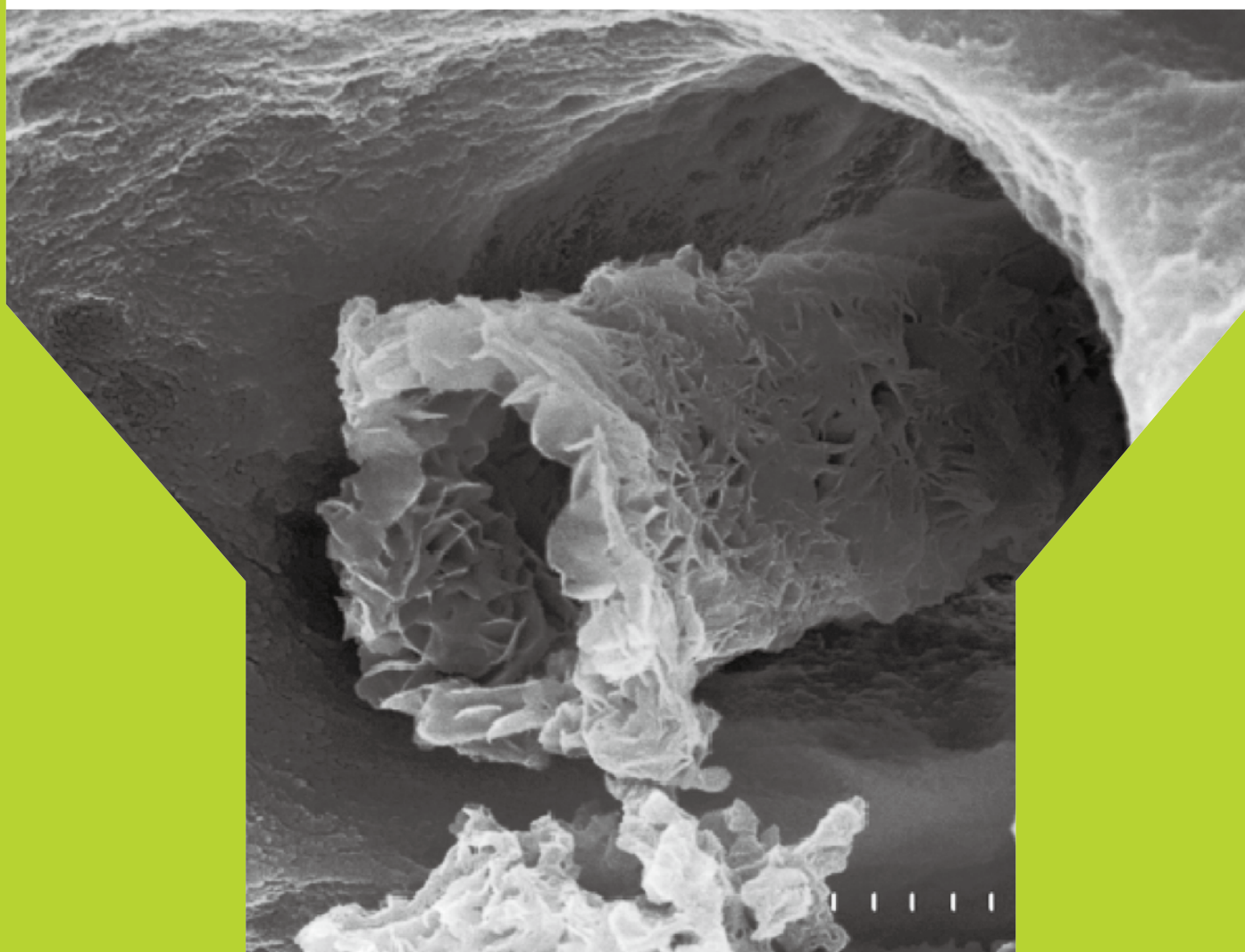




21ST-CENTURY ENDODONTICS : Sealability & Regeneration



Root Canal Filling with Bioceramic

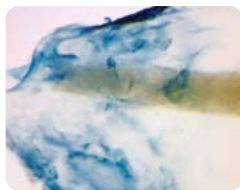
# OrthoMTA

**bioMTA**

[www.biomta.com](http://www.biomta.com)

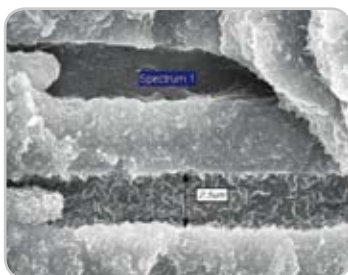


## Concepts of OrthoMTA Grafting



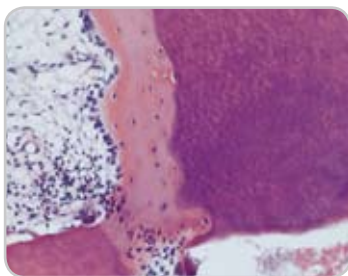
### Physical sealing : Jamming effect

As an orthograde intra canal grafting material, OrthoMTA can achieve perfect sealing of root canal space. This is due to jamming effect of 2 micron particles at the apical foramen. OrthoMTA has superior sealing properties to any other materials.



