

The ProTaper® System: Key to Contemporary Goals in Root Canal Treatment

The major goal of endodontics, in particular root canal treatment is the retention of teeth in symptom-free function. Because the need for this treatment is based heavily on bacterial infection of both the dental pulp and its extension to the periradicular tissues, removal of this etiology and disinfection of the root canal system is paramount to achieving the major goal.

For decades, this concept has been advocated and technological and anti-microbial developments have been directed to this end.

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However, there were limitations and obstacles to this achievement, which included instruments that were less than ideal for the cleaning and shaping of the root canal, techniques of application that may have actually pushed contaminated debris into the periradicular tissues, and intracanal medicaments that were far too potent and potentially tissue-irritating for the problem at hand. In fact many of the so-called "endodontic flare-ups" that have been a discussion topic for clinicians and were written about extensively in the endodontic literature for many

years were probably due to the failure to clean the canal properly, aggressive movement of debris into the periradicular tissues during canal preparation and the excessive use of phenolic compounds, such as formocresol, camphorated parachloropenol, cresatin and the like to "kill" the bacterial populations. The latter approach actually did more to irritate the periradicular tissues and resulted in the excessive use of antibiotics by the clinician who thought that the "flare-up" was due to infection. In the contemporary practice of endodontics, the focus is

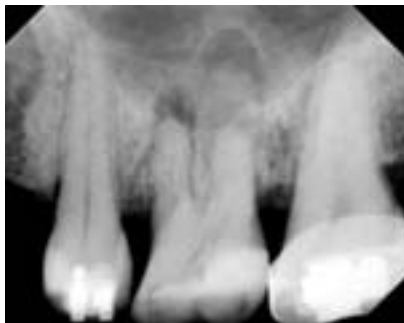


Fig. 1a: Maxillary first molar with necrotic pulp. – Fig. 1b: Canals prepared using the ProTaper Rotary instruments; MB – F2; DB – F2; P – #40 ProFile®; obturated with Resilon/Epiphany.



Fig. 2a: Mandibular second molar with extensive decay. – Fig. 2b: Canals prepared with ProTaper® hand instruments; MB & ML – F1; D – F3; obturated with ProTaper® gutta-percha and sealer.

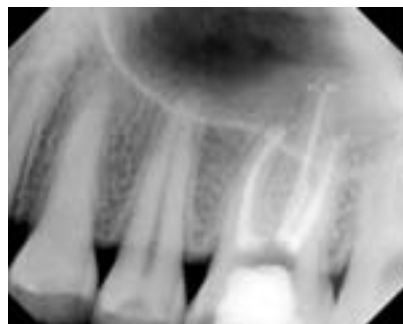


Fig. 3a: Maxillary first molar with calcified canals. – Fig. 3b: Canals prepared with ProTaper® rotary instruments; MB & DB – F2; P – F3; obturated with ProTaper® gutta-percha and sealer.