

REMOVABLE DENTURES WITH ECLIPSE-REPAIRING AND RELINING

Jadranka Bundevska, Sanja Panchevska, Gordana Kovacevska

Faculty of Dental Medicine, Ss. Cyril and Methodius University, Department for Prosthodontics, University Dental Clinic Centre Sv. Pantelejmon, Skopje, R. Macedonia

Corresponding Author: Jadranka Bundevska, Faculty of Dental Medicine, Ss. Cyril and Methodius University, Department for Prosthodontics, University Dental Clinic Centre Sv. Pantelejmon, Vodnjanska 17, Skopje, R. Macedonia, Tel/fax: +389 (0)2 31 61 108, E-mail: jbundevska@yahoo.com

Abstract

While utilizing removable dentures, regardless of whether the dentures are acrylic or fabricated of eclipse resin, the need for their filling-relining or their repair frequently arises.

The purpose of this study is to display the technicalities of the procedure for rebasing and relining of removable light curing eclipse denture resin.

Material and methods: This study presents cases of relining and repairing of removable dentures fabricated from light curing ECLIPSE resin on patients at the Department for Removable Prosthodontics at the University Dental Clinic Centre in Skopje.

Conclusion: One of the most significant features of this method of fabrication of removable eclipse dentures and their relining and repairing is the shortened duration of work in the dental laboratory. The displayed mode of rebasing also allows us to maintain one of the advantages of this type of dentures – the absence of allergy stomatitis symptoms.

Key words: Removable dentures, repairing, relining, light polymeric eclipse resin.

Introduction

In daily practice, we frequently come across changes that occur in removable dentures. These changes may occur as a result of long-term use of the dentures and the occurrence of wear to the material, or due to certain changes which take place in the oral cavity in terms of losing retention teeth or the resorption of residual alveolar ridges. All of these changes result in decreased retention and stability of removable dentures or in fractures on them, damaging their edges, shortage of teeth or clasp, or detaching of the existing artificial teeth or clasps. Regardless of the reason which caused certain damage on the removable denture, a need arises for it to be repaired or relined. Despite Diaz Arnold's and his associates' facts that eclipse resin has greater flexural strength of 127 MPa in comparison with the conventional acrylates where it ranges from 75 to 85 MPa,

there is a need for certain relining of the removable dentures fabricated of this light curing resin [1].

The purpose of this study is to describe the procedure for relining and repairing of removable light curing eclipse resin dentures.

Material and methods

We present here cases of patients at the Department for Removable Prosthodontics at in which relining and repairing of removable dentures fabricated of light polymeric ECLIPSE resin have been undertaken.

In the past 6 years at the Department for Removable Prosthodontics, where 12 patients were treated with symptoms of stomatitis prosthetica alergica, there were removable dentures fabricated of light curing eclipse resin. Whereas 3 patients had to have their dentures relined.

As the manufacturer recommends, an indirect relining can be made by using hot-curing acrylates. Also a direct relining is possible with soft lining material. We insisted on the lining itself being made of the same material as that of which the removable denture is fabricated because in our clinic the eclipse dentures are fabricated in cases with verified allergy stomatitis. Therefore, we created our own procedure for an indirect relining of these dentures, carefully taking into account the need not to cause disturbance of jaw relationship, or more precisely the displacement of the vertical dimension. A classically taken functional impression with elastomer is poured out with hard plaster cast (Figs. 1 and 2).



Figure 1 – Functional impression with elastomer



Figure 2 – Cast functional impression

The filling begins with removal of the lingual part of the denture base and impression material up to the artificial teeth. In this phase of the relining the vestibular surface remains in order to maintain the position of the denture in accordance with the alveolar ridge (Figs. 3, a, b, c).

The plaster cast model is recoated with a separating material which is left to dry for 2 to 3 minutes (Fig. 4).

It is both necessary for the relining and fabrication of the eclipse dentures to provide hygienic conditions. The technician softens the light curing denture base resin with his hands. This material is placed in protective foil.



Figure 3 – a) Removing the denture base in the dental laboratory. b) Removing the impression material. c) Prepared denture for applying light polymeric resin



Figure 4 – Model recoated with separating material

When the resin is sufficiently softened, it is applied carefully to prevent air inhibition and to ensure it is fully smoothed on the plaster cast model. After the lingual surface is well moulded, it is recoated with Air Bearing Coating (ABC) which is used to protect it from air and then it is conditioned in the oven for 10 minutes [2] (Figs. 5 and 6).

When taking the denture out of the oven, it is left to cool for 3 minutes and then the same procedure is repeated with the vestibular part on the denture base (Figs. 7, 8 and 9).



Figure 5 – Recoating the resin with air bearing coating (ABC)



Figure 6 – Model with denture in conditioning oven



Figure 7 – Denture and model after conditioning the lingual part of the base



Figure 8 – Removed vestibular part of the denture



a)



b)

Figure 9 – a) Model in conditioning oven and b) Denture and model after finishing the vestibular part of the denture base

There follows the final processing of the denture and polishing with a high gloss (Fig. 10).

