

# 113 年牙體復形學會海報貼示摘要稿紙

摘要截收日期：113 年 8 月 31 日展延至 9 月 13 日

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## 髓腔固位冠的邊緣位置與設計對界面完整性的影響

### Effects of margin location and design on interfacial integrity of endocrowns

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**Objective:** Endocrowns considered as viable alternatives for endodontically treated teeth, but the effects of margin designs on their interfacial integrity have not been investigated. This study aimed to evaluate the interfacial integrity in endocrowns with different marginal locations and designs using optical coherence tomography (OCT).

**Methods:** Thirty-two human lower molars were divided into four groups based on marginal designs: above inflection line margin with ferrule design (UF); above inflection line margin with butt joint design (UB); below inflection line with ferrule design (LF); below inflection line with butt joint design (LB). Endocrowns corresponding to each group were fabricated using IPS e.max CAD HT (A2 shade), treated with hydrofluoric acid and silane, and cemented with Variolink N cement. After cementation, the samples were stored in distilled water at 37°C for 24 hours. OCT was used to scan the bond interfaces at four surfaces (buccal, mesial, lingual, and distal). ImageJ was subsequently utilized to analyze the integrity of the cementation in these endocrowns.

**Results:** LF and LB exhibited significantly less leakage compared to the corresponding UF and UB groups. Groups with butt joint designs had less leakage than groups with ferrule design. The UF group had the highest leakage, followed by UB, LF, and LB.

**Conclusions:** The location and ferrule design affect the interface integrity of endocrowns. Endocrowns with butt joint margins and lower locations demonstrated better marginal sealing.

11cm

16cm

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臨床研究

基礎研究

病例

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