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## Effect of porcelain firing cycles and different thickness of IPS e.max CAD core on marginal integrity of all-ceramic restorations (*in-vitro*)

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**Background & Aim:** Marginal adaptation is important for the long-term success of full-coverage restorations. Thickness and core material is one of the important factors influencing the marginal integrity, so aim of this study was to determine the effect of porcelain firing cycle and different thickness of IPS e.max CAD core on marginal accuracy of all-ceramic restorations.

**Method & Material:** In this *in-vitro* study, a stainless steel die was prepared by a classic chamfer finish line with the depth of 0.8 mm and 10 degree wall convergence. An impression was taken from stainless steel die to fabricate a series of 20 epoxy resin dies, scanning epoxy resins die and prepared IPS e. max CAD core by CAD/CAM technique. Two groups of 10 each were made the first group with a thickness of 0.7 mm and the second group with thickness of 0.4 mm coping has placed on the specific die and were randomly numbered. The amount of marginal gap was measured in 10 points by stereomicroscope (magnification X90) in two stages first after core prepared then after porcelain veneering.

**Results:** the mean of gap in the thickness of 0.7 mm and 0.4 mm before porcelain firing were  $15.62 \pm 2.55 \mu\text{m}$ ,  $19.68 \pm 3.09 \mu\text{m}$  and after porcelain firing were  $32.01 \pm 3.19 \mu\text{m}$ ,  $35.24 \pm 3.8 \mu\text{m}$ . Test showed significant difference between the marginal gap of these two thickness before porcelain firing but no significant difference among these after veneering and also there were significant difference in the value of marginal gap before and after porcelain veneering in each group.

### Biography

Azadeh Abdollahi has completed his DMD from School of Dentistry of Islamic Azad University of Tehran, Iran, School of Dentistry of Islamic Azad University of Tehran, Iran. She has four years of professional experience as a general dentist and also she has more than six international lectures and presentations.

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