### Chemical sealing : C-S-H & Hap

This is due to its hydrophilic properties under moist conditions. Short tags of C-S-H obturate the opening of the dentinal tubules. As a result, the entombing effect can be induced. Long tags of hydroxyapatite fill the space of it and achieve fossilization of bacterium.



### Biological sealing : New cementum

New cementum is regenerated at the apex of root after orthograde intra canal graft. Because OrthoMTA is bioactive material, damaged periodontium is regenerated. Biological sealing can be induced by OrthoMTA.



## OrthoMTA Grafting Set



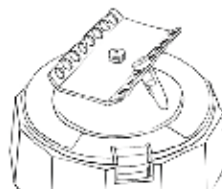


## Technique

### Hydration



### Automixing



### Putty making



### Loading



### Delivery



### Gently plugging



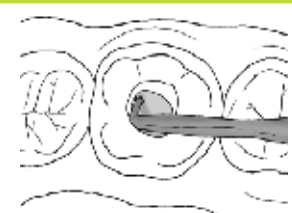
### Apical compaction



### Middle compaction



### Coronal compaction



## Tools



0.2g × 50 vials/pack

### OrthoMTA

#### As a root canal filling material

1. World 1st orthograde bioceramic filling material
2. Perfect sealing
3. No heavy metal
4. No expansion (> 0.1%)



### Automixer

#### As a mixer

1. World 1st cordless centrifuge
2. Making voids free
3. Exact control of W/P
4. Save time & material

### Carrier

#### As a carrier

1. World 1st lure-lock system
2. Specially TiO<sub>2</sub> coated autoclavable plunger
3. Disposable & bendable needle
4. Save time & material



.02 taper #25  
21mm or 25mm, 3ea/pack

### Compacter

#### As a compacter

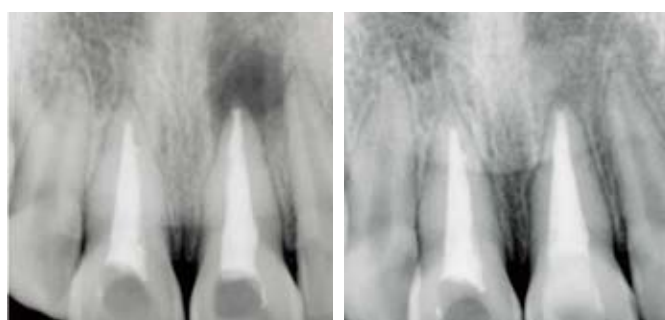
1. World 1st compacter for bioceramic material
2. Wonderful flexibility : no damage to canal wall
3. Autoclavable
4. Save time & material



