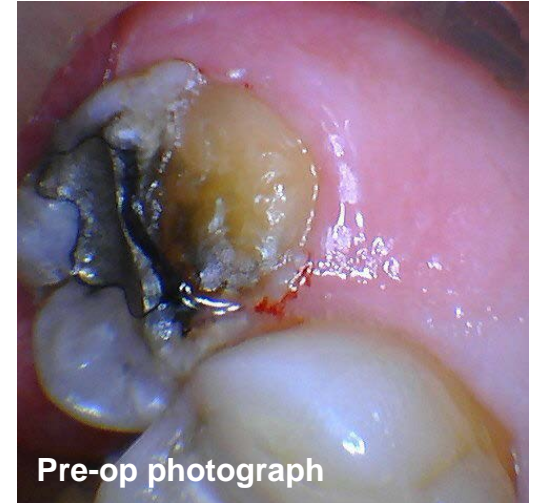
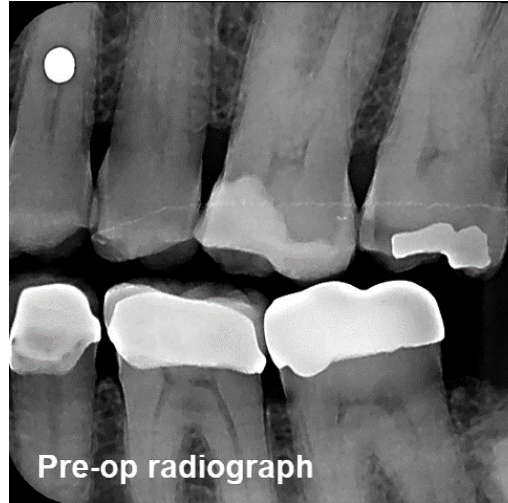
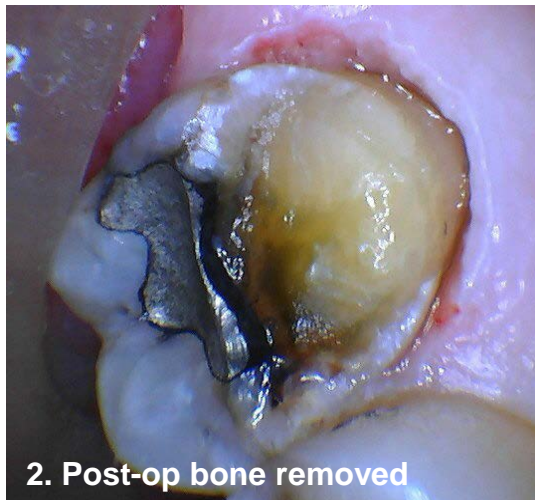
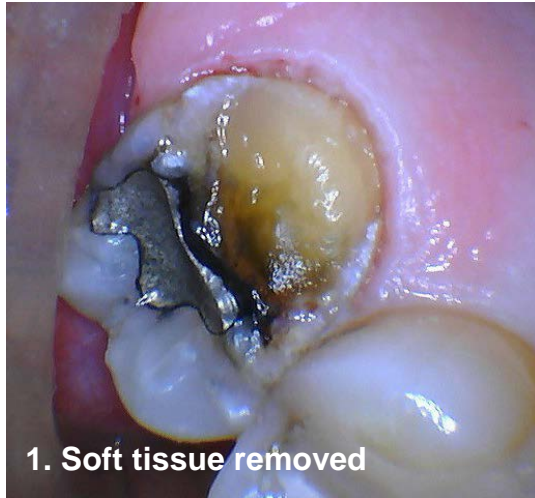


