

## CHAIRSIDE DENTURE RELINING WITH VLC RESIN - NEW MATERIALS REPORT

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تم وصف طريقة لتبطين الصفيحة الكاملة باستعمال مادة راتنجية يتم بواسطة الأشعة الضوئية . وقد وجد أنه إذا استعملت هذه المادة حسب توصيات المعمل المنتج لها فإنها تكون سريعة ومفيدة ومناسبة .

The technique for relining complete denture using Triad visible light-cured (VLC) resin systems is described. When the material is used per manufacturer's suggested procedures, the Triad VLC resin appears to be quick, useful and convenient.

### Introduction

Relining a denture is a process of resurfacing the tissue side of a denture to make it fit more accurately.<sup>1</sup> Resurfacing is putting a new or different surface on the tissue side of the denture.

The need for an acceptable, hard, chairside relining material has long been evident in removable prosthodontics. Most patients, unless they own a second set of dentures, are reluctant to remove their dentures for the time necessary to flask and cure a hard relining. Laboratory heat cured relining is expensive and time consuming. Chairside hard reliners compromise the quality of the base because they are porous, lack color stability, and are initially irritating due to free monomer. Such reliners can cause long-term sensitivity after curing due to the slow release of free monomer.

Triad visible light-cured (VLC) resin\* has been developed for many prosthodontic applications, including direct chairside relining of complete and removable partial dentures and has met the requirements for heat cured base materials (American Dental Association specification number 12).

This VLC resin is available from dental suppliers in sheets of base plate thickness and in rope form in light sealed envelopes. This VLC is similar to light

cured filling materials. The matrix is urethane dimethacrylate with enough microfine silica to provide workable handling qualities. There is no free methyl (methacrylate) monomer in the uncured or cured material.

The purpose of this paper is to report on the manufacturer's recommended technique for relining complete denture using Triad VLC resin as a chairside relining materials.

### Materials and Methods

The mandibular denture is relined first if both maxillary and mandibular dentures are to be relined. The following steps are followed by the operator.

The denture is ultrasonically cleaned of all surface debris. The tissue pressurized areas are relieved and the whole internal surface of the denture is reduced to 2 mm in depth [Fig. 1]. The mouth is prepared by having the patient rinse with a mouthwash, after which a gauze pad is used for mechanical debridement. In patient with xerostomia, a lubricating mouthwash or artificial saliva is used. Triad bonding agent is applied to the dry surface. The bonding agent is cured for two minutes in air and two minutes in the Triad VLC unit [Fig. 2]. A rope or a sheet of the Triad relining material is adopted with a piece of wet sponge to the inner surface of the denture. The denture is wetted in warm water (135°F) for 2-3 minutes [Fig. 3], and

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placed in the mouth with firm pressure in order to force a maximum flow of the material. Centric relation and proper closure are verified, and the patient is instructed to assist in muscle moulding activities for two to three minutes. The reline material is partially cured in the mouth with a visible light source [Fig. 4]. The denture is removed and placed in the Triad curing unit [Fig. 5] for 30 seconds. Excess material is trimmed and "air barrier" solution is applied and the denture is cured for ten minutes.



Figure 1. Denture reliev.



Figure 4. Using visible light source for partially curing the VLC material.



Figure 2. The bonding agent applied to the inner surface of the denture.



Figure 5. Triad Curing unit.

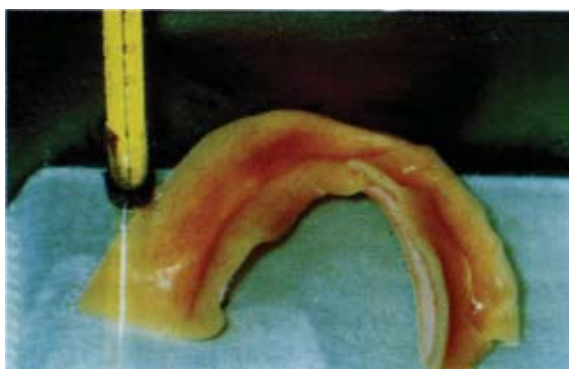


Figure 3. The denture with VLC reline material in water bath.



Figure 6. Completed reliev.

The denture is polished using the traditional method [Fig. 6].

The maxillary denture is relined in a similar manner. There is an additional consideration in that a retentive maxillary denture is prone to distort the uncured material upon removal. Having the patient blow while the mouth is closed, is frequently the best method of initially dislodging the denture.<sup>2</sup>

### Discussion

Definitive relining of complete denture requires impression of the jaw and laboratory procedures where the patient's denture had to be removed for a period of time. Biological testing indicated that visible light-cured resin is non-toxic, biocompatible and can be used for several applications in dentistry.<sup>3</sup>

Tan et al<sup>4</sup> used this material for making processed record bases. Nimmo<sup>5</sup> used it for correction of the posterior palatal seal.

In this paper, the manufacturer's recommended technique for using this material as a chairside relining is tested. Due to its complete polymerization without a residual compound, ease of fabrication and manipulation, the whole procedure was achieved and finished in one visit. This technique has proven to be advantageous, as compared to the intraoral conventional technique where autopolymerizing acrylic resin used leads to potential irritation of the soft tissues from the free monomer.<sup>5,6,7</sup> The manufacturer's recommended technique for the material works well in true clinical settings.

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