Rips, Strips and Broken Tips: Part III: Treating the Untreatable — A Case Report

Steven J. Cohen DDS, Cert. Endo.

The objective of dentistry is to retain the natural dentition as part of maintaining optimum oral health. With recent studies linking oral health to general systemic health, promoting oral health translates to improved quality of life. The discipline of Endodontics encompasses retaining the dentition in the face of diseased pulp and periapical tissues.

As endodontics is being carried out routinely in dental practice, patients are retaining their natural teeth longer. Proportionately, with an increase in successful procedures, there is also an increase in procedural complications. In Part I (May 2005) a5) and Part II (May 2006) of this article series, procedural mishaps of separated instruments and perforations were discussed in terms of management and successful treatment outcomes.

But what about years after treatment, when the only complication is that the dentistry has “worn out” so to speak? Fractured cusps, leaking margins under a 20 year old crown, and periodontal disease are possible pathways of bacterial ingress. Years after treatment where bacterial contamination has recurred, different treatment modalities have been developed to address the once treated canal system – retreatment, apical surgery and re-surgery, and extraction/implant. Part III of this series is a case report involving recurring infection years after orthograde (conventional) and retrograde (apical surgery) canal treatment of two central incisors.

CASE REPORT
A 51-year-old male presented to private endodontic practice for a second opinion regarding teeth 1.1 and 2.1. His medical history was significant for asthma and sinus problems, but no current activity.
His dental history includes: childhood trauma (8 years of age) of maxillary anterior teeth, resulting in original endodontic treatment of teeth 1.1 and 2.1 (43 years ago). Conventional canal retreatment was carried out on these same teeth approximately five years ago, and most recently, apical surgery was carried out 18 months ago. His full crowns were replaced six months ago, after moving to Canada. The patient’s chief complaint was discomfort and a fistula buccal to 1.1.

**Clinical Findings**

Examination revealed full crown 1.3 to 2.3 inclusive, large metal posts or silver points in 1.1 and 2.1, root lengths shortened by apical surgery, and radiolucent lesions at both 1.1 and 2.1 apices. Soft tissue displayed apical gingival scar from incision for apical surgery buccal to the central incisors, blue “tattoo” from metal corrosion, staining the gingiva apical to these two teeth, and a fistula mid-buccal at tooth 1.1.

**TREATMENT OPTIONS AND CONSENT**

After a 43-year history and three endodontic procedures, extraction and replacement via implant was recommended as the easiest and most definitive treatment option to resolve this problem. However, the patient wanted to explore all possibilities.

Communication with the referring dentist revealed that after the last apical surgery, healing was presumed from lack of symptoms or fistula, and the new crowns were placed for improved cosmetics and fit. Since these crowns are new, replacement was to be avoided if possible. Apical surgery had reduced the root length, and resulted in metal objects now in contact with periapical tissue and fluid, with no sign of a retroseal. A 2nd apical surgery would result in resection of the root across the metal canal filling (post or silver point), and an impossible retroseal situation. Further, the suspicion of canal contamination from the original crowns needed to be addressed.

The option of access through these crowns was discussed, with the goal to retrieve the metal pieces, medicate the canals with calcium hydroxide, and allow time for decontamination (resolution of the fistula). Once that is achieved,
the canals could be obturated again. If symptoms or the fistula failed to resolve, treatment would be aborted, and extraction would be recommended. After some lengthy discussion, the patient wanted to try and salvage these two teeth, and consented to another endodontic approach.

Appointment 1
Access was made lingual through the crowns on 1.1 and 2.1, with a Tri-Hawk Talon 12 bur. The composite cores were immediately encountered under the crown surface. The composite was carefully removed incrementally using TUF! Ultrasonic Tips, Tip #1 (San Diego Swiss) at medium frequency on the ultrasonic control base. The fine grit diamond coating on this tip allowed for smooth “sanding” of the composite around the post, and pinpoint cutting efficiency to break up the composite and flush out of the chamber.

As the reduction of composite core continued the metal post/silver point became easily visible in each access.

Once the chamber composite was cleared, and the post/silver point was found to “standing up” out of the canal, the ET25L Ultrasonic Tip (Clinical Research Dental) was then applied. This extremely long, pliable tip can be custom curved and shaped to fit into narrow space between the metal and the canal wall.

At low power, with water spray for coolant, and small radius circular motion, the metal fragments were retrieved.

The canals were then flushed, measured and instrumented to some degree of an apical stop, at file diameter size #100 for the 1.1, and diameter size #90 for the 2.1. The rough outline of the apex of 2.1, and the persistent bleed noted beyond this length suggested apical root resorption has also been occurring at this root apex.

After irrigation and drying, the canals were filled with calcium hydroxide (Ultra Cal, Clinical Research Dental), and access openings were closed with flowable composite to ensure a seal. A check appointment was tentatively scheduled in 4 weeks’ time.

Appointment 2
The patient returned four weeks later, reporting no symptoms. Clinical examination revealed the fistula over the 1.1 had resolved. Re-entry was made into each of 1.1 and 2.1. The canals were flushed, checked for length and shape, and then prepared for obturation. With the large diameter apices, the deci-
Finally, an endodontic sealer combined with the biological healing capabilities of MTA.

Uniquely containing 13.2% MTA, MTA Fillapex resin-based root canal sealer provides an outstanding seal, while its MTA particles expand to prevent micro-infiltration and naturally accelerate the healing process. Ideal for any obturation method, MTA Fillapex easily penetrates lateral and accessory canals delivering an impressive seal that, unlike others, is not adversely affected by heat. And while other sealers can erode overtime, MTA Fillapex’s extremely low rate of solubility ensures it 

SEALS, HEALS and STAYS.

MTA Fillapex Refill
Buy 3, Get 1 FREE! $39.95ea

1-4g syringe, mixing tips. Also available in base & catalyst mixing tubes. Offer expires: June 28, 2013
Quote the code: OH_FILL2

ORDER DIRECT:
1-800-265-3444 press 1 for sales
www.crdendo.com

Research studies available upon request.

Dr. Steve Cohen is the on-staff Endodontist at Sunnybrook Health Sciences Centre, Department of Dentistry, is a Dental Advisor for CDPA (Canadian Dental Protective Association), and maintains a private practice limited to Endodontics in Mississauga, Ontario.