



# Say Goodbye to "OLD" and Hello to "New" Dentistry



**By Dr. Walter R. Below,  
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Today's world of technology is impacting the lives of everyone! Many people are not aware of the effects it has on dentistry. For instance, less time, less discomfort with the cutting-edge innovations in dental instruments, which creates satisfied results? One breakthrough instrument called CEREC, allows dentists to quickly restore damaged teeth with natural colored ceramic fillings, saving patients time and offering them convenience.

**What does CEREC mean?**

CEREC is an acronym the

stand for Chair side Economical Restoration of Esthetic Ceramics.

**Explain CEREC to me.**

CEREC is a dental restoration product that allows a dental practitioner to produce an indirect ceramic dental restoration using a variety of computer assisted technologies including 3D Photo's and CAD/CAM. The restoration of the tooth (or teeth) can be performed in a single sitting with the patient. The cavity preparation is photographed and stored as a three dimensional digital model. Proprietary software is then used to approximate the restoration shape using biogeneric comparisons of surrounding teeth. The next step is refining the model using 3D CAD software. When the model is complete a milling machine carves the actual restoration out of a ceramic block using Diamond Head cutters under computer control. When complete, the restoration is bonded to the

tooth using the bonding technique of....

*Composite Bonding* – First, the tooth is slightly reduced to prevent the "new" tooth from being too bulky. Microscopic grooves are then etched into the tooth surface with a mild acid. A composite resin match to the color of the surrounding teeth is applied to the tooth, contoured into shape, set using a curing light, and finally smoothed and polished.

*Veneer Bonding* – A veneer is made to match the color and shape of your tooth. Porcelain veneers are generally stronger, while composite veneers are less expensive than porcelain veneers. An impression of the tooth is taken and sent to a dental lab for fabrication of the veneer, after the front of the tooth has been reduced. With either method, the tooth is prepared for bonding by roughening the front surface with mild etching solution. The veneer can then be bonded to your tooth using

dental bonding resins.

**The unique technique.**

First is to prepare the tooth being restored either as a crown, inlay, onlay or veneer. The tooth is then coated with white powder, imaged by a 3D imaging camera and uploaded to the CEREC computer. Using the CEREC software in various modes, a restoration can be designed to restore the tooth to its ideal form and function. The restoration is then milled out of a solid ceramic block. Mill-

ing times vary from as little as six minutes to as long as twelve depending on the complexity of the restoration.

This new technique also offers no TOXINS to the body and is safe. No more sending impressions off to lab and coming in for a second or third visit. These are natural looking and compatible with tissue in the mouth, anti-abrasive and plaque resistant.

**(Remember what last issue said about plaque)**

*Dr. Below strives to stay ahead of the curve on new techniques and information to better serve his patients. He participates in over 100 hours of continuing education annually and has memberships in organizations like the American Academy of Cosmetic Dentistry focused on dentistry's future from a scientific and/or esthetic perspective.*

*Dr. Walter R. Below has practiced in Westlake for over 20 years, receiving his dental degree at the University of Louisville's School of Dentistry in 1981.*

*He is a Fellow in the Academy of General Dentistry, General Member of the American Academy of Cosmetic Dentistry, and member of the American Dental Society of Anesthesiology and American Association of Hospital Dentists.*

*He was a Clinical Instructor in the Department of Periodontics at Case Western Reserve Dental School and on medical staff of Lakewood Hospital.*

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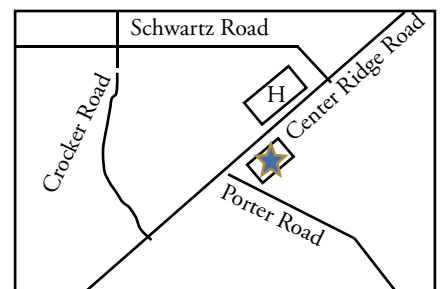


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