



The Changing Landscape

By: Jack Marrano, CDT; Academy News Guest Contributor

A discussion regarding the forces currently disrupting the dental industry and what these changes may mean for the future of dentistry.

The landscape of dentistry and dental technology are currently experiencing some remarkable changes within the dental space.

During times of rapid change and disruption within an industry, decision makers must be able to adapt. Advancements in materials, hardware, software and AI are now progressing at an exponential pace causing some turbulence within the industry. One wonders if these advancements will be beneficial or if some will impact the dental laboratory industry in a negative way. The few remaining dental technician programs available at universities, a reduction in the number of U.S. laboratories, a massive decline within the dental laboratory labor force, and an aging population of trained technicians, have all combined to put a strain on the dental laboratory industry. Can emerging technologies such as AI and material advancements, such as liquid ceramics, monolithic layered zirconia and printed restorative materials, aid the profession to fill the voids left behind from the current industry conditions while maintaining the ability to still provide world class restorative work?

The cost of doing business is much greater today than it was in the past, with salaries at an all-time high and a growing demand for lower cost restorative work. Current economic conditions are also playing a part as higher interest rates are a contributing factor that is hindering some patients' ability to afford treatment. Corporate dentistry is growing at an incredible pace with roughly 300 DSO groups currently operating in the U.S. -- and that number is increasing.

So, what does this all mean and how will those in our industry overcome today's challenges? Well, first and foremost, dentistry and dental technology are not going away. But what does the relevant and evolving dental laboratory look like? By this point in time, the latest technology and processes should have already been implemented and mastered. The benefits of technology adoption should have been realized and achieved and any "early on" learning curves overcome. The "cutting edge" lab should have, by now, embraced material advancements, such as high strength, high translucency multilayered zirconia. This has revolutionized the laboratory space by being able to fully harness the power of CAD/CAM full contour design, while maintaining the world class esthetics that were only previously achievable through layering. Those materials, coupled with support products like Miyo liquid ceramics, enable a laboratory

to now produce restorations much more efficiently and predictably while maintaining current staffing levels.

In the removables department, advancements such as Lucitone Digital Print have given equipped laboratories capabilities never seen such as data archiving. Stated simply, if a denture ever needs to be replaced, the appliance can simply be remanufactured from an archived file. This results in the elimination of repairs and relines, as it is cheaper to reproduce a denture today than it is to reline or repair the appliance.

Automation has taken center stage in the lab space with current developments being aimed at accomplishing tasks normally performed by less-skilled labor. For example, we now have automated post process finishing for 3D printers, and polishing of restorations and appliances with the Autopolisher. With Carbon's newly released POLISHING cassette, a night guard can be printed and this technology allows the appliance to emerge from the platform fully polished. Automation will greatly aid laboratories in meeting labor shortages along with AI technology like 3Shape Automate. Automate has the ability to use AI technology to design restorations in the cloud in minutes, freeing up more skilled CAD/CAM designers to apply their skills to much more complex cases.

Large manufacturers, such as Straumann and Dentsply, are also partnering with laboratories to help eliminate some burden of staffing shortages with a broad spectrum of services. These manufacturing partners have realized the mutual benefit of partnering with laboratories that are embracing technology and innovation.

Clinicians have also adopted a role in forward thinking partnerships by investing in laboratory equipment. This welcomed collaboration by both parties has led to great efficiency within workflows. A lab with an in-house printer can increase efficiency by printing diagnostic models from approved STL files instead of waiting on a back-and-forth shipping of models from a laboratory.

While on the surface, the state of the industry may seem a little murky, rising technology, partnerships and collaborations will see the industry through and the future will be incredibly bright for dentistry.

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