

NANOBIOSEALERS

ADVANCEMENT IN ENDODONTIC SEALING

Nanobiosealers in endodontics refers to advanced sealing materials in root canal therapy that incorporate nanotechnology to improve the sealing properties , biocompatibility and overall performance of the root canal filling.

PROPERTIES:-

- ✓ Bone regeneration
- ✓ Increased flow rate
- ✓ Increased solubility
- ✓ Increased setting in presence of moisture

CLINICAL USES:-

- ✓ Root canal sealer
- ✓ Root resorption
- ✓ Apexifications
- ✓ Retrograde filling

ADVANTAGES:-

- ✓ Regenerative scaffold
- ✓ Hermetic seal , Hydrophilic
- ✓ Biocompatibility
- ✓ Osteoinductive , Antibacterial

DISADVANTAGES:-

- Difficulty in removing from root canal once set

MECHANISM OF ACTION

NANOPARTICLES :-

- Antibacterial activity
- Produce ROS
- Metal ions release
- Electrostatic interaction
- Protein and enzyme dysfunction

BIOSEALERS:-

Diffusion of the sealer particles into the dentinal tubules (tubular diffusion) to produce mechanical interlocking bonds

SEAL IT WITH BIOSEALERS



BIO C ION PLUS SEALER

- ❑ Mixture of calcium and magnesium silicate, calcium sulfate, potassium sulfate, zirconium oxide, and silica.
- ❑ Eugenol free and resin free
- ❑ High flowability
- ❑ Non staining

ENDOSEQUENCE BC SEALER

- ❑ Contains bio ceramic nanoparticles of calcium silicate.
- ❑ Ready to use , premixed
- ❑ Has high pH and tendency to release calcium ions.

MTA FILLAPEX SEALER

- ❑ Two paste based sealer
- ❑ MTA, Salicylate resin, Resin diluent, Bismuth oxide, Silica nanoparticles, Fumed silica, Titanium dioxide
- ❑ Adequate working time , low solubility , automix syringe.

