When it comes to long-term strategic thinking and leadership in dental technology, there are few greater advocates on the dental lab side of the business than Lee Culp, CDT. On his route to becoming an architect, Mr. Culp found his summer job as a pick-up/delivery driver for a dental lab as the opportunity he didn’t even know he wanted and hasn’t looked back since.

“One of the dental lab's employees quit while I was working part time, and the lab offered me a full-time job in the model department for the summer,” he remembered. “I didn’t really know anything about dentistry, but after falling into this job, I appreciated the artistic side of it. I was smart enough to know that I wouldn’t make a dime as a traditional artist, and architecture had seemed like the solution. Work in the lab also had this great artistic side, so it was a good fit.”

Embracing the future

Since that early introduction to what the future of dentistry could be, Mr. Culp has been a consultant and advocate for the many different facets of CAD/CAM technology. As part of this effort, he’s been both celebrated and vilified by his peers in the dental lab profession — many asking why he was helping to put dental technicians out of business.

“I’ve always responded the same way: Emotionally, you may not like it, but this is where things are going. And wouldn’t you rather have a technician be a part of the development process?”

He acknowledges that technicians are coming around and that people are starting to recognize that they can embrace digital dentistry without losing the artisanship and craftsmanship that they value in their work.

“I often use this analogy,” said Culp, “technicians should go home and call up 10 professional photographers — ask them if they’re still using film. Not only are those photographers all primarily or only digital, they are able to be more creative with the software than they were in the dark room. Misperceptions about lost artistry is all based upon fear of the unknown.”

As the rest of the industry catches up to his enthusiasm, Mr. Culp stays focused on the milestones that clearly demonstrate that progress is being made. Whether that was...
his first glance at a tooth in 3D — “The most amazing thing I’ve ever seen. I knew the world would change.” — or his first interactions with D4D Technologies in 2008, where the basic technology seemed to leap ahead.

“As a technician, I was always pushing the envelope for what software could do. When I saw D4D’s ability to do two teeth at the same time — double what the other system could do at the time — then seven teeth, then all the teeth… I had the flexibility to be creative and that’s what I really wanted,” he said. “It was after this that I stopped doing things in the traditional way. Everything is now scanned in, designed on the computer and milled from some type of ceramic.”

**Becoming the customer he always wanted**

When Mr. Culp left D4D Technologies to take the Chief Technology Officer position at Dental Technologies Inc. (DTI), it was a difficult, emotional process. In the end, it was a fulfilling move since one of the biggest frustrations was getting people to not only buy CAD/CAM, but to commit to using it.

“DTI is the third largest corporate laboratory in North America, one of the top 20 in the world, and they hired me to take the company digital. I took this job to prove to the world that it could be done — not just in a two-man lab, but in a major manufacturing environment,” he shared. “We are now D4D’s biggest customer. We run 10 mills 16 hours a day, processing nearly 200 restorations a day. We have fundamentally changed the structure of a big corporate manufacturer, and we’ve done it with D4D.”

**Communication is key**

In his experience — which is significant — part of what makes D4D not only a good choice, but the best choice, is its ability to facilitate communication between the dentist and the lab. The comparison Mr. Culp uses is the dental difference in the supplier-consumer relationship.

“If I’m WalMart, all I have to do is have the shoes you want on the shelf and be nice to you — good selection, good price. I’m not dependent on you, the customer, for anything. Just pay on your way out. In the dentist-lab relationship, I am totally dependent on my customer to do things correctly so I can do it right as a supplier. If he or she doesn’t do it right, then I can’t deliver. To avoid that, communication is key.”

Tools such as Team Viewer allow Culp and the dentist he works with to look at the treatment plan together — from different parts of the country. Sharing the screen, seeing the three-dimensional tooth, making changes in seconds. In this way, technology changes the dynamic: Labs don’t just tell the dentist what they’re doing; they can show him. This co-diagnostic approach is facilitated by networks and tools that D4D puts in place and supports, such as the E4D Sky Network. The E4D Sky Network enables E4D clinical operators to communicate and facilitates the transfer of data to the technician whenever laboratory involvement is required. With just a click, the entire case (whether scanned or completely designed) can be sent from chairside to the laboratory for fulfillment of the online prescription.

While labs are stepping up as the advocates for how CAD/CAM technology can improve working relations, dentists are evolving themselves and becoming more engaged and moving to digital. “As lab technicians, our responsibility is to the dentist and the patient,” said Culp. “We are prepared and equipped for a digital workflow, no matter what stage of CAD/CAM involvement the dentist is at.

“Clinical dentistry is slowly evolving into intraoral scanning. The only thing that changes for me is getting a digital impression instead of a traditional impression. Other than that, the process for me is exactly the same. We want to create a digital manufacturing platform so that we’re ready to go.”

Which brings us to the fundamental question: Does a dentist need to invest in a CAD/CAM system — really?

“If you polled 100 people, everyone would say CAD/CAM dentistry is cool, but most would question its necessity. And, if I’m being completely honest, you don’t need it. You will survive without the CAD/CAM. However, you also don’t need a microwave or stove in your kitchen — you are perfectly capable of cooking over an open flame in the backyard. But, there are definitely better ways to do things now, and CAD/CAM dentistry is one of them.

The more we engage digitally, as a profession, the better we are able to treat our patients. We move from a linear progression of manufacturing to a digital one that allows us to speed up patient care, from a 7-day turnaround for a restoration to a 3, 2, or overnight turnaround. That’s what we’re working towards.

The digital workflow means not only faster restorations, but better, more predictable, more consistent restorations.”

CAD/CAM may not be necessary, but in the hands of the right dentists and dental technicians, it can be transformational.

“The E4D Design software provides an efficient method of restoration, fabrication and communication without compromising the individual creativity and artistry of the skilled dentist and technician.”

- Lee Culp, CDT
Dublin, CA

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- Lee Culp, CDT
Dublin, CA

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