## عنوان مقاله:

Internal and Marginal Fit of Modern Indirect Class II Composite Inlays

## محل انتشار:

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## خلاصه مقاله:

Introduction: This in vitro study investigates the marginal and internal fit of indirect class II composite restorations. Two different processes for chair-side restorations were compared. In group A, the restorations were fabricated using CAD/CAM technology (Cerec, Sirona, Germany, Bernsheim) and in group B they were made by hand (GrandioSO Inlay System, VOCO GmbH, Germany, Cuxhaven). Methods: For a metal tooth with a MOD cavity each 10 restorations were made for groups A and B. For each restoration, a replica of the cement-gap made from light body silicone was produced by placing the restoration into the cavity of the metal tooth. For this purpose, a special restoration-positioning machine was developed. Each replica was sectioned off in the longitudinal axis (L) and in the cross axis (C). The thickness of the replicas was measured in both directions, using picture analysis software under a light reflection microscope. To evaluate the fit of the restorations, a special fitting parameter was calculated. Statistical analysis was performed with the t test. Results: The fitting-parameter in group B (L: 97.6µm±73.0µm; C: 71.8µm ±46.4µm) was significantly lower than that of group A (L: 155.1µm±102.3.0µm; C: 168.2µm±91.9µm) (P<0,001). Conclusions: Within the limitations of this in-vitro study hand-made composite restorations using the GrandioSO Inlay System seems to be a good alternative to CAD/CAM production. The clinical success of these restorations has to be .evaluated in further studies

## کلمات کلیدی:

CAD/CAM, indirect composite restoration, Internal fit, manual manufacturing, marginal