CEREC News
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Editorial:

Dear Reader,

At IDS 2011 Sirona will present new possibilities for dentists and dental technicians in today's digital age. Streamlined workflows, digital impressions, computer aided fabrication of models and restorations, integrated implant planning with the aid of CBCT and surgical guides – visitors at IDS will be able to experience these innovations first-hand.

Your CEREC Team

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New software enhances ease-of-use

Software is a key component of the CEREC system: it guides the user through the various design steps. In the past designing occlusal surfaces was a lengthy process. Thanks to the new biogeneric software, which automatically reconstructs the original tooth morphology, this now takes only a fraction of the time. Although the capabilities of the CEREC system have been extended, the software is even easier to operate.

The new graphical user interface in Sirona’s forthcoming CEREC SW 4.0 available autumn 2011 visualizes the processing steps – generation of the digital impression, design of the restoration, milling of the ceramic block more clearly than ever before. The photo-realistic visual elements focus on the essentials and ensure optimum ease of use.

This also means that new users can learn the CEREC system even more quickly than in the past and deploy the system effectively in their dental practices.

Digital impressions

Since the launch of the first CEREC CAD/CAM system 25 years ago, dental technology has made significant progress. The spectrum of indications has expanded enormously. New applications are constantly being added. In pursuit of faster, cost-effective and patient-friendly treatment many dental practices now collaborate digitally with dental laboratories. In place of conventional physical impressions, dentists scan the teeth digitally using the CEREC Bluecam camera – a process which Sirona will demonstrate live at IDS.

In addition, Sirona will offer an opportunity for discussion between dental professionals. Thirty experienced CEREC users will be on site, ready to demonstrate the CEREC system and describe the various options open to the user – i.e. the complete fabrication of restorations during a single treatment session (chairside method) and collaboration with external dental laboratories via CEREC Connect (digital impression transfer method).

Integrated Implantology with CEREC and ORTHOPHOS XG 3D

CEREC not only facilitates the fabrication of all-ceramic restorations – it is also synonymous with a holistic dental treatment concept consisting of complementary components that mesh together perfectly and thus permit completely new methods of treatment. One example is "integrated implantology" based on 3D X-ray images and 3D surface data generated by the CEREC system.
Alongside GALILEOS, the premium CBCT system for specialist users, Sirona has now introduced a new multifunctional 3D X-ray system for general practitioners, the ORTHOPHOS XG 3D. This new system paves the way to CBCT-based diagnostics and therapy planning. The user is in a position to select a therapy approach which minimizes risks and delivers maximum comfort and convenience for the patient.

For CEREC users the combination of CAD/CAM and CBCT technology offers a decisive advantage – i.e. the simultaneous surgical and prosthetic planning of implants. Prior to implantation the prosthetic proposal generated by the CEREC system is superimposed on the 3D X-ray volume. In this way the dentist can evaluate the treatment outcome in advance and ensure that the implant corresponds to his or her clinical and aesthetic requirements. This delivers enhanced predictability and reduces the overall number of treatment sessions.

**Flexibility by the production of surgical guides**

After the implant planning process has been completed the dentist has the option of using the available data to generate a surgical guide which precisely defines the depth and alignment of the drill holes. This allows the planned insertion to be realized with optimum precision. As from autumn this year, users will be able to machine surgical guides directly on their CEREC and inLab MC XL milling units. This new in-house solution will speed up the implantation procedure and deliver clear benefits in terms of vertical integration and revenue generation. Importantly, the dentist will no longer have to wait for delivery of the surgical guide from an external source. If required, the dentist can outsource the production of the surgical guide to SICAT in Bonn. The surgical guide is based entirely on the digital impression data acquired on the CEREC system – i.e. there is no need for an X-ray template or stone model. The surgical guide is delivered to the dental practice within a few working days.

**Milling models on the inLab system**

If a dentist does not want to use the chairside method i.e. does not want to mill the restoration directly in the dental practice, he or she can acquire digital impressions and then delegate all the subsequent processing steps to a dental technician. To this end the dentist uploads the virtual model data to the CEREC Connect web portal and fills in a digital order form.

The laboratory workflow has been further improved. At IDS 2011 Sirona will present a new process which allows dental technicians to machine their own working models on their inLab MC XL milling units. This will enable them to fine-tune the restorations more quickly than in the past, ready for shipping to the dentist.

**Frameworks and veneering structures based on a single set of data**

At this year’s IDS Sirona will present a new procedure for fabricating anatomically sized bridges. So far dentists and dental technicians have only been in a position to create frameworks using the inLab software. These then had to be individually veneered or overpressed using the timeconsuming wax-up method. The new multilayer procedure delivers clear efficiency gains. Equipped with patientspecific occlusal surfaces, the bridges consist of two separate components: framework (zirconium oxide) and a veneer facing (feldspar or lithium disilicate).

When it computes the framework the inLab software makes allowance for the specified minimum material thickness of the framework and the veneer and creates a geometry which is free of any undercuts.

**The inFire HTC speed accelerates the sintering process**

CAD/CAM technology speeds up and streamlines the fabrication of dental restorations. This is clearly evident in the new inFire HTC speed furnace, which delivers time savings of up to 75 percent when sintering zirconium oxide frameworks.

This is the direct result of technologically enhanced heating elements, insulation materials and sintering trays. Zirconium oxide restorations with up to five units can be processed in just 90 minutes. A CAD/CAM veneered multilayer bridge can be processed from beginning to end in the course of a single working day.

The built-in timer function allows the sintering process to be performed overnight. Last but not least, the inFire HTC speed achieves enhanced energy efficiency thanks to its significantly reduced heating and cooling times.

With this impressive lineup of new product developments Sirona has further strengthened its reputation as a total-solution provider along the entire CAD/CAM processing chain. This opens up entirely new applications and treatment approaches.
Despite their enhanced capabilities, Sirona's CAD/CAM systems have remained easy to use. The new, intuitive software user interface will enable dentists and dental technicians to perform complex restoration even more effectively than in the past.

As was the case at IDS 2009, shown here, Sirona is well prepared to welcome a flood of visitors...

...50 members of staff and 30 CEREC users will be on hand to help and advise.