

Brazilian Oral Research

Print version ISSN 1806-8324

Abstract

[SARDENBERG, Fernanda](#) et al. Evaluation of the dental structure loss produced during maintenance and replacement of occlusal amalgam restorations. *Braz. oral res.* [online]. 2008, vol.22, n.3, pp. 242-246. ISSN . doi: 10.1590/S1806-83242008000300009.

The aim of this *in vitro* study was to evaluate four different approaches to the decision of changing or not defective amalgam restorations in first primary molar teeth concerning the loss of dental structure. Ditched amalgam restorations (n = 11) were submitted to four different treatments, as follows: Control group - polishing and finishing of the restorations were carried out; Amalgam group - the ditched amalgam restorations were replaced by new amalgam restorations; Composite resin group - the initial amalgam restorations were replaced by composite resin restorations; Flowable resin group - the ditching around the amalgam restorations was filled with flowable resin. Images of the sectioned teeth were made and the area of the cavities before and after the procedures was determined by image analysis software to assess structural loss. The data were submitted to ANOVA complemented by the Student Newman Keuls test ($p < 0.05$). The cavities in all the groups presented significantly greater areas after the procedures. However, the amalgam group showed more substantial dental loss. The other three groups presented no statistically significant difference in dental structure loss after the re-treatments. Thus, replacing ditched amalgam restorations by other similar restorations resulted in a significant dental structure loss while maintaining them or replacing them by resin restorations did not result in significant loss.

Keywords : Dentistry, operative; Dental amalgam; Dental restoration, permanent; Dental restoration failure.

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Sociedade Brasileira de Pesquisa Odontológica

Av. Lineu Prestes, 2227
Caixa Postal 8216
05508-900 São Paulo SP - Brazil
Tel./Fax: +55 11 3091-7810



bor@sbpgo.org.br