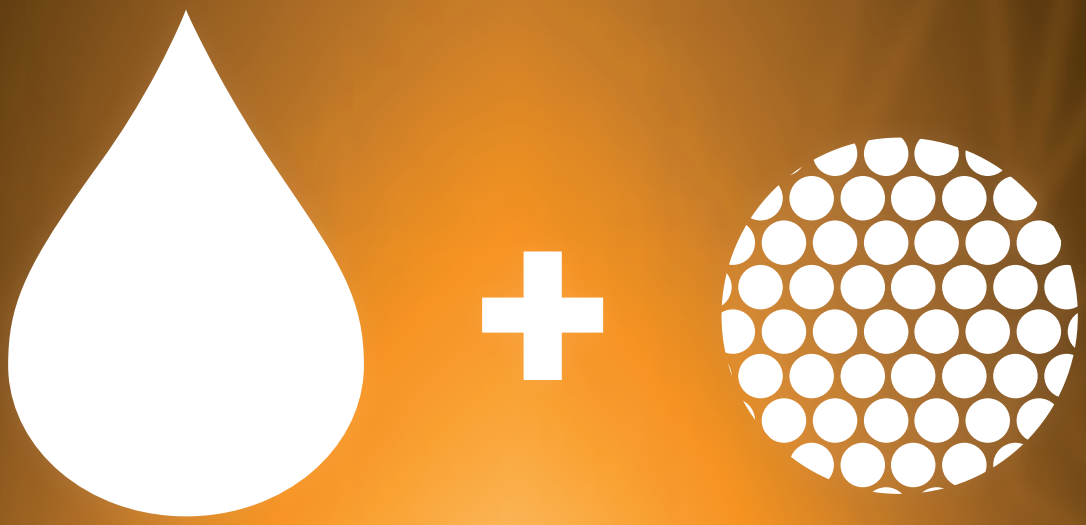
MTA Repair HP

Bioceramic reparative cement with high plasticity



angelus®

MTA Repair HP

Bioceramic high-plasticity reparative cement

- **High plasticity:** better handling and insertion
- **Bismuth-free:** does not stain the dental structure
- **Release of Ca ions:** Enhances formation of mineralized tissues
- **High alkalinity:** Prevents bacterial growth
- **Single doses:** Optimizes the time and the use
- **Hydrophilic:** Allows use in a wet environment without losing its properties
- **Set in 15 minutes:** Reduced final setting time compared to similar ones
- **Formula with raw material P.A.** Free of contaminants and heavy metals

Putty-like consistency

PRESENTATIONS

843	MTA REPAIR HP 2 powder capsules + 2 liquid capsules
846	MTA REPAIR HP 5 powder capsules + 5 liquid capsules - 5 APPLICATIONS
8469	MTA REPAIR HP 10 powder capsules + 10 liquid capsules - 10 APPLICATIONS

BIOCERAMIC HIGH-PLASTICITY REPARATIVE CEMENT

MTA has its use established in Endodontics due to the clinical results proven through numerous scientific studies. However, due to the physical properties inherent to the product's powder, the "sandy" consistency hinders manipulation and transport of the material to the site of repair.

To improve these characteristics, ANGELUS® has developed a new formulation called MTA REPAIR HP - "High Plasticity" MTA.

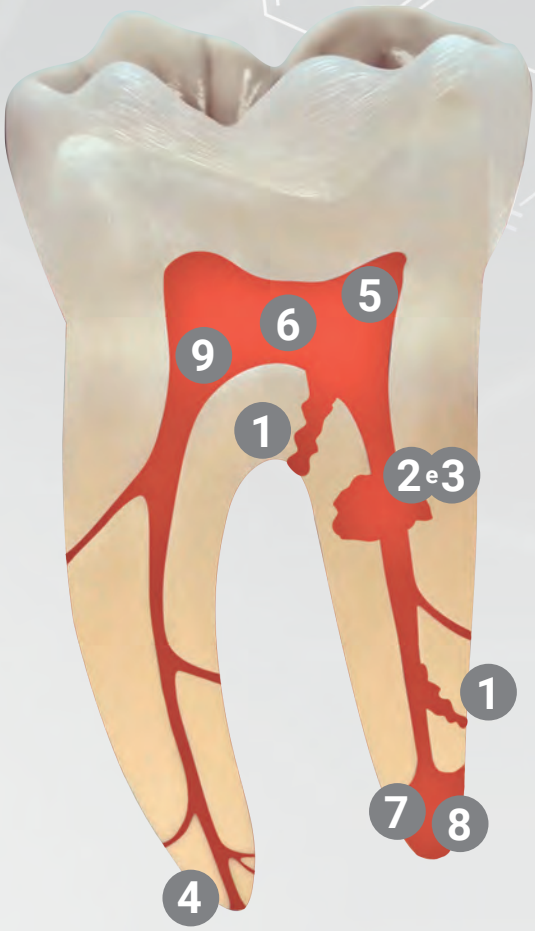
This new formula maintains all the chemical and biological properties of the original MTA, which guarantees the success of the treatment, but changes its physical properties of manipulation. The result is a product with greater plasticity, facilitating its handling and insertion in the dental cavity.

