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**Title: Marginal integrity of resin composite restorations in Er : YAG preparated cavities**

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**Abstract:**
Since the Er:YAG laser was introduced in dentistry, a lot of basic and clinical studies on Er:YAG laser have been published. The purpose of this review is to evaluate the influence of Er:YAG irradiation with or without acid etching on Marginal Integrity of resin composite restorations and compared with the restorations which prepared by rotary cutting instrument. The Er:YAG laser is absorbed by water and hydroxyapatite, which partially accounts for its efficiency in cutting enamel and dentin.

Er:YAG laser was suitable for the caries removal and the cavity preparation based on the minimal intervention dentistry and adhesive restorative dentistry. However, there were few reports about marginal integration of the composite restoration in the Er:YAG prepared cavities. Laser cavity produces unevenness or irregularity of enamel surface and an increase in surface roughness, it may facilitate good adaptation of composite resin with enamel. For dentin, a crater-like surface or scaly roughened surface accompanied by good definition of the exposed orifices of the dentinal tubules is typical. Surfaces are generally clean, without cracks and very little or no smear layer. It was concluded that the preparation by Er:YAG laser with acid etching showed better marginal integrity of resin composite restoration than that by the rotary cutting instrument although the choice of pulse energy must be carefully made.

**Er:YAG, marginal integrity, composite resin**

**Presentation:** Poster