Dentistry That Makes a Better Impression

New Scanner Technology Improves Dental Restorations and Provides a More Pleasant Patient Experience

BY MARC WALLACH, DDS

IMAGE BY: STRAUSS PEYTON

There have been so many significant improvements in dental technology over just the past twenty years that I couldn't even begin to list them in an article like this. You have seen these innovations in your own visits to dentists over the years - everything from high-speed drills to digital X-rays, to sonic cleaning to new materials for filling and improving aesthetics of tooth appearance.

The latest breakthrough is one you may not be aware of because it is just starting to appear in dental practices in the Midwest. It is a new technology for making dental impressions, the models that are used for molding dental crowns, inlays and other tooth restorations.

Until now your dentist or dental assistant would go through the time-consuming process of selecting a tray that fit your mouth, mixing up a fresh batch of gooey molding material, inserting it into your mouth carefully to keep you from gagging, waiting patiently while it firmed up, making sure you could still breathe, and carefully removing it without pulling out other crowns with it. The mold then needed to be disinfected, packed and shipped to a dental lab.

Now consider the new high-tech method of making impressions with the Lava Chairside Oral Scanner. Until you experience it yourself, it sounds like science fiction. A wand about the size of an electric toothbrush glides comfortably over your teeth, capturing continuous 3D video images and actually modeling them in real time. The Lava scanner is able to capture approximately 20 3D data sets per second, or close to 2,400 data sets for the upper arch and an equal amount for the lower arch.

In a matter of minutes, you and the dentist can start viewing on a touch screen monitor a very precise digital image of the teeth in fine detail. The images can be reviewed, rotated, enlarged or even viewed in 3D using special glasses.

This allows the dentist to more accurately assess the preparation and precise dimensions before sending the digital prescription to the lab that will create the restoration. Instead of the time and expense of packing and shipping a model, the digital images are immediately transmitted via the Internet.

In the lab the technology marvel continues. The traditional next step was casting a stone model from the impression made in the office. Instead, the digital images feed a remarkable process called stereo lithography (SLA) which uses software and lasers to build a 3-dimensional model using liquid UV-curable photopolymer resin. The resin is applied one layer at a time by tracing successive cross-section patterns of the teeth on the surface of the liquid resin. Exposure to UV laser light cures, or, solidifies each layer and adheres it to the layer below. The SLA model is then sent to the dental lab for finishing; a final restoration is created from it and sent to the dentist for placement. The result is a higher quality, more precise fitting restoration that fits better, bites better and looks better than any restorations ever made before.

Dr. Marc Wallach has been a long-time advocate of employing advanced technologies to enable more accurate, safe, long-lasting and aesthetically pleasing dental solutions, while assuring patient comfort. His office, Wallach Dental, has been located in Westport Office Building for over 29 years. Wallach Dental is one of only two dental practices in the St. Louis area that is using the Lava Chairside Oral Scanner. To schedule an appointment with Dr. Wallach, you can call them at 314-434-7300, or visit their website at www.wallachdental.com. clm