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## Radiographic evaluation of the marginal fit of clinically acceptable metal-ceramic crowns.

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**Introduction:** Visual assessments of crown marginal fit have limited use to assess marginal gaps on proximal surfaces. Other methods used in the literature to evaluate marginal accuracy on the proximal surfaces are with radiographs.

**Purpose:** To radiographically evaluate the proximal marginal fit of clinically acceptable metal-ceramic crowns.

**Materials and Methods:** A prospective study was conducted in AKUH dental clinics over a six months period in which a total of 115 metal-ceramic crowns were evaluated prior to cementation, using non-probability convenient sampling technique. Each crown was evaluated on their respective dies and then, clinically on the prepared teeth for horizontal or vertical discrepancies. Those crowns which were found to be accurate were evaluated with bitewing radiographs for marginal accuracy; any discrepancies on proximal surfaces of the teeth were noted on the data collection form. Data were analyzed using SPSS version 22. Chi-square and odds ratio was used to determine and measure the association of marginal discrepancy with location of tooth and surface of tooth.

**Results:** 230 surfaces of crowns were evaluated on radiographs, out of which 113 surfaces were found to have marginal discrepancies; 44 surfaces had horizontal discrepancies and 58 surfaces had vertical discrepancies. Horizontal crown marginal discrepancies were most commonly associated with maxillary teeth and mesial surfaces of crowns, whereas, vertical discrepancies were most commonly associated with distal surfaces of crown.

**Conclusions:** According to the results of this study, almost half of the crowns that were determined to have clinically acceptable margins had some sort of marginal discrepancy on radiologic evaluation; with vertical discrepancies in distal surfaces of crowns and horizontal discrepancies mainly on mesial margins of maxillary crowns.

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