



## A review of contemporary issues in obturation

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Complete obturation of the root canal system, with a dimensionally stable material, is a goal in conventional root canal therapy. However, there have been a multitude of empiric opinions regarding the root canal obturation. The purpose of this presentation was to review the various issues on canal obturation.

### 1. Cleanness of the root canal system.

Root canals must be completely cleaned before the final seal of the root canal. However, most of shaping techniques produce smear layer and dentinal debris, and there is a controversy over whether or not to remove this layer and/or debris before obturation.

### 2. How to fill

There is no documentation as to the levels of clinical success or failure when compare lateral compaction with vertical compaction. However, the heat-softened gutta-percha is forced to a better adaptation with the root canal walls than more rigid cold gutta-percha cone; thus, the space between gutta-percha and the root canal wall may be less than with cold compaction.

### 3. Master cone selection

In the warm vertical gutta-percha obturation, the selection of master cone is very important. The shape of these cones approximates to the length and shape of the canal, and provides the necessary bulk of gutta-percha for the vertical compaction technique.

### 4. Sealer

The sealer in root canal obturation is essential for success. However, sealers are dissolved in water over time and can be adsorbed by surrounding tissues. The solubility and some other properties of sealers may positively or negatively influence their long-term sealing quality.

### 5. The depth of heat application

Many investigators have revealed that the depth of heat application is very important in the warm vertical gutta-percha obturation. However, there is a close relationship between the depth of heat application and the extrusion of gutta-percha. Another risk in applying heat into the root canal is the possible damage to the surrounding tissue.

### 6. Other techniques

With the microscope and MTA, we could manage many difficult cases. Although we do not know the long-term results with these methods, MTA will be more important material in the next few years.