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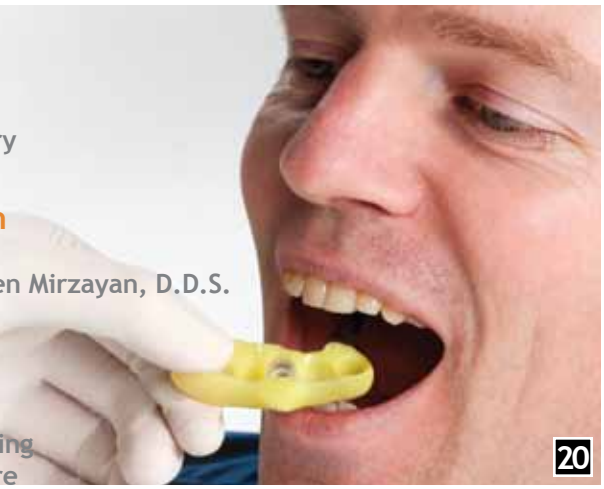

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WHY?

By Mark Fleming, D.D.S.

Recently I had the privilege of sitting in the wonderful Spear workshop, *Facially Generated Treatment Planning*. Even though I have taken this

particular workshop a couple of times and sat in on different segments at other times, I am always exposed to something new that I believe is very important. This time was no different. Dr. Spear showed a video from a TED Conference by Simon Sinek on The Power of Why. In a nutshell, this video points out that any person or organization can explain what they do — and some can explain how they are different or better — but very few can clearly articulate why. Why is the thing that inspires us and those around us.

This started me thinking about this magazine. Why do we publish it? We are into our fourth year now. I went back to our inaugural issue and there I found our why: why we began publishing this magazine. We wanted to provide a resource for CEREC users wanting to go beyond the ordinary and into the extraordinary. Our dream and purpose in publishing the magazine was to help CEREC users get the most from their CEREC experience. We believed that CEREC was and is an advanced technology that will provide dedicated CEREC owners the possibility for technological excellence. We also believed and still do that expertise brings a sense of increased gratitude and goodwill from satisfied patients, creating a more enjoyable and profitable experience for the dentist.

TO HELP CEREC USERS BECOME EXTRAORDINARY. THAT'S WHY

Along those lines, I thought about the upcoming C27 and a half Meeting. Why attend it? I believe it's about community. It's about a group, a LARGE group of like-minded individuals getting together. A group of inspired and motivated people who are proud to be dentists, proud to be part of the dental field. Passionate people who want to connect with others, to learn, to see old friends, to meet new friends and to have fun! Anyone who was at C25 will tell it was an incredible meeting, from the lectures about CEREC, technology and practice management to the social events, entertainment and the great closing party. And I know that Sirona will top that with all that is planned for C27 and a half! So definitely plan to be there.

We believe it's important to stay on top of new techniques, new materials and new technology. That is why Sirona invests heavily in research and development. That is why cerecdoctors.com publishes this magazine, maintains a website that supports all who use this incredible CEREC technology, and constantly strives to improve on what we do. This is our Why, this is what inspires us. We hope our endeavors help inspire you!

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AN EXTRAORDINARY APPROACH TO PATIENT ACCEPTANCE

A Simple Plan for Breaking Through to "Yes"

By Imtiaz Manji

Which experience would you prefer: sitting in a dental chair with your mouth open, or starting up your new iPad for the first time?

This may be the choice many of your patients are making right now. And even though you can point out that it's an unfair comparison — and you'd be right; after all, it's not the experience of sitting in the chair that the patient is paying for, it's the experience of enjoying improved oral health and a rejuvenated smile — dental care is essential in a way that iPads are not. You know that, and some patients realize that too, and behave accordingly.

But many don't. Until something hurts, they see dental care as a choice. And as long as it remains a choice in their minds, you have some work to do to get them to choose dentistry.

IT'S NEVER BEEN EASIER FOR CONSUMERS TO SPEND MONEY

And, as result, it's never been harder to get them to spend it on things that really matter.

