

## Dental Restorations

This handout will discuss dental restorations from two perspectives:

- 1- Types of Dental Restorations
- 2- Types of Dental Materials

Before we discuss dental restorations, it is vitally important to understand the anatomy of a baby tooth and how it differs from that of an adult tooth.

*Baby Teeth* have **larger nerves** and are surrounded by **less tooth structure** around the nerve. In contrast, *adult teeth* have **much more tooth structure** around their nerves. This becomes important as we discuss the different types of dental restorations.



**Anatomy of a Baby Tooth Versus an Adult Tooth**

## Types of Dental Restorations

There are essentially three types of dental restorations placed:

- 1- **Basic filling or patch within a tooth** – If a basic filling can be placed then it means that the following conditions have been met:
  - i. All of the decay has been removed
  - ii. Retentive features have been incorporated into the tooth preparation preventing the filling material from being displaced or fractured when you bite, grind, or chew. It is important to keep in mind that when we incorporate retentive features into a dental preparation, we ***increase the size of the preparation***.
  - iii. We have been mindful of the distance between where the filling ends and where the nerve begins. If you don't maintain a certain cushion between where the filling ends and the nerve begins then a ***dental abscess*** will result even if all the decay has been removed.

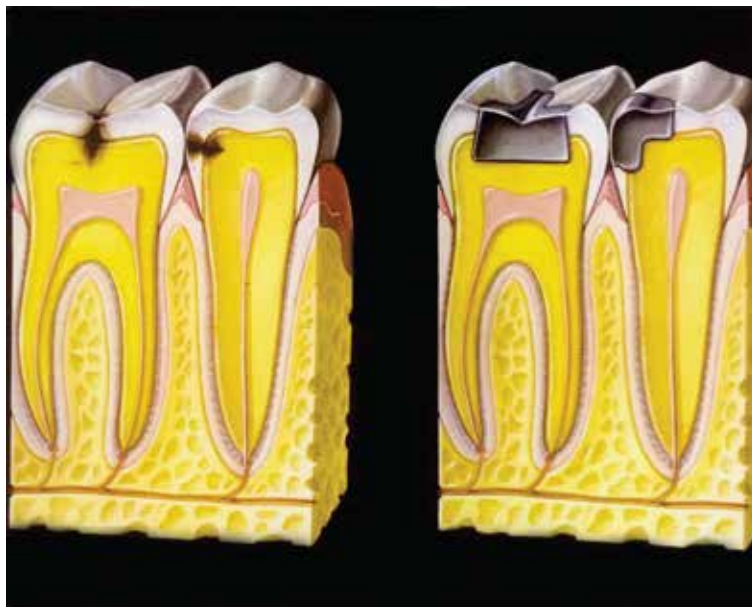


**Illustration of Basic Filling**

- 2- **A hat without a nerve treatment** – *A hat without a nerve treatment* is usually placed when you want to avoid retentive features in a tooth preparation for the fear that the preparation will get too close to the nerve causing the tooth to abscess once restored. With this type of restoration, you simply remove the decay and prepare the tooth to accept the thickness of the hat (which is roughly 2 mm in thickness). The hat is retained by molding it around the collar of the tooth under the gum tissue **to achieve physical retention**. The hat is also cemented to ensure that it remains in place until it gets displaced by the adult tooth at a later date. ***Please keep in mind that this form of restoration is not the same as an adult crown.***
- 3- **A hat with a nerve treatment** – This type of restoration is placed when the decay is too close to the nerve. When you remove the decay, you will be either too close to the nerve or into it. If the tooth is restored, and the filling is too close to the nerve or into it, then the tooth will abscess. ***In order to avoid a dental abscess, a pulpotomy is required which is a form of nerve treatment. A pulpotomy is not the same as an adult root canal.*** It typically takes two minutes to complete; only the nerve in the crown section of the tooth is removed. The nerve in the baby root is maintained. The nerves relating to the adult tooth which will replace the baby tooth remains untouched and intact.



**Illustration of a Pulpotomy**

## Types of Dental Materials

**Basic Fillings** – Basic fillings can come in either *silver* or *white*.

| <b>General Anesthetics</b>                                         |                                                                              |
|--------------------------------------------------------------------|------------------------------------------------------------------------------|
| <b>Silver Fillings</b>                                             | <b>White Fillings</b>                                                        |
| <b><i>More Stable and less likely to require a retreatment</i></b> | Less stable; margins often leak and more likely will result in a retreatment |
| <b>Less expensive</b>                                              | More expensive                                                               |
| <b>Requires less time to place</b>                                 | Requires significantly more time to place                                    |
| <b>Non-toxic</b>                                                   | More esthetic than silver fillings                                           |
| <b>Withstands biting/grinding/chewing better</b>                   | Wears more easily upon biting/grinding/chewing                               |

**Hats** – Hats also come in either *silver* or *white*.

| <b>Silver Hats</b>                                                                            | <b>White Hats</b>                                                                                                          |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Remove less tooth structure                                                                   | Remove significantly more tooth structure                                                                                  |
| Can alter shape and achieve physical retention before cementation                             | Cannot alter shape and cannot achieve physical retention before cementation                                                |
| Less likely to fail because of physical retention during normal biting, chewing, and grinding | More likely to fail during normal biting, chewing, and grinding since it has to be fit loosely on tooth before cementation |
| Requires less time to place                                                                   | Requires significantly more time to place                                                                                  |
| Easy to place side by side                                                                    | Extremely difficult to place side by side                                                                                  |
| Less expensive than white hats                                                                | More expensive than silver hats                                                                                            |