MTA REPAIR HP is an endodontic bioceramic high-plasticity restorative cement, composed of mineral oxides in the form of fine hydrophilic particles.

Merely illustrative images.

Indications

1. Treatment of iatrogenic or decay-related perforation (root and furcation)
2. Treatment of root perforation associated with internal resorption
3. Surgical treatment of root perforation
4. Parendodontic surgery with retrofilling (Apicoectomy)
5. Pulp capping
6. Pulpotomy
7. Apexogenesis
8. Apexification



TECHNICAL DATA	
Initial pH	10.2
pH after 3 hours	13.1
Solubility	-0,02%
Particle size	~12 µm
Radiopacity	6.1 mm/Al
Setting time	15 minutes
Color	White
Design	Powder / Liquid
Shelf-life	3 years
Storage	Dry environment

Active mechanism of MTA Repair HP

MTA is a bioceramic material that induces the healing of periapical lesions, stimulates the formation of cementum, bone and, indirectly, periodontal ligament.

It is the first material known in endodontics that allows for the growth of cementum directly from its surface. The size and distribution of its particles, the powder/liquid proportioning, and external agents such as temperature and humidity are responsible for the properties and effectiveness of the material.

MTA REPAIR HP have a high concentration of free calcium oxide in their composition. This oxide reacts with water, forming calcium hydroxide. Calcium hydroxide is currently the most used intracanal medication, and its effectiveness has been proven by extensive scientific research on the subject. When in contact with fluids from the tissue, calcium hydroxide is dissociated into calcium ions (Ca2+) and hydroxyl ions (OH-), and it is precisely the effect of these ions on the tissues and microorganisms that is responsible for the product's excellent results.

With the accumulation of hydroxyl ions, the pH of the medium becomes highly alkaline and therefore inhospitable to bacterial proliferation. This high pH will damage the membrane and the DNA of the bacterium, denaturing its protein content.

The elevation of the pH also activates the alkaline phosphatase, an enzyme that stimulates the release of inorganic phosphates from phosphate esters. Free inorganic phosphate ions react with the calcium.

Ions forming calcium phosphate, the main component of hydroxyapatite. Tronstad et al. investigated the diffusion of hydroxyl ions from calcium hydroxide through dentinal tubules. The authors show that calcium hydroxide, once inside the canal, may influence areas of resorption, preventing osteoclastic activity and stimulating the repair process.

Calcium ions are important in the activation of calcium-dependent adenosine triphosphate, migration and cellular differentiation, and they react with carbon dioxide from tissue to form calcium carbonate crystals, which serve as nuclei for calcification.

Calcium ions react with CO2 present in the tissue and form granules of calcite (CaCO3). Fibronectins cluster in the vicinity of these granules. Then, with cellular differentiation and layers of cementum and bone, the periapical lesion is repaired. Figure 1.Then, with cellular differentiation and layers of cementum and bone, the periapical lesion is repaired.