Think about all the things that are withdrawn from your account automatically each month: your cell phone payment, your cable and Internet service, and so on. That discretionary money is gone before you even see it. Then there are the "one-click" instant purchases — on-demand movies, iPhone apps and music downloads. You can even buy coffee now by waving your smartphone at a scanner on the counter. A good portion of discretionary income nowadays is gobbled up incrementally and electronically.

Obviously, dentistry isn't a player in this new paradigm of easy spending. Neither does it figure in to the average person's household budget alongside the mortgage or car payment. And as much as we might wish differently, dentistry is seldom seen as a long-term investment on the scale of a home or car purchase.

Significant discretionary dentistry belongs in a different category of spending — the few-hundred to few-thousand dollars category — and this is a very competitive battlefield to fight on. People don't make purchases at this level very often, and when they do it's usually either something they absolutely must do (the water heater or washing machine needs replacing) or something they really want to do (the trip to Mexico or that iPad they've had their eye on).

You have to reach these people, and it won't happen by doing the same old things the same old way. The ordinary approach will always lose to the iPad. So why not try an extraordinary approach?

SHAKE UP EXPECTATIONS

In a dental practice, you count on systems and routines to make things run smoothly. Routines create comfort, a comfort based on predictability and familiarity. That's what routines are for — so you don't have to put fresh thought into a process every time you do it. That's great when it comes to making appointments, but that same familiarity works against you when you want a patient to look past their usual expectations and see the value of what you're presenting.

Patients have become programmed by their expectations. They expect that you and the team will be friendly and encouraging. They expect you to be professional and thorough, and they expect that a simple "no" will end the conversation if they don't want to proceed with what you present. Chances are they have had treatment suggested to them before and they have turned it down. You promised to put a watch on it, and that was that. That's the way the routine goes.

As a dentist, you can develop programmed expectations, too. You've raised the same concerns before many times, with many patients, and heard the same variations of "no" in response many times. It's easy to just forget it and move on to the next patient.

Clearly, if there is going to be a breakthrough in how patients view and value your dentistry, it's going to have to involve a shake-up of their expectations. In other words, if you want patients to invest their discretionary income, you and the team have to be ready to invest your discretionary energy. And doing that is not as hard as you might think.

START WITH TWO A DAY

You obviously can't go to great lengths to break out of the routine with each and every patient. But what if you selected two

Using CEREC to get to "Yes"

Apple is going to sell more than 50 million iPads and more than 100 million iPhones this year. How many will be sold to patients of yours with a diagnosed — but untreated — dental concern? Are you ready to compete at that level?

Imtiaz Manji, along with Spear, is introducing a special event, ***Creating the "Yes" Practice,*** designed for dentists who are serious about competing for discretionary consumer spending and leveraging CEREC opportunities in today's practice. ***Creating the "Yes" Practice*** explains:

- How to align the team around a CEREC-centered vision of success
- How to identify the different types of patients and how practice growth is driven with each type
- How to market your individuality through social media
- How to create the ultimate compelling patient experience

It's all there in one informative, intense and inspiring program for those who insist on being at the forefront of CEREC advancement.

Every patient has a "yes" inside. It's just a matter of finding the way to get to it.

Creating the "Yes" Practice is a one-time-only event in 2012. Go to www.cerecdoctors.com/campus-learning for details.

a day — one in the morning, and one in the afternoon? Use these two patient visits a day to make a conscious, focused effort to shake up your routine and defy their expectations. Choose two patients for whom you develop a comprehensive, personalized game plan. A plan that makes you really stop and think about what it takes to reach them and makes them see your practice in a whole new light. Select two patients each day who are going to experience something extraordinary.

The patients you choose should not be randomly selected; you want to target people who have significant outstanding treatment that you know would make a great difference in their lives if it were completed. Identify these two patients at the morning meeting and have the team work together to gather intelligence, create a profile and develop a strategy. Ask yourself:

- **what do we know about this patient?** How long have they been with us? Have they had any significant changes in their lives recently, such as a change of employment, divorce or marriage? What are their value priorities?
- **what have we said to them in the past?** What treatment did we present, and how? How did they react? What were their reasons for not accepting?
- **what can we do differently?** What will this patient be likely to respondto? What tools do we have (intra-oral camera, imaging, etc.) that we haven't used?

