

**COMPLETE DENTURES REBASING IN CASE OF DECREASED VERTICAL  
DIMENSION – A CASE REPORT****Sanja Panchevska\*<sup>1</sup>, Darko Gjorgjievski<sup>2</sup>, Sasho Elenchevski<sup>1</sup>, Nadica Janeva<sup>1</sup>, Maja Angelovska<sup>3</sup> and Suzana Pavlovska<sup>2</sup>**<sup>1</sup>Department for prosthodontics Ss. Cyril and Methodius University of Skopje Faculty of Dentistry.<sup>2</sup>PDO Dental Care Ss. Cyril and Methodius University of Skopje Faculty of Dentistry.<sup>3</sup>PZU Ortosmajl Ss. Cyril and Methodius University of Skopje Faculty of Dentistry.**\*Corresponding Author: Sanja Panchevska**

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**ABSTRACT**

The decrease of the vertical dimension in patients with complete dentures often is followed by functional and aesthetic problems. This problem is bigger in patients which dentures are much older (some times more than 10 years) but it could also happen in patients with much newer dentures (less than 5 years). The aim of this report is to present the possibility to correct the decreased vertical dimension in patients with complete dentures without making new one. A 72 years old completely edentulous patient was admitted at the UDCC - Department for removable dentures in Skopje. The patient's complete dentures were made six years ago and he complains of „dentures meltdown“. The patient does not accept to make new ones. Method of choice is increasing the vertical dimension during the indirect rebasing of the lower complete denture. With this procedure the correction of the vertical dimension was successful as well as the improvement of the aesthetic and the function of the stomatognathic system.

**KEYWORDS:** rebasing, relining, intermaxillary relationship, complete dentures.**INTRODUCTION**

The precise determination of the vertical dimension (VD) in complete denture wearers is of great significance to the maintenance of stomatognathic function, the prophylaxis of oral soft tissues and jawbone, as well as the preservation of their esthetic integrity. Because the resorption of the residual alveolar ridge is a chronic process and does not stop during the use of complete dentures, a change in the VD occurs with time (Knezovic-Zlataric D 2002).<sup>[1]</sup> The wasting of artificial teeth in complete dentures is another factor that contributes in the reduction of VD, resulting in a loss of stability and retention. All of this leads to disturbances in the masticatory and other functions of the stomatognathic system. These changes are the reason for the frequent patient complaints regarding the increase in discomfort and looseness of the dentures. In patients who have been using the same dentures for longer periods of time (>10 years), the reduction in VD is pronounced to the point of mandibular propulsion (Hadjieva H. 2014).<sup>[2]</sup> The esthetic changes may be emphasized by fissures and angular chelitis. These problems can be solved by relining (adding a new layer of acrylic resin), rebasing (replacing the entire acrylic base), or in the most difficult cases with a completely new complete dentures. The loss

of retention and stability, reduction in VD, decreased visibility of the teeth during speech, degeneration of the dental base and reduced extension of the dentures in the muco-buccal segments are the criteria which should guide us in the decision to reline or rebase the removable dentures (Christensen G. 1995).<sup>[3]</sup>

**The goal** of this study is to present a modified method for rebasing existing complete dentures, as a way of restoring the VD.

**CASE REPORT**

A 72 year old complete denture wearer was seen at the UDCC Clinic for removable dentures – Skopje, presenting with lowered dentures, a feeling of looseness, and increased discomfort. The patient is not consenting to the fabrication of new dentures due to a certain level of satisfaction by the current complete dentures. The absence of abrasion on the artificial teeth, as well as the overall condition of the dentures (no visible damage on the acrylic base, well preserved oral hygiene) contribute to our decision not to fabricate new dentures, but to solve the problem of increased discomfort and looseness by rebasing the lower complete denture. The patient has a severe resorption of the lower alveolar ridge and a

decrease in VD, and in such conditions the method of choice is indirect rebasing of the lower complete denture, therefore providing an increase in VD. (Fig. 1, fig.2)



**Figure 1: Resorbed residual alveolar ridge.**



**Figure 2: a) A reduction in the vertical dimension (VD) b) Intraoral view.**



**Figure 3: a) Gap holders b) impression in central occlusion.**



**Figure 4: a) impression with thermoplastic compound b) functional impression.**



**Figure 5: A restored vertical dimension after rebasing.**



**Figure 6: Complete denture after rebasing.**

In order to achieve the increase in VD, after evaluation of the occlusion, gap holders from a thermoplastic compound were placed on the oral surface of the lower denture (fig. 3). Two gap holders were placed bilaterally in the post canine region, and one in the front. In this position, the denture is not in contact with the oral mucosa, therefore there is no need for shortening of the denture flanges. The gap between the holders is filled with a softened thermoplastic compound, and in central occlusion, the patient is instructed to make functional movements (fig. 4). After control of the VD, a functional impression in central occlusion was taken with impression material. The procedure in the dental laboratory is identical to the one used in classic indirect rebasing (fig. 5, fig. 6)

## DISCUSSION

Even in perfectly manufactured dentures, a reduction in retention and stability can appear as a result of the increased resorption of the alveolar ridge. Currently, there is no definitive answer on whether to reline, rebase or completely replace dentures that are causing discomfort.<sup>[4]</sup> As described by Knechtel & Loney, for most patient, denture relining is an economical means of improving a dentures stability and retention, the overall occlusal VD, and in some cases facial appearance.<sup>[5]</sup> Increased comfort, improved mastication, and improvement of the ability to consume solid foods, as well as an improvement in speech and the overall attitude of the patient towards the dentures can be seen in the majority of the patients after denture relining (Garret *et al.*)<sup>[6]</sup>

## CONCLUSION

Regular prosthodontics check-ups (once per year) are essential for complete denture wearers in order to preserve the soft tissues and to track the rate and severity of alveolar resorption. The goal of this is to control the changes in VD, and to make certain adjustments before stomatognathic function is compromised. In cases where there is a noticeable reduction in VD, using the method described in this paper allows for certain adjustments, resulting in improved esthetics and speech, but above all, improved retention and stability. All of this leads to an increase in the denture wearers comfort.

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