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An Evaluation of Flexural Strength and Modulus of Elasticity of Commercially Available Provisional Restorative Materials: An In-Vitro Study

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Abstract

Aim of the study: This study aims to evaluate the mechanical properties of various commercially available provisional restorative materials.

Materials and methods: Ten samples with dimensions 25mmx2mmx2mm were fabricated from five provisional restorative materials following which they were tested for flexural strength and modulus of elasticity.

Results: The highest mean flexural strength was found in heat polymerising acrylic resin whereas light polymerizing exhibited lowest mean flexural strength whereas mean modulus of elasticity was highest for Protemp 4 and lowest with autopolymerising resin. Significant difference was found with p-value of <0.001.

Conclusion: The mechanical properties of the provisional restorative materials were significantly influenced by the material used in the study.

Clinical significance: Provisional prostheses flex under function and are vulnerable to inadvertent fracture during mastication.

Keywords: Mechanical properties, provisional restorative materials, fibre.

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