

**"CUSPAL REINFORCEMENT OF PRIMARY MOLARS  
FOLLOWING RESTORATION WITH THREE RESTORATIVE  
MATERIALS: AN IN-VITRO COMPARATIVE STUDY"**

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**By**

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## Introduction

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The caries process in the deciduous teeth is quite insidious and rapidly progressing. This is attributed to the fact that the physical characteristics and the chemical composition of both the enamel and the dentin are different from that of the permanent teeth<sup>21</sup>. The decreased number of nerve fibres reaching the dentin in the deciduous teeth renders the patient symptomless until a considerable amount of tooth structure has been destroyed by the carious process<sup>2,41</sup>.

A challenging task posed before the clinician is to remove the caries completely and restore the lost tooth structure with the available restorative materials to its morphology, strength and function.

Myriads of restorative materials have been introduced into the market for restoring the teeth affected by caries among which the Silver amalgam has stood the test of time. It has been the most widely used and studied material since its introduction in 1819. However restoring a tooth with Silver amalgam requires removal of sound tooth structure for retention, resistance and the old concept of extension for prevention, which eventually weakens the tooth structure<sup>29</sup>. These manoeuvres were carried out because of its inability to bond to the tooth structure and to impart bulk to the material for its strength. Coupled with these drawbacks and other disadvantages like marginal deterioration<sup>1</sup>, secondary caries<sup>1</sup> and mercury toxicity and also, with the introduction of acid-etching technique and dentin bonding agents led to the

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