

Tips from practicing dentists on using products to the best advantage

Product Category: ENDODONTIC INSTRUMENTS AND SUPPLIES

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Practice location: Farmington, Hills, MI
Type of practice: Endodontic
Years in practice: 44
System/product to be described: Grey MTA Plus
Manufacturer: Avalon Biomed
Company Website: www.avalonbiomed.com

Description of this product and its benefits to the dental patient:

I've used mineral trioxide aggregate (MTA) materials for microsurgical procedures since the 1990s and MTA Plus since 2014. MTA materials are essential for endodontic surgery because they are bioactive and can seal the root tip after an apicoectomy. The tricalcium silicate (MTA) cements are transformed into calcium hydroxide as they set and induce the formation of hydroxyapatite on surfaces that are in contact with periapical or pulpal tissues; this is important for surgical and nonsurgical uses, such as pulp capping.

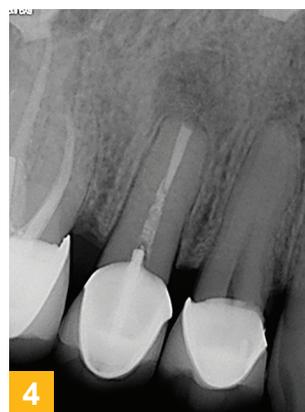
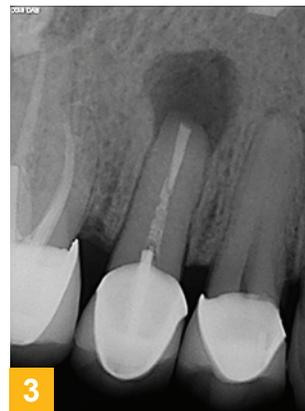
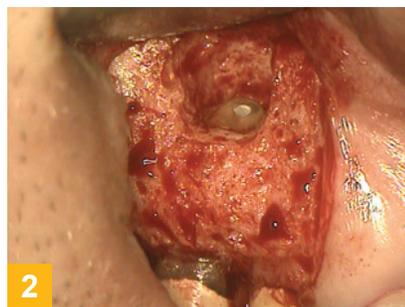
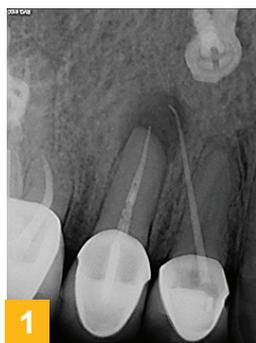
MTA Plus products have several advantages. The material can be placed in a prepared root-end cavity and the material will stay in place, not be washed out by blood, and set completely. MTA Plus products are available in bulk form and are cost-effective. The kit contains a powder bottle, a gel bottle, and a 0.1 gram scoop to dispense the powder. The powder and gel can be combined on a glass slab using a metal spatula and little gel is needed. For apical retrofillings, a putty consistency is required.

Figure 1: Preoperative radiograph showing a radiolucency on the premolar and the sinus tract.

Figure 2: Surgical photo showing apical retrofilling with Grey MTA Plus in place.

Figure 3: Postoperative radiograph showing retrofilling with Grey MTA Plus.

Figure 4: One-year follow-up radiograph showing healing.



Step-by-step description of how this product is used with a patient:

A patient was referred to me for apical microsurgery on a premolar (Image 1). After anesthesia was established, I brought the surgical operating microscope into the field and made a full-thickness free-gingival margin flap to create the surgical access. After I reflected the flap and retracted it from the visual field, I performed a small osteotomy using a no. 4 round bur in an Impact Air 45 surgical handpiece to expose the root tip. I performed a 3-millimeter apicoectomy with a limited angular bevel using with a Lindemann H161 bone cutter to expose the root filling material. I made a 3-mm circumferential preparation in the long axis of the root, which included all the anatomic outlines of the pulp space, using a no. 1 Pro Ultra ultrasonic microsurgical tip. I rinsed and dried the preparation

with a Stropko Irrigator and then examined with apical micromirrors to establish the thoroughness of the preparation. I mixed the Grey MTA Plus retrofilling material to a putty consistency and delivered it with a Micro Apical Placement delivery system and condensed it with apical micropluggers. I wiped the surface of the retrofilling with a moist cotton pellet and inspected the surgical field under magnification (Image 2). I placed 5 interrupted Tevdek sutures to secure the surgical flap. Finally,

I obtained a postoperative radiograph (Image 3) showing the Grey MTA Plus material in place. Image 4 shows healing at 12 months.