The impact of CAD/CAM on dental practices

Interview with Dr Jonathan L. Ferencz who shares his experiences with CAD/CAM technology in dental practice

By 3Shape

In what way has CAD/CAM made a major difference to your dental practice and patients?

The first time I really experienced the difference CAD/CAM has made for my patients was with one patient, a very successful partner at a well-known architectural firm. He came in on a Friday afternoon around 2 p.m. and said, "John, I'm very sorry to bother you but the crown on my front tooth just cracked. I've got a really important dinner tonight with clients and I'm going away on a 4 day ski trip with my family. If I don't make the trip, I'm in trouble. If you made me a temporary, I would be most appreciative."

His crown was in two pieces. I told him that I believed that we could do more than just make him a temporary. I thought we could make him a new crown with CAD/CAM and the laboratory. Of course, he did not think this was possible.

I took the broken piece and slipped it back into his mouth, it fitted perfectly like a jigsaw puzzle. I then had my assistant take a pre-preparation scan. I next took the broken piece off, administered a little Novocain to the patient and ground away the piece that was still cemented. I placed a cord and scanned the preparation with our TRIOS scanner (3Shape). The technician in the laboratory then designed and milled the patient a new crown. Ninety minutes later, the patient left with a final crown and not a temporary.

As a follow-up, he later told me that he must have really bored his clients at dinner that night, because the only thing he talked about was the crown we made in that one visit.

If you look at this case and compare it with what used to happen in the old days, that same procedure would have taken three visits.

Now, whenever I see an emergency in our schedule that involves something broken, I think that we can turn it into a definitive solution and not just a stopgap of placing a temporary and the patient returning the next week. I know that now we can fit a crown using a TRIOS digital impression and our laboratory. For patients like the one in this example, digital is a lifesaver.

Is there not a financial loss by not having the follow-up visits?

No, not at all. One charges the same fee regardless of the number of visits because the patient is charged for the procedure and not per visit. So for us, we actually save time and money. In addition, not having to wear a temporary crown is of great benefit for patients. They do not have to come back to our office.

Are there more advantages of this technology?

Another important advantage of digital technology is its potential for patient education. For example, I had a patient with a lateral incisor that was perfect from the facial aspect, but from the lingual, there was an amalgam restoration, a composite restoration and a vertical crack from the incisal edge to the gingiva. But how can you show that to the patient when it is on the lingual side?

In the old days, I would have tried with a mirror or taken a photograph and loaded it on the computer or an iPad. This would have taken 20 minutes. The patient would have been looking at his or her watch, thinking about getting out of the office. The key in situations like these is speed. So, now I have started doing is taking a scan and obtaining a color digital impression in 3D.

If I scan the patient, I can take the image of the lateral incisor, flip it and point out to the patient what I see that he or she cannot. The scan shows the crack. The patient would ask me to suggest treatment and I would recommend scheduling a crown. The patient would agree because it is such a convincing demonstration.

We are helping patients to cogitate.

So the scan serves to educate and, in a way, empower the patient?

The best patient is an educated patient, but the communication or educational process has to be quick and intuitive. It cannot entail capturing an image, loading it onto the computer, locating the image, etc. So, now, rather than taking out the camera and iPad, I reach for the TRIOS. The idea of having a scanner in every room and having a hygienist pick up the scanner is becoming a reality in our practice.

Do you envision scanning being a routine part of a patient visit?

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Do you think that one day decisions on treatment could be made by just reviewing digital scans?

Do you mean do I imagine a day when I could be sitting in my beach house in the Bahamas leafing through scans on my laptop? It would be nice, but it will not happen because so much of our success is based on relationships and personal contact.

Dr Jonathan L. Ferencz is a diplomate of the American Board of Prosthodontics and Clinical Professor of Prosthodontics and Occlusion in the Department of Prosthodontics at the New York University College of Dentistry, where he has taught since 1972. He is also Adjunct Professor of Restorative Dentistry at the University of Pennsylvania School of Dental Medicine.