**Crown lengthening  
(closed) #15  
performed by  
Joshua Weintraub,  
DDS**

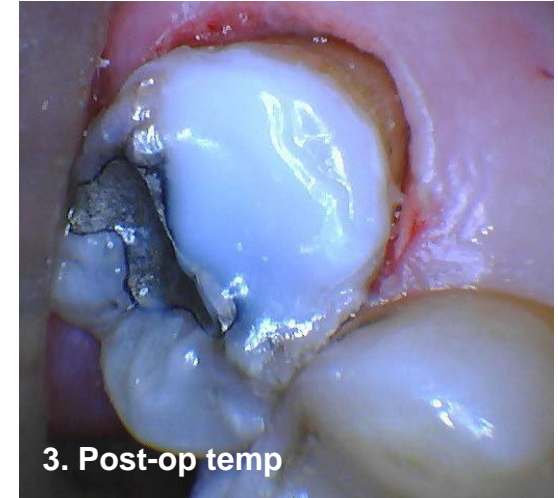
*This procedure includes  
the removal of both soft  
tissue and bone. It  
demonstrates precision,  
minimal bleeding and  
very fast healing.*

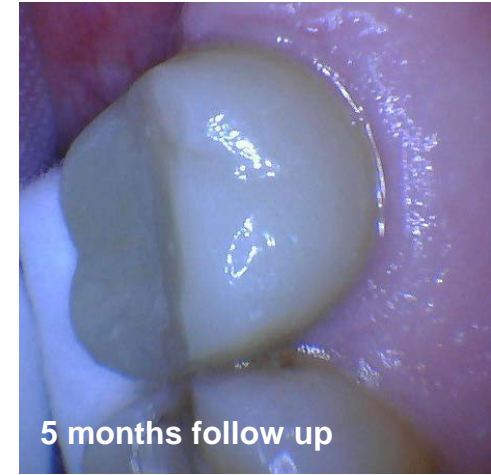
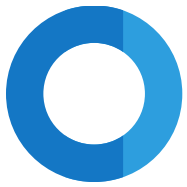


**Case Summary:** A 63-year-old female patient presented for an emergency visit with a fractured palatal cusp of tooth #15. She experienced cold sensitivity and discomfort in that area. The patient was very apprehensive about dental treatment because she was undergoing chemotherapy and had a session scheduled for the next day. A pre-operative diagnostic radiograph showed no endodontic pathology or periodontal disease. Oral evaluation of the patient indicated that the palatal cusp fractured subgingivally to the level of the alveolar crest. A crown lengthening was required in order to expose sufficient tooth structure for a further restoration and to establish biologic width.



**Technique Used:** Due to the patient's medical history and her dental anxiety, as no interproximal bone needed to be removed, a flapless (closed) crown lengthening was performed using Solea. The total appointment time was less than 15 minutes, whereas typically appointments like this last approximately 1 hour. The patient was anesthetized with a minimal amount of anesthetic (1/2 carpule of 4% articaine with epi 1:100,000). Using the 1 mm spot size with cutting speed between 30-50% and 20% mist, the dentist ablated the gingival tissue until he could see the planned restorative margin. Then he proceeded to remove bone using the 0.75 mm spot size with 80% cutting speed and 50% mist. The laser was aimed down the long axis of the tooth to remove bone between the tooth and soft tissue. The bone was ablated until the osseous crest was 2 mm apical to restorative margins. Both steps were completed with virtually no bleeding. To finish, a Piezo scaler was used to smooth the surgical site and a temporary restoration was placed to prevent gingiva from growing back over the ablated area. Note the excellent healing and tissue appearance at one week post-op when the tooth was prepped for a zirconia crown.





### Solea Advantage:

- No flap was needed, incredible precision of Solea made this procedure minimally invasive.
- Clean surgical site with virtually no bleeding.
- Reduced procedure time to less than 15 minutes compared to approximately 1 hour with traditional tools.
- The dentist was able to add this procedure to his repertoire.
- Patient experience was improved compared to using traditional tools, and approach was minimally invasive resulting in faster healing.

**Results:** Solea made this challenging procedure amazingly simple for the dentist. He was able to easily treat the patient that he would have referred to a specialist if all he had were traditional tools. The patient reported no post-operative pain or discomfort and remarkably rapid healing was observed, including the growth of healthy soft tissue around the procedure site. She was grateful that the surgery went smoothly, stress-free and much faster than she expected.