Digital impression taking helps me be a better dentist

Dr Simon Kold, owner of Herning Implant Center in Denmark.
Dr Kold studied at the Department of Dentistry at Aarhus University with his wife, Louise. In 2006, they started Herning Implant Center, a referral clinic for surgery, implantology and major prosthetic reconstruction.

The centre currently has a dental laboratory and 18 employees, including a permanent anaesthetist and anaesthetic nurse. It has provided implant treatments for more than 20 years. Dr Kold is a popular and active lecturer, delivering seminars at leading dental industry events around the world.

TRIOS allows you to move more naturally. You can stop and then start up scanning again from the same place, and you can even rescan selected areas and merge them into a complete impression. All of this makes it much easier and faster to obtain good impressions every time.

What initially made you move from traditional impression taking to digital impressions?

Dr Kold: Our clinic has been working with guided implant surgery since 2005. With the emergence of new technologies, we saw huge potential in combining digital impressions with CBCT scans to ensure both accurate and aesthetic implant treatment. After trying various intra-oral scanners on the market, we finally found the best choice in terms of consistent accuracy and adequate detail in the scan. Today, we use the 3Shape TRIOS digital impression solution for most types of cases.

What made TRIOS stand out for you?

It was mainly because it was so easy to use. With the many other intra-oral scanners I tried, I needed to keep my hand completely steady while scanning. The slightest movement, of the patient or my hand, was enough to make the scan useless for clinical work. I would have to start over from the beginning.

What about digital impressions in terms of accuracy?

Shortly after we started using the TRIOS system, I successfully completed a maxillary reconstruction with 14 new teeth, all based on digital impressions. Both scanning and the whole workflow with the laboratory went smoothly and all 14 teeth were seated without making any adjustments.

To be on the safe side, I also took a traditional impression during the process. Later, out of curiosity, I sent the physical impression to the laboratory and asked them to assess its precision in relation to the scan. The laboratory estimated that the sources of error had been reduced by up to 70 per cent. Even half of that would have impressed me.

Was it as easy for your clinic to adapt to the new technology?

One thing that surprised me was how excited everybody was about working with the new technology. It clearly boosted the staff’s professional self-esteem. Today, I can really see how the change has made a difference for our clinic. Installing and using the digital impression system has developed us, made us better, and is still moving our business and careers in new directions. The technology has caught the attention of patients as well: they ask questions and seem impressed. I think that they like the idea of being treated by a top modern facility with the best equipment.

What was the learning curve like?

Naturally, our staff had to learn how to scan optimally for specific cases. Like any new tool, the more you work with it, the better you get. The first day we received the system, we scanned six patients in a row with 3Shape experts giving instructions.
After that, we were ready to work on our own. Here at our clinic, assistants scan as often as dentists because the TRIOS system is so intuitive.

As an experienced user of intra-oral scanning, what do you see as the key advantages?

Digital impression taking offers many advantages, and some systems include a few benefits that go beyond just taking an impression. In general, digital impression taking avoids the uncertainties and potential errors that can come with traditional impression taking and casting in plaster. Precision becomes significantly higher. There are other advantages that come with the technology, including the things that can be done while taking the impression rather than as extra steps. For example, with TRIOS, I can take shade measurements as I scan and snap high-definition photographs for capturing important details that help the laboratory fabricate a better restoration for my patients. The impression's colours are amazingly lifelike and I thus use the 3-D image to discuss treatment with patients.

Does digital impression taking make you a better dentist?

It has always been challenging to define an adequately precise margin and this places demands on the dentist's preparation skills. Now I find it easier to assess the quality of my impression because I can see the preparation right away in 3-D and in the high-definition photographs that I take with the scanner while scanning.

The complete digital workflow that TRIOS enables makes us a better provider of implant treatment, which represents our core business. The digital impression merged with CBCT scans is used to virtually plan implant positions, model the restoration, and design low-cost surgical guides that can be produced by a 3-D printer. The digital method enables us to offer patients guided surgical treatment that is faster and cheaper so that more patients can afford implant solutions.

Does the technology have any cost benefits for patients?

One great option with TRIOS is that we can make model-free crowns in full zirconium dioxide and IPS e.max (Ivoclar Vivadent). Skipping the physical model makes the whole workflow faster and cheaper, giving us an alternative to conventional crown treatment. This allows a large number of patients, who would otherwise have chosen composite treatment to save money, to have this treatment.

Do you have any advice for dentists still considering digital technologies?

Yes. Don’t wait! Start now so that you are ahead of the game. Yes, it is a significant investment, but one that saves time, costs and most significantly will help develop your clinic’s reputation, dental skills and business success. That is how it worked for us. Laboratories and dental schools all over are starting to train technicians to give preference to CAD/CAM and workflows using digital impressions. Soon, all laboratories and clinics will be working digitally because the technology offers so many benefits. You do not want to be left behind.

Editorial note: This interview first appeared in 3Shape News.