The clinical case pictured in Figure 1 referred to me for diagnosis and treatment. The endodontic treatment pictured was completed two years before presenting in my office. The patient described the treatment as extremely painful at the time the canals were filled, which was reported to be "aggravating in its excitation." After the initial treatment, the patient's symptoms went away and had returned approximately a week before her presentation into my office. When examined, the patient was extremely sensitive to chewing. At the time of my examination, the tooth, No. 5, was extremely sensitive to percussion, moderately sensitive to palpation, mobility was slight, and the tooth had probing depths no greater than 6 mm. The patient attributed the pain to the sealer used in the procedure, which had resulted from the previous treatment.

The radiograph revealed the following features:
1) There were three large sealer puffs present apically as well as obvious tracks of sealer leading to two of the puffs. It was unknown which type of sealer was used in the previous obturation.
2) The master cone obturating the mesial buccal root canal filling appeared to be extended approximately to the radiographic apex with a sealer puff that leads to the largest extreme extrusion of sealer apparently in the sinus above the tooth. There is evidence of a second, untested canal in that there is visible canal at the mesial aspect of the MB root canal filling. The MB canal preparation did not have a continuous taper. Radiographically, the middle third of the root has a greater taper than the coronal third. This violates one of the principles of canal preparation, which is to create a taping funnel with narrowing cross-sectional diameter.
3) The clinician injected sealer with a syringe without focus being placed on the location of the needle tip. Apical over enlargement and/or a very thin needle used incorrectly with a syringe could also explain such a gross extrusion of sealer. Incorrect in this context means that the needle was beyond or locked at the apical foramen and the clinician did not realise either how much sealer had been extruded or where the needle tip was during extrusion.
4) A coronal seal was not placed over this tooth after the root canal treatment. There should be no delay in the placement of coronal seal. With the rubber dam on and under the SOM, the tooth can be etched and sealed with a flowable composite at the time of treatment. If the clinician chose to use the warm technique or sealer with the Skini syringe and application of sealer is done over the master cone using a twisted file, BeSeal and System B technique delivered via the Elements Obturation Unit (SybronEndo, Orange, Calif.). Note that the canal preparation stops at the minor constriction of the apical foramen, with the sealer puff resulting from the warm obturation technique.

‘Length control is vital at all stages of canal preparation’

Although the patient was acutely sensitive to chewing in my office, three was no other more likely outcome of this case except for failure due to the lack of coronal seal. Placing the coronal seal at the time of treatment (aside from the importance of sealing the perforation immediately) eliminates the possibility that the patient will walk away, never receive a coronal seal and predispose the case to failure. Placing the coronal build-up at the time of treatment gives some relative level of assurance that the tooth will be retained even if the patient does not immediately get a crown.

Clinically, this patient was presented with all the options – extraction and an implant or a bridge, or retreatment and a crown. Due to finanical concerns, the patient refused treatment. It is unknown what was done to resolve this clinical situation. This clinical case underscores the importance of adequate length control, control of sealer, cone fit with tugback and down packing with the control over the master cone using a technique like System B delivered via the Elements Obturation Unit (SybronEndo, Orange, Calif.). The value of early coronal seal has endodontic toxicity. The patient refused coronal seal, in this case, at the time of treatment, would have made clinical success more likely even with the technical deficiencies that were present.

‘...it is likely that the minor constriction of the apical foramen of each of these canals was violated in the canal preparation.’

To place a coronal seal is essential. When examined by me, all Seal and System B technique delivered via the Elements Obturation Unit (SybronEndo, Orange, Calif.). Note that the canal preparation stops at the minor constriction of the apical foramen, with the sealer puff resulting from the warm obturation technique.

‘Assessing previous endodontic treatment radiographically: making clinical decisions’

Assessing previous endodontic treatment radiographically is the context of both obturation technique and avoidance of these outcomes has value.

Discussing these findings in the context of both obturation technique and avoidance of these outcomes has value.