Saving a Cracked Tooth Using Geristore®

Xinyi Yu, DDS

S aving and restoring a cracked tooth presents a unique challenge to dentists and patients alike. Often more challenging to the dentist is performing a quality, cost effective, esthetic repair for the patient.

The case described below concerns an adult female patient who, after being offered a remedy of extraction only by two different dentists, sought other options to meet her requirements. The solution subsequently offered provided her a conservative, pain-free, injection-free solution that allowed her to retain the root structure.

Two clinically superior restorative materials, Core Paste and Geristore[®], combined with the Tenure[®] adhesive system, were used to seal, bond, and build up the root. A Cerinate[®] Full-Porcelain Crown completed the restoration. Tenure was used to provide a leak-free, strongas-enamel bond to root and restorative material. Geristore stabilized and sealed the split in the root. Geristore is a fine-particle, hydrophilic, non-aqueous, resin-based ionomer with a structurally unique fluoride-releasing glass formulation. Enamel-shaded Core Paste, with a 28-year clinical success history, was bonded to the

Geristore-Tenure treated exposed root surfaces and provided a solid, natural implant and core on which to build out the restoration and strengthen the root foundation.

The advantages provided to the patient through this combination of materials include:

- Insolubility in the oral environment
- Leak-free bonding to root and restorative interface
- · Complete cure utilizing patented dual-cure technology
- · Matched thermal expansion to existing tooth structure
- Extended fluoride release from the Geristore restorative to the remaining root.
- · Clinically and histologically proven bio-compatibility
- Strongest core composite buildup available
- Virtually pain-free alternative
- · Cost effective and quality dental result acceptable to the patient

Case Report

An adult female patient presented to the office with a cracked tooth No. 7, (Fig. 1). The cracked tooth seemed to be the result of a large metal post attached to a jacket crown that was dislodged







Fig. 2





from the root. The patient visited two separate dental offices receiving the same treatment recommendation—extraction. An alternative treatment was offered after a clinical assessment with a consideration to the materials that could be utilized. The patient accepted the following treatment.

Procedural Overview

- 1. The fractured lingual portion of the root was cleaned with a disinfectant (NaOC1-25%) solution.
- 2. After a water rinse, the root was etched for ten seconds with Etch'N'Seal[®].
- 3. The area was rinsed again with water and dried.
- 4. A mixture of Tenure® A/B was applied (Fig. 2).
- 5. The Tenure A/B mixture was gently blown down the split root to ensure that the mixture covered as much inner root structure as possible.
- 6. Geristore was syringed into root crack area.
- 7. A Tenure S soaked sponge (Dab-Eze[®]) was used to fill and adapt the Geristore restorative to the cracked area.
- 8. Prior to Geristore beginning to set, Core Paste-Enamel shade was syringed into the root leaving extra Core Paste extruding from the root to form the core buildup (Fig. 3).

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- 9. Core Paste was cured for six (6) seconds using the Rembrandt Sapphire[®] Xenon Power Arc Light.
- 10. The Core Paste buildup was carved in preparation for a full porcelain crown (Fig. 4).
- 11. A Cerinate Full-Porcelain Crown finishes the case. A fourweek recall appointment confirms the symptom-free, esthetic result.

Case Summary

Traditionally, treatment for similar cases has been extraction. The procedure described above, in addition to providing a clinically acceptable and problem-solving alternative, has the additional benefit of relieving the patient of an extraction and thus saving the root. By providing a fluoride-releasing restoration with Geristore and strengthening by utilizing Core Paste as a natural implant, this and other "hopeless tooth" situations can be easily and beautifully resolved.

Geristore has been the choice for discerning dentists for over a decade. It has proven itself clinically in a wide variety of dental applications including repair of erosive lesions in geriatric patients, cementation of cast gold crowns and other fixed prosthodontics, bonding amalgam, and restorative repairs.

Additional applications include: sub-gingival and periodontal applications including root perforation repair, root retro-fillings, root resorption restoration, furcation lesion restoration and even guided tissue regeneration. The versatility of Geristore continues to "open doors" to new and exciting procedures.



Dr. Yu is a native of China and holds dental degrees in both the US and his homeland. He has published more than 60 clinical and researchrelated papers in the area of adhesive dentistry. Currently, he is Vice President of Clinical Affairs for Den-Mat Corporation.

If you have questions about the Den-Mat Corp. products used in this clinical, please call Den-Mat at (800) 445-0345.