

TEMPORARY FILLING MATERIALS

INTRODUCTION

Bacterial infection has been declared as the most common cause of the pulpal and periradicular diseases. Temporary restorations or temporary filling (TF) materials are commonly used to seal endodontic access cavities between patient visits and after completion of endodontic therapy to prevent coronal microleakage. Temporary restorative materials are used for restoring the tooth temporarily until permanent restoration can be given. The aim of this E- poster is to analyse the various temporary restorative materials used in pediatric dentistry and its requirements, properties and importance.

FUNCTIONS

- Provide an adequate seal against ingress of bacteria, fluids and organic materials from the oral cavity to the root-canal system.
- Prevent seepage of intracanal medicaments
- Adhere to tooth structure
- Reproduces tooth contours to facilitate self-cleansing
- Insulates the pulpal tissue and maintains the periodontal relationship

IDEAL REQUIREMENTS

- Easy manipulation
- Should have sedative effect to the tooth and promote pulp healing
- Reasonable strength and abrasive resistance
- Esthetically acceptable in the anterior region
- Reasonable setting time and has low flow after setting
- Anti bacterial property
- Marginal integrity
- Biocompatibility
- Radiopaque
- Economical
- Low Water sorption & solubility



Figure 1

Ideal consistency of a zinc oxide eugenol-based temporary filling material

CLASSIFICATION

A. PERIOD OF STAY

- Short Stay (1-2 weeks)
- Average Stay (Few weeks)
- Period upto 6 months



B. COMPOSITION

- Sulphate-based materials
 - Conventional
 - Enriched with plastic
- Eugenol based materials
 - Conventional
 - Reinforced
- Zinc Phosphate cement
- Zinc Polycarboxylate Cement
- Polyacrylic acid based materials
- GP Material*
- Glass Ionomer Cement (GIC)
- Resin Based Material

* For permanent teeth

MATERIALS

Zinc polycarboxylate cement
This material is recommended in cases of where the inter-appointment distance is less than a week. It requires immediate application as the polyacrylic acid contributes to high viscosity and puts the tooth at a risk of microleakage.

Eugenol-based materials
The diffusion eugenol through dentin when placed in the cavity, adds to the anesthetic and anti-inflammatory effects on the pulp. (Figure 1).

Zinc phosphate cement
Despite its resistance to occlusal loads, the sealing ability of zinc phosphate cement as a temporary filling material is debatable.

Glass ionomer cements (GICs)
Chemo-mechanical adhesion and bioactive property of GIC makes it one of the most ideal materials for transient coronal filling.

Calcium Sulphate-Based Material
These materials have a soft consistency and undergo a hygroscopic set after permeation with water. A high linear expansion ensues, making it a desirable TF with minimal microleakage.

