

Digital dentistry is here to stay

It is clear — digital dentistry is widely accepted around the globe. For more than four decades, the practice strived and challenged all the doubts given. In today's practice, its value has become even more undeniable, particularly on the laboratory side, as **Dr Kelvin Tanton** writes more.



We might remember the time when experienced technicians doubted how digital technology and workflow can reinforce or make the world of dental technicians better. It might be understood well why such doubt rose because, at the early time of digital dentistry, we were led to a dogma that digital technology will only provide speed. On top of it, early dental technicians who are more hands-on in their procedures lacked



exposure to computer technology and found it hard to adapt. In turn, the so-called “speed technology” only slowed them down.

Over the years, as digital workflow became more established, it has lured the attention of the young generation who are more technology savvy. By having them in the field, the adaption of digital dentistry in the laboratory accelerated. Today, we see many new technicians fabricating high-quality work in a short time by utilising CAD/CAM technology to simplify their workflow. By doing so, they can focus on improving their skills in other essential factors like anatomy and shade.

EFFICIENCY IS KEY

Digital technology reinforces the communication between technicians and dentists. Many factors that cannot be shown and communicated well before in the era of analogue, now can be presented clearly. As we all agree, many times these are tiny factors like undercuts that cause leakage and lower the success rate of the restorations. These are hard to analyse in analogue, but with digital technology, we can scan and zoom the models to see the details so both dentist and technician can discuss and solve the problem. Even before making an

impression, if the dentist is using a digital intraoral scanner (IOS), the undercuts can be analysed directly in the patient mouth.

Furthermore, digital technology lowers the chances of redoing restorations in several ways. By being able to communicate problems like an undercut, lack of space, and other possible risks, digital technology improves the success rate of restoration. By avoiding redo, the technician can save much time to work on other cases and focus on other issues, even having more time to practice new skills. Digital technology also enables a dental technician to show the final result to the dentist and patient at the very beginning of the case by utilising the digital design. The design can be shown in 360-degree view so both dentist and technician can work together to analyse the case.

Another significant way how technology can help the technician to save time is by simplifying the reproduction process. Since the workflow is in digital form and involves saving works in file format, then whenever we need to remake the same restoration, it is possible to simply reload the file and reproduce the restorations without having to start from scratch.



a digital system gradually. I recommend starting with a laboratory scanner and CAD software. By doing so, we can get the benefit of model undercut analysis, a better “zoomed” view of the margin, better communication of the final result with dentists and patients, and the repeatability of production.

In the beginning, production can be outsourced by simply sending the .stl file to your local production or milling centre. In this way, it will help you avoid several start-up issues like raw material stock, huge investments in milling machines and sintering furnaces and switch “safely” into the digital system.

After getting comfortable with CAD, it is possible to add CAM production into your lab in the future. It is recommended to use open systems to be able to adopt digital step-by-step into your lab. There is no right or wrong whether to stay in the analogue style of an artist or embrace the technology interference now. But one thing is for sure, digital is here to stay in the fascinating industry of dental laboratory. **DA**

UPWARD TREND

Various indicators are showing that the dental laboratory world has accepted the digital way of working. In fact, not just accepted – but also nurtured its development. A very obvious indicator of an unavoidable emerging digital technology in the dental laboratory is by looking at how the manufacturers supply the market.

In every new technology or system, manufacturers do surveys and predictions about how ready the market is to adopt or accept the new system. As we are witnessing, manufacturers all over the world are constantly launching and innovating both premium and economical level products.

Moreover, we are also seeing more dentists utilising IOS in their daily practice as the improvement in product quality and scanning speed over the years has made it easier for them to adopt this technology. There is also a notable drop in its price making it more affordable. Hence, dentists are more inclined to purchase even though they might not have their own design software or production centre. As a lab, if we only have the CAD and a 3D printer, we can have ourselves ready to receive digital scans instead of impressions only.

Creating great results with an analogue system might be no problem for masters and experienced passionate ceramists. But we all must admit that passionate ceramist is now getting less and less in number. It is now very rare to find a ceramist who still understands and can perform the analogue technique in proper ways, so when we need to grow our lab or maintain our lab in running daily tasks, we need to train new employees. Digital systems and workflow can help a laboratory to train the new generation faster and easier.

FINDING THE BALANCE

So, will the digital erase the analogue? The best attitude and point of view regarding unavoidable digital technology interference in the world of the dental laboratory is to see digital and analogue not as opposite things, but as reinforcement of each other. See analogue as our right hand; and digital as our left hand. In our daily life, using both hands have enabled us to do many tasks effectively. By utilising digital and analogue together, many benefits will be sowed.

Instead of buying a whole digital system at once, it is possible to switch and adopt

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Binjai followed by his private practice in Medan, Indonesia. After more than five years of clinical practice, he decided to follow his heart and pursue the field of dental ceramics and has not looked back since. He completed the international programme at the Osaka Ceramic Training Centre and underwent various training under international experts in the ceramics field.