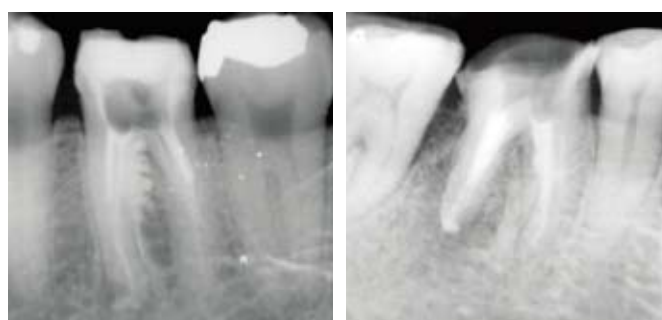


# Indication

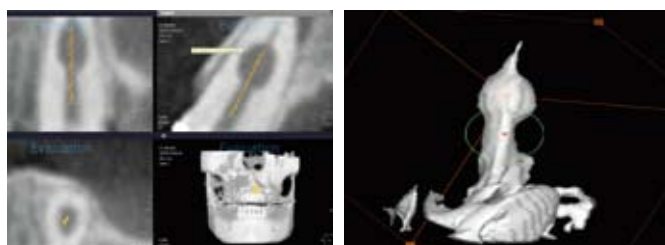
Orthograde filling



Strip perforation



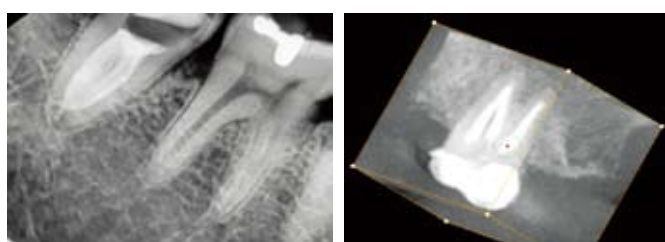
Internal resorption



Crack tooth syndrome



C canal / Y canal



Curved canal



File separation



Replantation

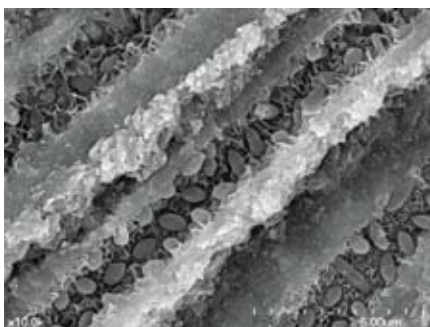




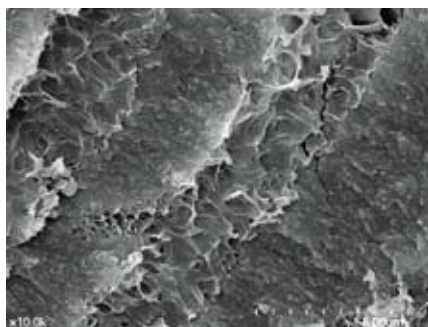
## Entombing & Fossilization



Experimental group (2weeks) shows the initial stage of fossilization of *E. faecalis* with hydroxyapatite in the infected dentinal tubules.

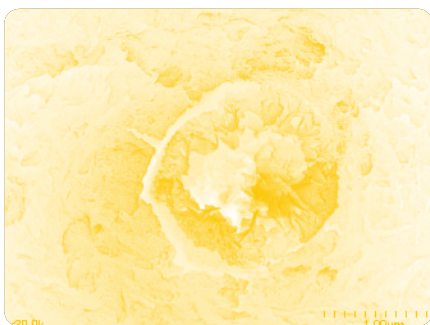


Experimental group (4weeks) shows the fossilization of *E. faecalis* in the infected dentinal tubules. which is time dependent.

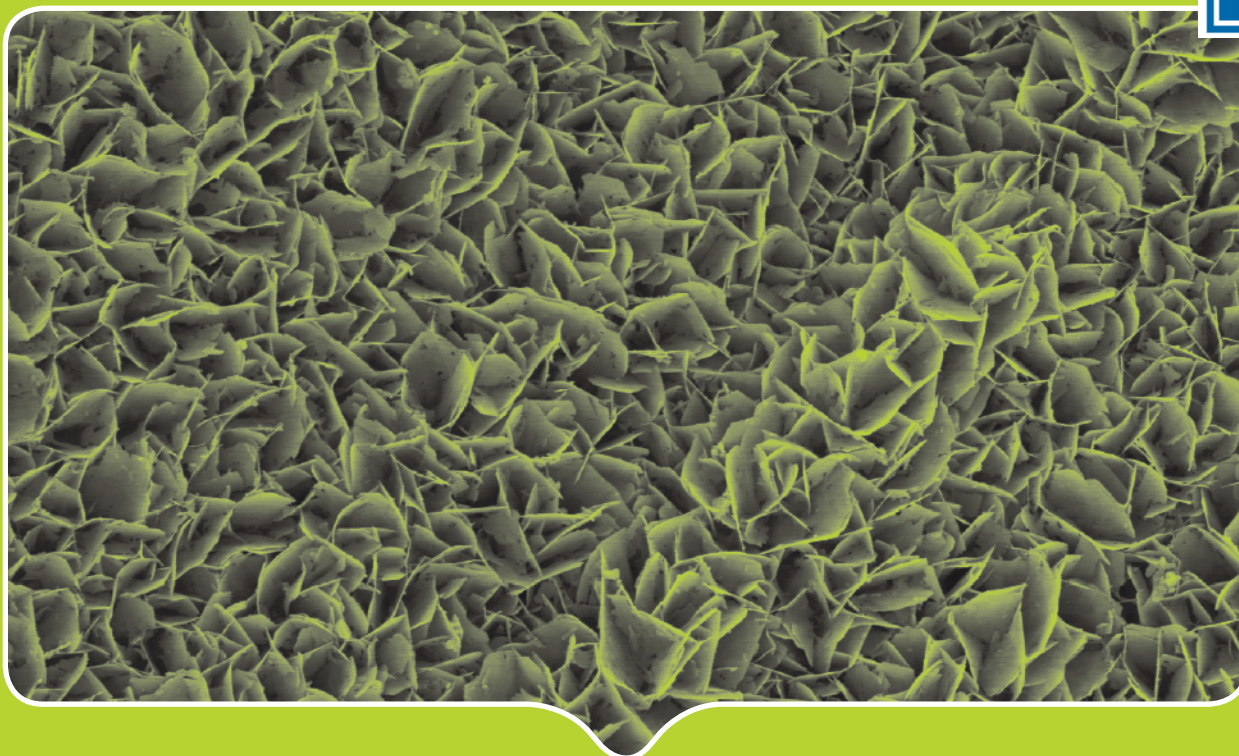


Experimental group (8weeks) shows complete obstruction of the infected dentinal tubules by the newly formed hydroxyapatite and inter canaliculi space begin to be filled with initial form of it.

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## What is OrthoMTA?

**OrthoMTA is compositionally formulated to have the physical properties, setting requirements and characteristics necessary for a clinically effective root canal filling and repair material.**



### RESEARCH & DEVELOPMENT

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