone Industries) reveal underextended posterior borders, the material might extend to the denture borders as well. Thus, we achieved the bolder molding of the denture by using the low-viscosity modeling compound impression material.<sup>5</sup>
- Insert the denture and guide the patient into centric occlusion. The patient should remain in this position until the compound is set.
- Check the occlusion by using articulating paper.
- Remove the metal Locator housing with the resilient liner cap from the acrylic base (Figure 2).
- Place the Locator impression copings over the Locator abutments and push them down to snap them into place (Figure 3).
- Check that the denture fits passively by injecting silicone-type pressure indicator material (Fit Checker Advanced, GC Europe), over the impression copings so that there is an accurate and undistorted pickup. If the acrylic base is visible through the pressure indicator material, relieve the pressure spots until there is no contact between the impression copings and the denture base material. In some cases, impression copings are too tall, so perforating the denture is necessary. The repair of the denture base is simple, especially when the relining of the base takes place simultaneously.
- Fill the overdenture with polyether impression material of medium-bodied consistency (Impregum Soft, 3M ESPE), and place the overdenture while the teeth occlude in maximum intercuspation.
- Remove the denture from the patient's mouth.

Download English Version:

<https://daneshyari.com/en/article/8698395>

Download Persian Version:

<https://daneshyari.com/article/8698395>

[Daneshyari.com](https://daneshyari.com)