

COMPARISON OF THE ADAPTABILITY OF SOFT LINED MAXILLARY HEAT CURED DENTURE BASES EXPOSED TO DIFFERENT PROCESSING TECHNIQUES

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ABSTRACT

The purpose of this study was to compare the accuracy of adaptation of the unlined heat cured acrylic denture base to that of the Molloplast-B relined unpolymerized acrylic denture base, and Molloplast- B relined polymerized acrylic denture base.

The results showed that relining the denture base with soft liner did not improve the adaptability of the base

There was no significant difference between the mean gap values of the molloplast-B relined base which was subjected to one curing cycle and the other molloplast-B relined base which was subjected in two curing cycles.

INTRODUCTION

When the completely edentulous patient suffers from fragile mucosa, excessive residual ridge resorption, substantial undercuts, traumatic tissue loss, and many other problems, some relief of the symptoms may be obtained by re-lining the denture with a resilient material.

Soft lining materials can be defined as soft, resilient, elastic materials, which form a cushion layer between the hard denture base and the oral mucosa.⁽¹⁾

These materials include the permanent soft-lining materials based on silicone rubber or acrylic resin. The permanent soft liners could be cured chemically or by heat.^(1,2,3)

The accuracy of adaptation and fit of the complete denture to the basal tissue affect the retention, stability and evenness of force distribution through

the denture base. The heat-curing cycle and the polymerization mechanism affect the gap between the denture base and the tissue⁽⁴⁾.

Processing changes that occur in complete dentures when the acrylic resin is being cured result in an overall contraction.^(3,5,9) This contraction contributes to the volumetric shrinkage during polymerization^(3,5,8,10) Processing shrinkage induces internal stress in the denture base. When these stresses are relieved by time or during heat exposure or by water absorption, the denture base may be warped or distorted.^(3,6,7,9,10)

To apply some of the heat-cured soft-liners, a second heat-cure cycle for the acrylic denture is required. This second heat-cure cycle shows significant effect on reducing the concentration of the remaining monomer in the denture-acrylic base⁽¹¹⁾. This means an increase in the degree of conversion, as well a volumetric shrinkage^(3,12).

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