

Dentist: Ryan Walsh

Practice location: Keller, Texas

Type of practice: Endodontic

Years in practice: 10 Years

Product: Avalon Biomed NeoSEALER[®] Flo
using Flex Flo Tips[™]



CASE STUDY USING **NeoSEALER[®] Flo**

FIGURE 1



FIGURE 2



FIGURE 3

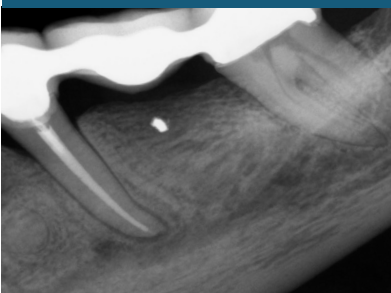


FIGURE 4



A 71 year-old female patient presented to the private practice with a chief complaint of gum swelling near her bridge that was intermittently painful. She also reported mild discomfort to chewing. The patient had a bridge that had been in place for 20 years.

An initial examination showed vertical bone loss along the mesial root surface at the level of the osseous crest and what appeared like the beginning of a wrap-around or J-shape lesion on the distal root surface of the mandibular left first pre-molar (tooth #20). All periodontal probing defects were <5mm. A “pea-sized” indurated swelling was observed on the buccal gingiva near the middle root third of tooth #20. The pre-operative radiograph is shown in Figure 1.

THE TREATMENT PLAN

The patient expressed she did not have the finances to replace the bridge and that saving the tooth would be her preferred option. The signs and symptoms were recorded, and a treatment options were presented including: no treatment, saving the tooth (and the bridge) with root canal treatment (RCT) or extraction with replacement. The associated risks of a potential root fracture were discussed, and the patient elected to proceed with a root canal treatment.

THE PROCEDURE

A rubber dam was placed to isolate the tooth and minimize risk of contamination. The access was prepared through the existing bridge using a diamond bur. The canal was enlarged to a final apical size of 35/.06 with rotary instrumentation. Irrigation was completed using 6% sodium hypochlorite (NaOCl) and 17% EDTA to remove the smear layer, both with ultrasonic activation.

After thorough chemomechanical debridement, the internal root surface was investigated for a root fracture. Using the dental operating microscope, no evidence of root fracture was observed. The root canal was dried with absorbent paper points. Obturation was completed using NeoSEALER[®] Flo, a bioactive bioceramic root canal sealer (Avalon Biomed – Houston, TX).

The sealer was delivered through the Flex Flo Tip[™] included in the NeoSEALER Flo kit. The Flex Flo Tip has a 25.5 gauge flexible cannula to reach deep into smaller canals and accommodate apical curvatures. Using the stopper, the Flex Flo Tip[™] was placed 2-3 mm from the root apex and the sealer was expressed into the coronal third of the root. A single gutta percha cone was placed to length, seared-off at the level of the osseous crest and compacted with a hand plugger. The access was restored with a bonded composite restoration (with adjunctive use of porcelain etch and a silane coupler) (Figure 2).

At the 6-month follow-up visit, the patient was completely asymptomatic and remarkable healing of the periapical tissues was observed on the periapical radiograph (Figure 3). Clinically, intraoral soft tissues appeared within physiologic limits and all periodontal probing defects were <5mm (consistent with the pre-operative findings). At the one-year recall, the patient returned for a second follow-up and near-complete radiographic healing was noted. The tooth remained asymptomatic and functional (Figure 4).

THE SUMMARY

The presented case illustrates the ability of a bioactive bioceramic sealer to promote near complete healing of a significant periapical radiolucency in less than a 6-month period. The easy placement of the sealer via the low waste flexible cannula tip allowed the sealer to predictably reach the root apex and allow contact with the apical tissues to promote healing.

There is a plethora of sealers in the market that can fill a root canal, however most of these materials are inert, not bioactive and may shrink after placement. A resin-free, bioactive bioceramic sealer with excellent flow properties such as NeoSEALER[®] Flo provides an ideal solution for any endodontic case due its dimensional stability and its ability to promote periapical healing.