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[\[PDF \(341K\)\]](#) [\[References\]](#)**Influence of Elasticity on Gap Formation in a Lining Technique with Flowable Composite**[Eitetsu CHO](#)<sup>1)</sup>, [Hirokazu CHIKAWA](#)<sup>1)</sup>, [Ryuzo KISHIKAWA](#)<sup>1)</sup>, [Norimichi INAI](#)<sup>2)</sup>, [Masayuki OTSUKI](#)<sup>1)</sup>, [Richard M. FOXTON](#)<sup>3)</sup> and [Junji TAGAMI](#)<sup>1)4)</sup>

1) Cariology and Operative Dentistry, Department of Restorative Sciences, Graduate School, Tokyo Medical and Dental University

2) Medical Office, Welfare Division, Minister's Secretariat, The Ministry of Agriculture, Forestry and Fisheries of Japan

3) Department of Conservative Dentistry, King's College London Dental Institute at Guy's, King's College and St. Thomas' Hospitals

4) Center of Excellence Program for Frontier Research on Molecular Destruction and Reconstruction of Tooth and Bone, Tokyo Medical and Dental University

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**Abstract:**

The purpose of this study was to investigate the effect of flowable composites as liners for direct composite restorations, with key focus on the elastic moduli of flowable and condensable composites. After treating the composite mold cavity surface with an adhesive system, one of the flowable composites was placed as a 1 mm-thick layer on the cavity floor and irradiated for 20 seconds. The rest of cavity was subsequently filled with a condensable composite and irradiated for 40 seconds. Gap formation at both interfaces — between the cavity floor and flowable composite, and between the flowable and condensable composites — was examined. No gaps were detected at the interface between the cavity floor and flowable composite. Gap percentage at the interface between the flowable and condensable composites was dependent on the difference in elastic modulus. It was concluded that flowable composite with high elastic modulus could inhibit

gap formation between flowable and condensable composites.

**Key words:**

[Flowable composite](#), [Elastic modulus](#), [Gap formation](#)

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