The detaching of the existing artificial tooth from the completed denture is replaced by set up resin which is used for setting teeth and their connecting to the denture base after mechanical retention of the tooth has been done [3, 4] (Fig. 11). The duration of conditioning the denture amounts to 6 minutes and 3 minutes cooling.

Repairing of the denture base is done with denture base resin. After the impression is taken, the procedure of replacing the broken part is the same as relining: separating material, adapting the resin for the denture base, oven conditioning for 10 minutes, cooling for 3 minutes and final processing (Fig. 12).



Figure 10 – Lingual and vestibular part of denture after final processing



Figure 11 – Repairing of tooth in denture

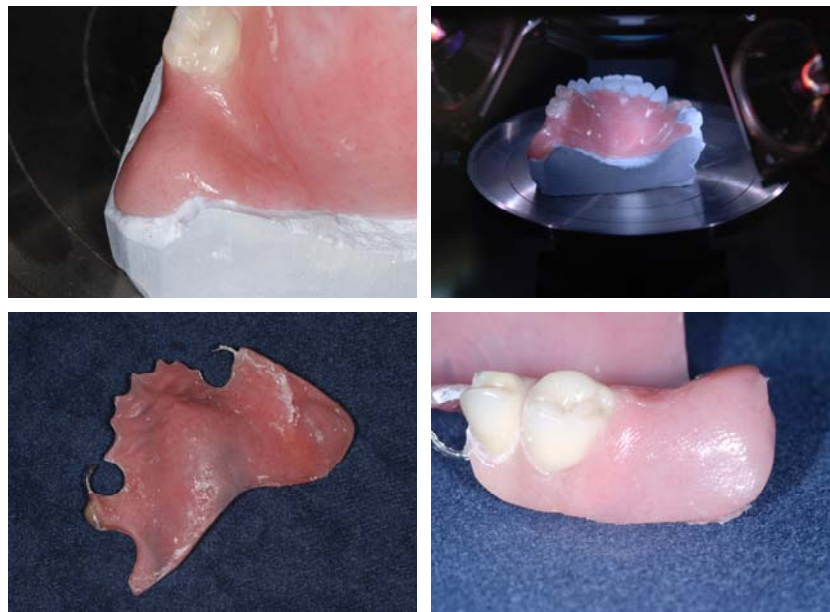


Figure 12 – Repairing of partial denture base in area of tuber maxillae

Discussion

According to the manufacturer's manual [5], relining can be carried out in the classical manner, indirectly by impression with elastomer and filling with hot curing acrylates which combine well with the eclipse resin. If the relining is carried out in the classical manner we lose the greatest advantage of eclipse resin den-

tures, and that is the short period of time needed for their processing in the dental laboratory [2, 3]. The method which is applied in our clinic, although it is carried out in two parts, retains the possibility of the technical processing of relining in a short period of time, and the possibility of it being carried out during a single patient visit. This is particularly evident

in repairs which do not exceed a duration of thirty minutes.

Regarding the use of eclipse resins in the process of relining, it is significant to emphasize yet another of the advantages of this type of removable dentures, and that is their application in cases with proven allergic stomatitis symptoms due to the absence of methyl metacrylate [2, 3, 6]. In addition to this there is the fact that at the check-ups, there were no patients registered with allergic stomatitis symptoms who had been treated for relining previously.

Conclusion

One of the most significant features of this method of fabrication of removable eclipse dentures and their relining and repairing is the shortened duration of work in the dental laboratory. The mode of rebasing shown also allows the maintenance one of the advantages of this type of dentures – the absence of allergy stomatitis symptoms.

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Резиме

МОБИЛНИ ПРОТЕЗИ СО ECLIPSE-РЕПАРАТУРИ И РЕБАЗАЦИИ

Јадранка Бундевска, Сања Панчевска,
Гордана Ковачевска

Стоматолошки факултет, Универзитет
„Св. Кирил и Методиј“, Клиника
за стоматолошка протетика, ЈЗУ УСКЦ
„Св. Пантелејмон“,
Скопје, Р. Македонија

При користењето мобилни протези, независно од тоа дали се работи за акрилатни протези или за протези изработени од eclipse-смола, често пати се јавува потреба од нивно пополнување-ребазација или нивна поправка – репаратура.

Целта на овој труд е да се прикажат специфичностите на постапката на ребазирање и на репарирање на мобилните протези од Eclipse-светлосно полимеризиращка смола.

Материјал и методи: Прикажани се случаи на репаратури и на ребазации на мобилни протези изработени од Eclipse светлосно полимеризиращка смола кај пациенти на Клиниката за мобилна стоматолошка протетика при УСКЦ во Скопје.

Заклучок: Како и кај процесот на изработка на Eclipse-мобилни протези, така и кај нивните репаратури или ребазации е зачувана една од најзначајните карактеристики на оваа метода – кратко време на работа во заботехничката лабораторија. Презентируваниот начин на ребазација дава можност да се зачува уште една од предностите на овој тип протези – отсуство на симптоми на алергиски стоматит.

Клучни зборови: мобилни протези, репаратура, ребазација, eclipse-светлосно полимеризиращка смола.