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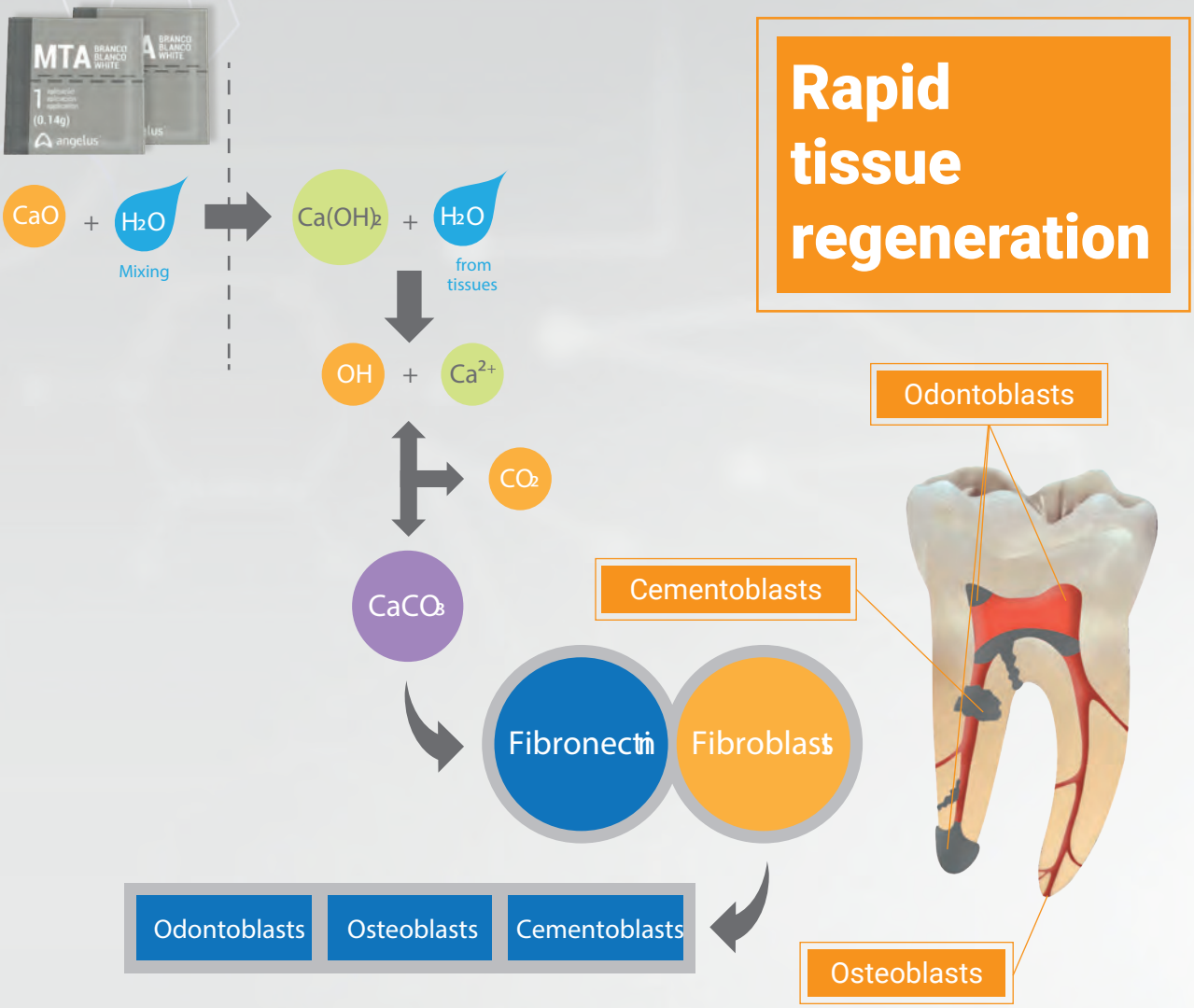
ACTIVE MECHANISM OF MTA REPAIR HP



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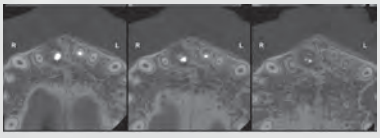
MTA REPAIR HP CLINICAL CASES

Clinical Case 01

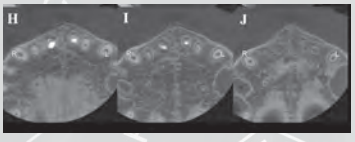
Parendodontic surgery with retrofilling

Prof. Dr. Mario Luis Zuolo

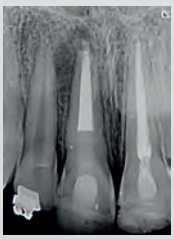
Initial x-ray



Initial axial tomography



Final axial tomography



Final x-ray

Clinical Case 02

Parendodontic surgery with retrofilling

Prof. Dr. Débora Sellera

Initial x-ray

4 months - post-op

Simplified!

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