

## Effect of cavosurface margin configuration of class V cavity preparations on microleakage of composite resin restorations

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### Abstract

**Aim:** The aim of this study was to compare the marginal leakage of hybrid and microfilled composite resin in Class V restorations with and without an enamel bevel. **Methods and Materials:** Fifty-six cavities were prepared on the buccal and lingual surfaces of 28 extracted human molars using a round bur with the dimensions of 3x3x1.0 mm. The specimens were divided into two groups of 28 based on the cavosurface margin configuration (beveled and non-beveled). Each group was then divided into two subgroups (n=14) based on the type of composite resin (microfilled and hybrid) used for restoration. After completing restorative procedure, specimens were thermocycled and immersed in 0.5% basic fuchsin. Samples were embedded in polyester and then sectioned both mesiodistally and buccolingually. Dye penetration was observed with a stereomicroscope at 20x magnification. Statistical nonparametric analysis Kruskal-Wallis and Mann-Whitney tests were performed to compare the data ( $\alpha=0.05$ ). **Results:** There was no statistically significant difference between the two types of composites and two types of enamel margins with respect to microleakage ( $P>0.05$ ). The degree of microleakage at the gingival margin located in dentin of each group was more than that of the enamel margin ( $P<0.05$ ). **Conclusion:** An enamel bevel in a Class V cavity preparation had no effect on the reduction of marginal leakage using either hybrid or microfilled composite resin.

### Reaxys Database Information

### Author keywords

Bevel; Class V cavity preparation; Composite resin; Microleakage

### Indexed Keywords

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**MeSH:** Coloring Agents; Composite Resins; Dental Cavity Preparation; Dental Leakage; Dental Restoration, Permanent; Humans; Molar; Nanocomposites; Statistics, Nonparametric; Tooth Cervix

*Medline is the source for the MeSH terms of this document.*

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