

ADA Dental Product Guide

Tips from practicing dentists on using products to the best advantage

Product Category: ENDODONTIC INSTRUMENTS AND SUPPLIES

Dentist: Franklin Tay, DDS
Practice location: Augusta, GA
Type of practice: Endodontic
Years in practice: 35
System/product to be described:
 Grey MTA Plus
Manufacturer: Avalon Biomed division of NuSmile Ltd.
Company Website:
 www.avalonbiomed.com

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

Grey MTA Plus is a bioactive tricalcium silicate cement (bioceramic) that can be used in endodontic surgery as well as for other indications. I chose Grey MTA Plus for this case because of its bioactivity and versatility. I have used Grey MTA Plus since its introduction in 2012 for procedures ranging from perforation repair to root-end filling after an apicoectomy. Grey MTA Plus product is sold as a powder-gel system, with separate bottles for the powder and gel and a 0.1-gram scoop. Because the powder and gel are separate, the powder is not wasted. I mix what I need, which is very little for a root-end filling. I use a small glass mixing slab and medium stiffness spatula that are available from Avalon Biomed to mix the powder and gel and form an easy-to-use set up that can be sterilized. The fine, smooth powder is dispensed onto the glass slab with the tiny scoop. A 1-centimeter streak of Grey MTA Plus gel is placed near the powder. The gel is gradually mixed into the powder using the stroking motion used for

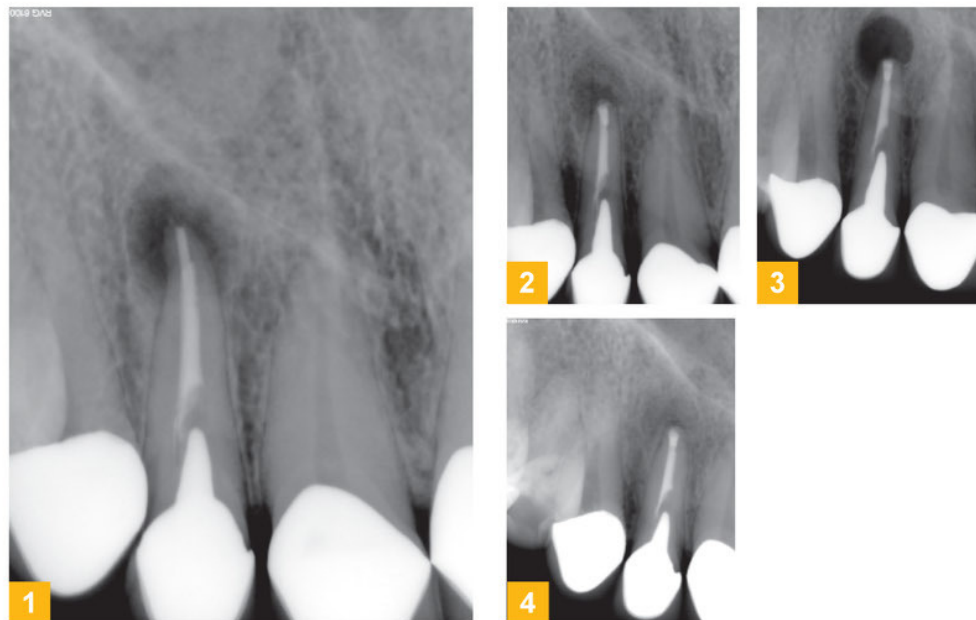


Figure 1: Pre-op periapical radiograph of tooth for retreatment.

Figure 2: Post-operative radiograph showing apical resection and root-end filling with Grey MTA Plus. The slightly greater radiopacity of the filling versus the obturation fill is seen.

Figure 3: Six-month recall of apicoectomy showing diminishment of the periapical lesion.

Figure 4: Two-year recall periapical radiograph showing furcal bone infill and crown retention.

sealers. The stroking motion ensures that the powder is wetted with the water-based gel. Thorough mixing ensures a faster setting process and a mixture that will be resistant to washout. I am able to mix a smooth, claylike putty with a perfect consistency for packing in a root-end filling within seconds.

The easy-to-mix, bioactive (hydroxyapatite-forming) Grey MTA Plus helps me surgically treat teeth with confidence. Its radiopacity is higher than the white MTA bioceramic products. Its affordability (less than \$4 per treatment) allows our school to instruct our undergraduate and graduate students in how to use effective bioactive products and to give our patients the highest standard of care.

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

A patient was referred to me after a tooth that was previously treated endodontically was failing to resolve the periapical lesion (Figure 1). After I administered anesthetic, I created a full thickness free-gingival margin flap to provide surgical access. I then made a small osteotomy with a no. 4 round bur to expose the distal root tip. I created a 3-millimeter apicoectomy with a limited angular bevel to expose the root filling material. In the long axis of the root, I made a 3-mm circumferential preparation using a no. 1 Pro Ultra ultrasonic microsurgical tip, rinsed the preparation, and dried it. I mixed the Grey MTA Plus retrofilling material to a putty consistency, delivered it

with a plastic instrument into the root-end, condensed it, and wiped the crypt with a moist cotton pellet. Grey MTA Plus's silky claylike consistency handles well and was not displaced by blood. I placed sutures to secure the surgical flap and obtained a radiograph (Figure 2).

The tooth restoration with its post and core and crown remained intact at the 17 and 25-month recalls (Figures 3 and 4). Six months postoperative, the bone had mostly in-filled the osteotomy, and even better resolution was seen at 25 months. The tooth remains in function with healing around the apex and bone replacing the lesion.