

CASE STUDY

Dentist Produced Conservative and Exquisite Composite Resin Restoration

CASE SUMMARY

John Gammichia, DMD, from A Soft Touch in Family Dental Care in Apopka, FL recently saw a 42-year-old female patient who presented with pain on the lower left side. She had some teeth extracted in the past and didn't want to have that done again. She recognized that saving teeth could get expensive, so she asked Dr. Gammichia to try to create a treatment plan that would save the tooth and fit into her budget.

She had a nerve that had been irreversibly affected by the caries, so there was no way around doing a root canal. Dr. Gammichia sent her to an endodontist and it was taken care of that day.

After this patient was out of pain, she returned to Dr. Gammichia to have the tooth restored. The goal was to create a permanent restoration that would last decades.

Images and Dentistry
by Dr. John Gammichia

Case Formatted
by Andrew Goodman

PRODUCTS USED



Caries Detector

is a caries detecting dye that aids in the excavation of the outer decalcified and infected carious dentin layer, permitting optimal caries removal. It also helps minimize the removal of remineralizable, healthy dentin, protecting the vitality of the pulp and, as a result, conserve maximal amount of healthy tissue.



CLEARFIL™ SE Protect

is a light-cure bonding system, consisting of a self-etching primer, which has an antibacterial cavity-cleansing effect (MDPB) and a fluoride-releasing bonding agent. The primer simultaneously treats both dentin and enamel.



CLEARFIL MAJESTY™ Flow

is a light-cure, super-filled, radiopaque restorative composite flowable resin that has excellent consistency and strength, very low shrinkage, extremely high filler loading (81 wt%), with an easy, smooth flow, bubble-free syringe dispenser.



CLEARFIL MAJESTY™ ES Flow

is a light-cure, universal, flowable composite, which can be used for the following applications: direct restorations for all cavity classes; cavity base/liner; tooth wear and erosion; reshaping teeth and intraoral repair of fractured restorations.

TREATMENT PLAN

Dr. Gammichia used CARIES DETECTOR to disclose the decay; CLEARFIL™ SE PROTECT as the adhesive system, as well as CLEARFIL MAJESTY™ Flow and CLEARFIL MAJESTY™ ES Flow for the restoration.

Dr. Gammichia used CLEARFIL MAJESTY™ Flow because it is a highly filled flowable resin composite that delivers an excellent balance of strength, low shrinkage, polishability, and color stability. CLEARFIL™ SE PROTECT features an MDP monomer but it also has a MMP inhibitor. The bonding agent has fluoride in it.

Dr. Gammichia preferred this system because of its great bond strength, which will stay consistent through decades.

TOOTH PREPARATION

Dr. Gammichia removed the temporary that was placed by the endodontist. He also removed all the decay using a No. 6 and No. 8 round bur after using CARIES DETECTOR.

In the prep, he ensured that there were no sharp angles. Lastly, he beveled the enamel layer with a chamfer diamond bur.

RESTORATION PLACEMENT

To restore this tooth, Dr. Gammichia began by “selectively etching” the enamel for 15 seconds. After rinsing, in order to keep the dentin moist, he did not use air. Instead, he used a high-volume suction and waved it over the tooth. The goal was to get the right amount of moisture out of the prep.

Dr. Gammichia continued, using CLEARFIL™ SE PROTECT primer and used a brush to scrub for 20 seconds. He then dried off all the excess primer with an air-only syringe. Next, he placed the adhesive and blew it thin with the air-only syringe. After curing, he placed a layer of CLEARFIL MAJESTY™ Flow that was about 1 mm. He then cured again. Next, he began to layer CLEARFIL MAJESTY™ ES in 2-mm increments. He incrementally filled horizontally with a flat instrument that made the layers flat to prevent voids.

Before he cured the occlusal layer, he put as much anatomy in the restoration as possible to help guide himself when he put the finishing burs to it.



Figure 1. Pre-op x-ray.



Figure 2. This is what the tooth looked like after the patient came back from the endodontist.



Figure 3. The tooth cut and opened.



Figure 4. The air-only syringe used during the restoration.

FINISHING AND POLISHING

Dr. Gammichia used a fine football finishing bur to do primary anatomy and then another one as his secondary and tertiary burs.

After he used the burs to get the desired anatomy, finishing was a breeze. He hit the tooth with a brownie point in the high speed and was careful not to alter the anatomy. Next, he polished the new restoration.

Dr. Gammichia made sure to credit his assistant and mentioned how efficient they have become at performing restorations. In their cases, a two-surface restoration like this one takes no more than 24 minutes.

The result was a conservative and exquisite composite resin restoration that Dr. Gammichia believed will last decades.



Figure 5. The restoration was completed and the filling was barely visible.

John Gammichia, DDS



Dr. John Gammichia is a 1995 graduate of the University of Florida College of Dentistry. He has been in private practice for more than 30 years and is currently located in Apopka, FL. He has written numerous articles and has lectured nationally and internationally but, most importantly, he absolutely loves what he does for a living. He loves saving teeth with exquisite composite restorations and wants you to love them too.