

# “ POST ENDODONTIC MANAGEMENT OF GROSSLY DECAYED TOOTH”- A CASE REPORT

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**Abstract :** Restoring teeth with severe decay is a tough clinical challenge, often involving major loss of crown structure, compromised appearance, and the need to restore proper bite function. The stamp technique is a conservative, minimally invasive method that uses direct composite resin to replicate the original chewing surface of back teeth. This approach offers several benefits: it cuts down chair time, provides precise occlusal fit, improves aesthetics, and reduces the need for extensive finishing and polishing. It's especially useful when some of the original occlusal shape remains before the decay is removed. This overview covers the clinical importance, step-by-step procedure, key benefits, and limitations of the stamp technique, showing it's a reliable and efficient option for modern conservative dentistry.

**IndexTerms - - Grossly decayed teeth , Stamp technique<sup>(2)</sup>, Minimally invasive dentistry, Direct composite restorat, Occlusal anatomy replication ,Posterior tooth restoration, Conservative dentistry.**

## INTRODUCTION

Restoring posterior teeth that have suffered extensive decay presents a significant challenge in clinical dentistry. The loss of substantial coronal structure not only compromises aesthetics but also makes it difficult to re-establish functional occlusion. Traditional restorative methods often require extensive preparation, increased chair time, and can result in less-than-ideal anatomical replication.<sup>(2,3)</sup>

The stamp technique offers a minimally invasive solution that addresses these issues by using direct composite resin to precisely reproduce the original occlusal anatomy of the affected tooth. By creating a negative imprint of the existing tooth surface before excavation, the technique allows for an accurate, efficient, and aesthetically pleasing restoration. It reduces the need for extensive finishing and polishing, making it a time-saving option for both the clinician and the patient.<sup>(1,3)</sup>

This approach is particularly advantageous when some of the natural occlusal morphology remains intact prior to caries removal, providing a reliable template for the new restoration.<sup>(2,4)</sup> This article explores the clinical significance, step-by-step procedure, advantages, and limitations of the stamp technique, highlighting its role as a predictable and conservative option in modern restorative dentistry.<sup>(4)</sup>

### Case Presentation:

A 40-year-old patient presented with a severely decayed and fractured lower left mandibular second molar (tooth 37). The patient had a history of root canal treatment done on this tooth two years prior. Clinical examination revealed extensive loss of the crown, with visible gutta-percha at the base of the pulp chamber on tooth 37. There was no tenderness on palpation or percussion, and the surrounding periodontal tissues appeared healthy. Radiographic evaluation showed a three-dimensionally filled root canal system in tooth 37, with no evidence of periapical pathology. The diagnosis was a root canal treated tooth 37 with loss of the coronal restoration.

**Case Management:**

An impression was taken to create a diagnostic cast. Using this study model, a diagnostic wax-up was completed for tooth 37. To replicate the original occlusal anatomy, an occlusal stamp was created using flowable composite and a microbrush. This stamp served as a template for the final composite restoration, allowing for precise reconstruction of the tooth's chewing surface.



## IMAGES BELOW

A. STUDY MODEL, B AND C-OCCLUSAL STAMP PREPARED USING FLOWABLE COMPOSITE & MICROBRUSH,  
D,E,F,G,H,I-CLINICAL PROCEDURE & J,K,L-IMMEDIATEPOSTOPERATIVEIMAGES

(CLINICAL AND XRAY IMAGE)

## CLINICAL PROCEDURE

Under rubber dam application, Gic was applied on the pulpal floor, Etching with 37% phosphoric acid and bonding was done, the cavity wall is bluid.

The overlying 2 mm of the occlusal surface was reconstructed using nanohybrid composite restoration (GC G- aenial Sculpt) and after adapting teflon tape, the occlusal stamp was used as a guide to reproduce the morphology.

## DISCUSION

Dentistry has seen a major shift toward more conservative and aesthetic solutions, including both direct and indirect composite restorations. However, traditional composite materials have several limitations, such as low flexural strength, shrinkage during polymerization, insufficient toughness, and a tendency for microleakage. To address these issues and improve outcomes for severely damaged back teeth, the "biobase concept" using fiber-reinforced composite materials is becoming increasingly popular in dental practice. A study by Ozsevik et al. (2015) assessed the use of polyethylene fibers and EverX Posterior as a base layer, finding that EverX Posterior under composite restorations provided fracture resistance comparable to that of natural, intact teeth.<sup>(1,2)</sup>

### Stamp Technique:

The stamp technique offers several benefits, including minimal need for finishing and polishing, fewer voids in the restoration, and the ability to replicate a well-polymerized occlusal surface. This approach helps preserve tooth structure and improves the efficiency of the restorative process.<sup>(3)</sup>

### Bilayer Restorations:

Bilayer restorations combine a new dentin replacement material with an overlying enamel replacement material. This approach leverages advanced properties of both layers to closely mimic the natural behavior of tooth tissues. As a result, it enables more conservative, less invasive, and durable restorations, particularly in teeth that have undergone endodontic treatment.

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**THE AUTROS REPORT : NO CONFLICT OF INTEREST.**

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