

Optimal Irrigation Protocol

Characteristics of an Ideal Irrigant

The irrigant must create sustained copiously wet environment, act as a lubricant to prevents tissue compaction ie. File Eze, dissolve vital and necrotic tissues, organic and inorganic matter, be germicidal – antibacterial, possess a degree of bleaching ability, remove the smear layer, be non-irritating and not cytotoxic.

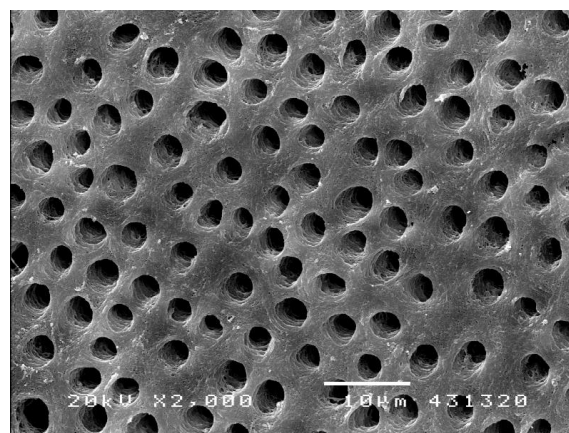
Sodium Hypochlorite – (ChlorCid® and ChlorCid® V): NaOCl is a proteolytic solution that effects organic dissolution. Its concentration levels can vary from 1- 5.25% and its pH is in the range of 12 to 13. There are those who recommend heating the solution to accelerate its chemical reactivity, however, given the volumes involved this is of questionable effectiveness. It is most important that the solution be kept in a light resistant container and that it not be left exposed to air as this will inactivate it. Residual solution should be discarded after treatment and fresh solution used for each new case.

EDTA - File-Eze is a 19% EDTA, water soluble, viscous solution for chelating, lubricating, and debriding root canal preparations. It is used preferably at the outset of treatment, particularly in vital cases to prevent tissue compaction. After the bulk of residual tissue is removed, it is advisable to use Ultradent® EDTA 18% which removes the inorganic component of the smear layer and decalcifies up to 50µm and is self limiting.

Instruments debride and shape a canal. Irrigants are designed to assist in debridement and disinfection of the canal space. There are always spaces in every canal that instruments cannot reach. Fins, webs and anastomoses are only going to be effectively reached through irrigation.

Ideal Irrigation Protocol

- *Irrigate copiously throughout with NaOCl*
- *Evacuate NaOCl after each instrument use and replenish constantly*



- Rotate liquid EDTA into canal in sequence
- Evacuate EDTA and introduce ethanol.....this acts as a surfactant to reduce the wetting angle of the NaOCl and facilitate greater degrees of canal penetration –
- All materials are delivered with Endo-Eze Irrigator Tips 27 gauge 1.25 sterile side venting needles
- It is advisable to use Ultradent Citric Acid 10% solution as well in the process.....this acts as a conditioner of the root canal dentin and while the studies are not as yet conclusive, may prove more effective than EDTA in removing the smear layer.
- Sonication ensures maximal particulate removal through the effect of acoustic streaming.
- All materials can be removed from the pulp chamber with a water spray from a Triplex syringe. It is highly recommended that a Sterilox generator be used to produce the electro-chemically activated water used through all dental unit water lines.
- Consepsis® can be used throughout the procedure but must not be brought into contact with resin coated gutta-percha as it will remove the resin layer.....the cones can be soaked in the antimicrobial CHX before obturation.

