

“The entire process runs more smoothly”

An interview with Hermann Loos



Fig. 1

Fig. 1 The patient is to receive a three-unit multilayer bridge. With the aid of the intra-oral camera, digital impressions of the initial situation are acquired.

Fig. 2 The bridge is ordered from the dental laboratory. For this purpose, the digital impression data is sent via the CEREC Connect web portal.

Fig. 3 With the aid of the inLab software (version 3.80), the DT designs the multilayer bridge. The software computes the design data for the framework and the veneer facing.

Fig. 4 The DT can edit the framework data (photo) and veneer data separately. This allows for an evaluation of the restoration result in advance.



Fig. 2

Efficient processes are key to the success of a dental practice. They are prerequisite for the optimal utilisation of financial resources, time and capacity. Against this background, German-based dentist Hermann Loos decided to switch from conventional impressions with an impression tray to digital impressions captured using the CEREC Bluecam intra-oral camera (Sirona).

For the past six months, Mr Loos has been collaborating closely with dental technician (DT) Jens Richter at Kerstin Strassburger dental laboratory, based at an external dental laboratory, via the CEREC Connect web portal from Sirona. With the aid of the CEREC Bluecam, he scans patients' teeth and transmits the data electronically to the dental laboratory, which then fabricates prosthetic restorations on his behalf. This treatment

method has elicited a positive response amongst patients. For Mr Loos, digital impression-taking has streamlined the workflow between his dental practice and the dental laboratory.

CAD/CAM: Mr Loos, what prompted you to choose CEREC Connect?

Mr Hermann Loos: I give top priority to utilising new technology in the interests of my patients. My goal is to work as efficiently as possible in order to deliver top-quality results and at the same time make the most of the skills of DTs. A close working relationship with a dental laboratory is absolutely indispensable, especially with regard to complex all-ceramic restorations.

CEREC Connect makes this possible. The stated aim of this web portal is to enhance and

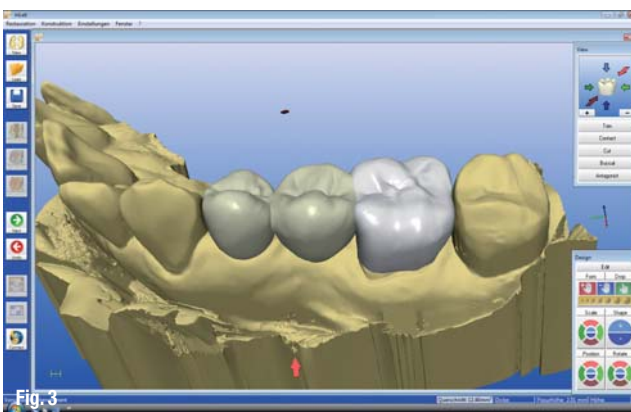


Fig. 3

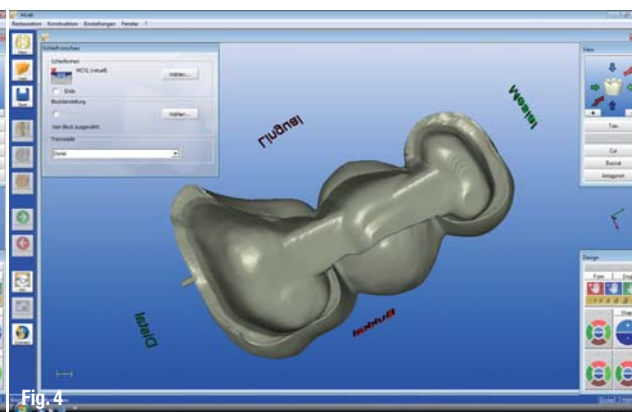


Fig. 4



Fig. 5



Fig. 6

streamline collaboration between the dentist and the DT. The resulting workflow is quicker and simpler.

How have you measured this?

CEREC Connect facilitates an all-digital workflow, from the initial impression to the finished restoration. In the case of conventional tray impressions, numerous intermediate steps are required in order to create a working model. Therefore, considerable scope for error exists, beginning with the initial impression and ending with the fabrication of the stone model.

CEREC Connect reduces this process to three simple steps: the application of CEREC Optispray (Sirona), the acquisition of the digital impression via the intra-oral camera, and the completion of the order form on the computer monitor. With a single click of a mouse, I can send the virtual model data to the DT in just a few seconds. This eliminates the shipping times to and from the dental laboratory.

A further advantage is that the intra-oral scan reproduces the situation in the patient's mouth with a high degree of accuracy. This eliminates any deviations attributable to the physical properties of the silicone impression compound. In the final analysis, CEREC Connect rules out

potential errors and hence benefits all those concerned, above all, the patient, who receives a perfect dental restoration.

How have patients reacted to this new impression-taking procedure?

