

Title: Digital restorative workflow; from treatment plan to occlusion

Author: Seo sang Jin

Affiliation: Ye-In Dental clinic Director, Chang-won



Abstract:

The proportion of ceramic restoration is increasing in the field of restorative treatment due to the aesthetic demands of patients and the spread of dental CAD/CAM.

The method of making aesthetic restorations using a dental CAD/CAM has already been carried out in 1985 at the University of Zurich. It was commercialized as CEREC system.

Intra-oral scanners with various price ranges are available, and CAD software with a convenient user interface is open to be compatible with other systems. It enables to utilize various CAD/CAM devices in combination and to link with 3D printer through Open STL file. Periodically updated CAD programs improve the speed and accuracy of milling. With the development of the chairside CAD/CAM software, digital restorative treatment has become easier and more precise.

New reinforced ceramics and resin-ceramic hybrid materials have been introduced, and the translucency and physical properties of zirconia have broadened the indications for digital ceramic restorations.

Considering the characteristics of new materials, the clinician can select the materials that are appropriate for the esthetics and strengths, and adhesion and cementation proper for the chosen material can increase the long-term survival rate of the restoration and the esthetics of the restoration as well.

This lecture introduces the workflow of digital restoration based on the chairside CAD/CAM which is utilized recently, and it also discusses the characteristics of the conventional digital restorative materials and new materials followed by their clinical application and limitations.

And, I will also talk about considerations that can improve the long-term success rate of the restoration from diagnosis to design and occlusion.

Chairside ceramic restorations already have been qualified by 30 years of evidence-based data, and the adhesive procedure between tooth surfaces and ceramics for predictable long-term success has long been universally defined. Adhesion is the most important factor in determining the success of ceramic restoration, although the paradigm of adhesion has been somewhat altered by the

chairside ceramic restorations with the improved precision of the margin and the internal adaptation, new dentin adhesive system, and new ceramic materials. In addition, the application of the adhesive system according to the type of material and restorations will be described in detail.

CV

Ye-In Dental clinic Director, Chang-won

Dental University and Graduate School of Pusan National University

Cerec Asia Official Trainer and World KOL

"Dental dental CAD / CAM to create the future" co-author

"Simple Guide Plus" Developers

Prosthesis Chairman, Ulsan Branch, Kyungnam, Korea