



S04 E08

Q&A AND RECENTLY PUBLISHED ARTICLES

Glide Path/Working Length and 2 Endo Articles

2 Endo Articles Referenced in Show:

(as of March 2021)

Miguéns-Vila R, Martín-Biedma B, De-Deus G, Belladonna FG, Peña-Lopez A, Castelo-Baz P: Micro-computed Tomographic Evaluation of Dentinal Microcracks after Preparation of Curved Root Canals with ProTaper Gold, WaveOne Gold, and ProTaper Next Instruments, *J Endod* 47:2, 309-314, 2021

ABSTRACT (see complete article @ www.jendodon.com)

Introduction: The aim of this study was to evaluate the influence of rotary (ProTaper Next [PTN; Dentsply Maillefer, Ballaigues, Switzerland] and ProTaper Gold [PTG, Dentsply Maillefer]) and reciprocating (WaveOne Gold [WOG, Dentsply Maillefer]) systems in dentinal microcrack generation after the preparation of curved root canals using micro-computed tomographic analysis. **Methods:** Twenty-four human mandibular molars with curved roots were scanned in a micro-computed tomographic device using an isotropic resolution of 6.78 μ m and randomly assigned into 1 of 3 experimental groups (n = 8) according to the root canal instrumentation system used (PTN, PTG, or WOG). Then, the root canals were prepared up to PTN X2, PTG F2, and WOG Primary instruments in the PTN, PTG, and WOG groups, respectively. After canal preparation, each specimen was scanned again. Pre- and post-operative cross-sectional images of the roots (N = 35,304) were analyzed to identify the presence of dentinal microcracks. **Results:** Overall, 26% of the images presented dentinal defects (n = 9188). Dentinal microcracks were observed in 24.6%, 26%, and 27.4% of the postinstrumentation images from the PTN, PTG, and WOG groups, respectively. However, all of these dentinal microcracks were already present in the corresponding preoperative images. No new microcracks were generated after the preparation of curved root canals of mandibular molars using the aforementioned systems. **Conclusions:** Root canal instrumentation with PTN, PTG, and WOG systems did not induce the formation of new dentinal microcracks. (*J Endod* 2021;47:309–314.)

ABSTRACT (see complete article @ www.jendodon.com)

Introduction: Modern techniques for treating maxillary anterior central incisors with calcified canals emphasize maintaining coronal dentin with small crown access. Alternatively, traditional retrograde surgical procedures are focused on creating an apical seal predominately limited to the remaining resected apical one third of the root canal space. A treatment option for calcified anterior teeth, with avoidance of traditional orthograde access, is presented. Chamberless endodontic access (CEA) to the canal is chosen in this case, leveraging a previous surgical treatment and osseous defect to create straight line canal access. **Methods:** A tooth presenting with a chronic apical abscess and an apparent previous apical surgery was instrumented and obturated using a CEA avoiding the traditional orthograde approach to the root canal system. Straight line approach was achieved retrograde and canal instrumentation was performed using ultrasonic activated U-files. Canal obturation was accomplished with warm vertical condensation technique followed by placement of an apical retroseal. **Results:** A successful 52-month outcome demonstrated the viability of CEA facilitating retrograde instrumentation and obturation. **Conclusions:** Use of CEA simultaneously protected the clinical crown and provided a successful clinical outcome. A viable option for treatment of an anterior calcified canal and abscess due to dental trauma, CEA mitigates many of the risks associated with the treatment of calcified root anatomy. (*J Endod* 2021;47:322–326.)