My patients have found this new impression-taking procedure with the intra-oral camera much more pleasant. And they have given voice to this clearly. Most patients are horrified at the prospect of having a conventional impression tray in their mouths, which can take up to four minutes until the impression compound has finally set. This step has now been eliminated, much to the relief of my patients. With the aid of the intra-oral camera, I can acquire practically contact-free scans of the preparation, antagonist and bite situation. The camera only needs to be placed on the teeth briefly. This is quick and does not cause any discomfort.

Which restoration types do you delegate to CEREC Connect?

I delegate all restorations in excess of a certain size to my dental laboratory. Smaller restorations such as inlays, partial crowns, crowns and small-sized bridges are fabricated in-house on the CEREC system. In the case of complex work, I rely on the DT's expertise.

Fig. 5 As it has been fabricated on the basis of the data supplied by the dentist, the framework fits perfectly.

Fig. 6 The all-ceramic framework and veneer facing are adhesively bonded (multilayer technique). Before they are bonded, the two components are silanised.

Fig. 7 The two components are bonded using a two-component adhesive.

Fig. 8 The bridge is placed in the patient's mouth.



Fig. 7



Fig. 8



Fig. 9

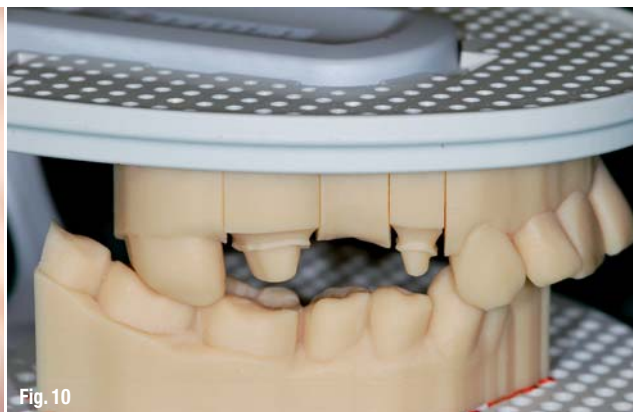


Fig. 10

Fig. 9 The contact check indicates that the bridge has been optimally integrated.

Fig. 10 The DT can order a polymer (SLA) model from infiniDent. This model is based on the digital impression data.

In other words, everyone concentrates on what he or she does best.

Could you give us a specific example of how this division of labour functions?

We use CEREC Connect for the fabrication of all-ceramic bridges using the new multilayer method. In this case, the framework and the veneer facing are milled out of different ceramic materials and then adhesively bonded. I begin by acquiring impressions of the initial situation with the aid of the CEREC Bluecam (Fig. 1). Based on this data, the software generates a virtual model, which I then edit on the monitor. In addition, I enter all the important information for the DT, for example, the preparation margins. This is not an absolute 'must'. However, as I have direct access to the patient and am familiar with his or her dental situation, I can provide valuable assistance to the DT.

I then send the data to the dental laboratory and fill in an electronic order form (Fig. 2). The DT is notified via e-mail that a new order has been received. Based on my data, he then fabricates the restoration (Figs. 3 & 4). The occlusal surfaces and veneer facing are computed using the patient's individual dentition and the patented biogeneric model. The bridge framework and veneer facing are milled out of ceramic blocks. Two to five days later, the finished framework and veneer facing arrive at my dental practice by special delivery. I check the fit in the patient's mouth (Fig. 5), bond the components (Figs. 6 & 7) and then place the restoration (Figs. 8 & 9).

I can rely on receiving very good results, as the DT uses my original data. All potential sources of error in the conventional method are eliminated, for example the conversion from a negative to a positive model and possible damage during transit. All in all, the entire process runs more smoothly.

But surely the dentist requires a model in order to check the occlusion and articulation?

Yes, that is correct, but this does not pose a problem. Via CEREC Connect, the dental laboratory has the option of ordering a model based on the impression data (Fig. 10). Made of a polymer material, this stereolithographic (SLA) model is fabricated within three working days by Sirona's infiniDent central production service. It fulfils exactly the same criteria as a conventional stone model. While waiting for the model to be delivered, the DT can design the restoration framework and veneer facing.

How do dentists and DTs benefit from CEREC Connect?

CEREC Connect speeds up workflow. Digital impression-taking eliminates numerous processing steps and simplifies collaboration between the dentist and DT. Each has access to the same set of data. And each can exploit his special skills and expertise. In this regard, CEREC Connect fosters a productive working relationship between experts. The patient does not have to suffer the discomfort of a conventional impression tray, and the final result is less likely to have errors.

Editorial note: All images courtesy of Loos/Richter.

_about the interviewee

CAD/CAM



Hermann Loos studied dentistry in Jena and Dresden and qualified as a dentist in 1980. He was employed in the town of Gröna in Germany until 1991, where he subsequently set up his own dental practice.

As a stomatology specialist, he has used the CEREC system for the past ten years. He has reported on his experiences of all-ceramic CAD/CAM restorations at conferences in Germany and abroad and has published numerous scientific papers.



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