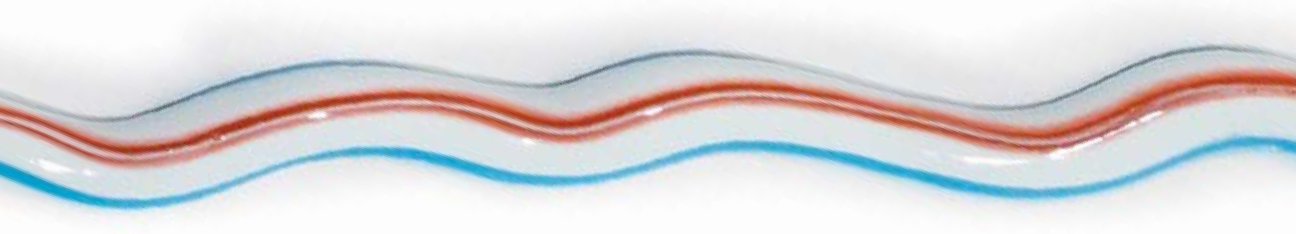

HEALTH

A CROWNING GLORY

NEW TECHNOLOGY MAKES GETTING A PERMANENT CROWN A ONE-DAY DEAL

By Karen Haywood Queen

In the past, getting a tooth crowned meant a couple of visits to the dentist and enduring the inconvenience of a temporary crown. The appointments eat up sick time and the temporary crowns can be a hassle.

"We prepare the tooth, remove the old filling material and decay," says Dr. Lisa Marie Samaha, a dentist in Newport News. "We make and custom-fit a temporary crown and take an impression of the tooth. The impression is sent to a lab and the lab technician creates the crown, which is a very involved procedure. The patient returns two to three weeks later to fit it, and hopefully it fits, and then get it cemented in."

Meantime, the patient wears a temporary crown.

"Most people who have a temporary crown find it to be a great nuisance," says Samaha of Port Warwick Dental Arts. "You have to be careful not to pop it out or floss it out. You can't eat anything sticky. It can be irritating to the gum tissue. Teeth can remain cold-sensitive with a temporary crown."

With new computer-aided design technology, Samaha and her staff can place a permanent, porcelain crown in one visit lasting as little as a one-hour appointment. CEREC 3-D is an acronym for Chairside Economical Restoration of Esthetic Ceramics.

"We were one of the first in the country to have the CEREC 3-D technology," Samaha says as she prepares to place a crown on a patient's tooth.

Here's how CEREC, a CAD-CAM technology, works. Samaha and her staff prepare the damaged tooth by applying a thin layer of reflective powder on its surface. They use a special camera to take a pin-sharp optical impression of the tooth. Samaha or her design expert digitally design the crown, which takes about 10 minutes.

Then the image is sent to the CAM portion of the technology across the hall. There, a high-speed diamond burr and a disk work together to mill the permanent restoration out of ceramic porcelain. Then Samaha fits and bonds the restoration to the tooth using the most sophisticated state-of-the-art adhesive known in the medical world with a strength that rivals that of metal.

No more messy, uncomfortable impressions that often can leave a patient gagging. One visit and done. Many crowns can be done in a single visit. Samaha has done as many as eight in one visit.

But saving time is not the main advantage here.

The tooth-colored CEREC porcelain for fillings or crowns offers numerous advantages over the alternatives. Silver mercury fillings, while economical in the short run, often crack. They also encourage cracks in the teeth—allowing teeth to decay underneath, which could result in the need for root canals. Mercury is more sensitive to heat and cold—that's why it's used in thermometers. The silvery look is not as attractive in a smile either. Plastic fillings also look like natural teeth, but they are not as strong as porcelain.

In the past, crowns have been made of metal with porcelain on the outside, resulting in a heavy opaque look. Porcelain reflects light the same way teeth do, resulting in a natural look.

"With a metal crown, when we look at X-ray, the metal masks any new decay," Samaha says. "I can't tell you how many times I've removed crowns and there was mush underneath. Nobody could tell it was leaking or decaying."

Additionally, this porcelain bonded to the tooth can restore up to 118 percent of the tooth's original strength. Compare that to silver fillings, which can weaken the tooth structure by as much as 40 percent. The CEREC crowns are also plaque-resistant.

"Even with very little tooth left, a CEREC crown can be fused to the tooth, precluding the need for a root canal," Samaha says as she begins work on the crown. "There's a crack down the middle of the tooth. We're fusing the porcelain to the remaining tooth structure and it becomes one with the tooth. That tooth is too short to cement a traditional crown—it would come off in weeks."

A few minutes later, she's done.

No root canal. No messy impressions. No multiple visits. No temporary crowns. Stronger, prettier teeth. Less trauma for both tooth and patient. **HR**

As seen in HamptonRoads MAGAZINE May/June 2004