



Obturation of the Cleaned and Shaped Root Canal System

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The purpose of obturating the prepared root canal can be simply stated as to eliminate all avenues of leakage from the oral cavity or the periradicular tissues into the root canal system and to seal within the system any irritants that cannot be fully removed during canal cleaning and shaping procedures.

The ability to achieve three-dimensional obturation of the root canal system is primarily dependent on the quality of the canal cleaning and shaping and the skill of the clinician.

There is reasonable evidence to suggest that coronal leakage through improperly placed restorations after root canal treatment and failure of the restorative treatment or lack of health of the supporting periodontium are the final determinants of success or failure in treatment. If these technical parameters are achieved, there is a high likelihood that the biologic parameters of ultimate periradicular tissue regeneration will be achieved.

AAE reported that root canal obturation is defined and characterized as the three-dimensional filling of the entire root canal system as close to the cemento-dentinal junction as possible. Minimal amounts of root canal sealers, which have been

demonstrated to be biologically compatible, are used in conjunction with the core filling material to establish an adequate seal. Popular methods of canal obturation are lateral compaction, vertical compaction, thermoplasticized gutta-percha injection techniques, and thermoplasticized core-filler techniques.

The shape of the obturated canal should reflect a continuously tapering funnel preparation without excessive removal of tooth structure at any level of the canal system.

Criteria for Determining the Adequacy of Canal Preparation Before Obturation

1. The tooth must be properly isolated to eliminate all risks of canal contamination during obturation.
2. All compacting instruments must be prefitted into the canal to determine their depth of penetration, their fit without binding.
3. No type of fluid should be present in the canal before obturation.
4. In multirouted teeth, all efforts must be expended to ensure that the entire canal system has been cleaned and shaped.

I think that root canal obturation is dependent on clinician's endeavor. Proper access opening of tooth, continuous tapering shape root canal system, and proper technique of root canal filling are coordinated with clinician's patient endeavor make a successful result of root canal treatment.