It's important that this be a team activity for two reasons. First of all, it's an opportunity to pool knowledge and ideas so that everyone knows what everyone knows. The other reason is that sometimes the person with the best relationship with the client is not the dentist. Maybe a patient to focus on is one who has not had significant dental work in some time, but who is disciplined about keeping a regular hygiene schedule. Maybe the strategy should be to book some extra time for that patient's next visit so the hygienist can take the time to present a case for ideal care — to say to the patient, "Before you go, there's something I'd like to talk with you about ..."

And that's where CEREC comes in.

THE SEDUCTION OF "NEW"

There is a reason that advertisers have, for generations, been using the phrase "new and improved." It's a natural human instinct to be drawn toward things that are out of the ordinary. "New" captures people's attention. "Improved" justifies their fascination. And CEREC is the greatest "new and improved" breakthrough in dentistry since anesthesia.

If CEREC is a fairly recent acquisition in your practice, you need to be enthusiastically and systematically promoting its virtues to all your patients. But that goes double for the patients you have singled out for special attention each day. And even if CEREC is not that new to your practice, how many of these routine-fogged patients really understand what it is you can offer with this technology?

So, once you have reviewed their history and discussed their opportunities, take them on a tour. Showcase the CEREC system, and walk them through its advantages. Explain to them what it can do, how quickly it can be done, the exceptional quality of the restorations, and how much it easier and more convenient it is for them. This is your chance to break through that routine complacency and demonstrate that what you do deserves consideration alongside the other discretionary purchases they make. You're saying that you understand that they have a choice, and that you respect that enough to take the time to show them the value of choosing dentistry.

You can also demonstrate that you respect their time enough to be able to offer to do the treatment right there, right now. (That's why, whenever possible, you do this with appointments right before lunch or at the end of the day, when you have the flexibility to go long.) The speed and convenience of CEREC are among its greatest selling points from a patient perspective, so use that advantage to its fullest. "We can do it right now" is a powerful motivator of action.

They're still not going to say yes every time, but no matter what the immediate result, you can be assured they will walk out with a renewed appreciation for what you do. They will realize that what they just experienced was no ordinary dental visit, and that you are no ordinary dentist.

That's how the path to "yes" begins.

You'll find more about building a unique client profile in Imtiaz's video tutorial, Creating 1-on-1 Patient Value, part of our "CEREC Advantage" series of online courses at cerecdoctors.com.

CREATING A FOUR-TOOTH QUADRANT WITH CEREC 4.0 SOFTWARE

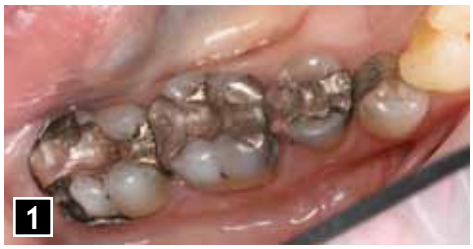
By Gary Torres, D.D.S.

The CEREC 4.0 software is a major step forward in the evolution of CAD/CAM dentistry. The features of the software allow the clinician to tackle large multi-unit cases with ease. Twenty-seven years in the making, the software is an evolution of years of experience and design from the engineering team at Sirona.

Initial versions of the software were based on MS-DOS and were limited in scope. The user had to use a 2-D screen shot and extrapolate a 3-D visualization of the desired preparation and final result. Users were also limited to treating only a single tooth that was to be treated with one partial-coverage restoration at a time. Full-coverage crowns, let alone multiple full-coverage crowns, were simply not possible.

With each evolution of the software, engineers put more and more features and capabilities into the program, allowing the doctors to treat additional clinical scenarios above and beyond partial-coverage restorations. Users were able to design crowns, bridges, veneers and more. Multiple units could also be treated with the "Virtual Seat" technique, where one restoration was seated virtually while the next was designed.

While all these enhancements were welcomed by users, what they wanted most was the ability to design multiple restorations. With the 4.0 software, desire became a reality. 4.0 allows clinicians to work on an unlimited number of teeth simultaneously. Whether it's a quadrant of amalgams to be replaced, or a set of anterior veneers for esthetic enhancement, 4.0 allows the user to image, design and manipulate multiple teeth at once.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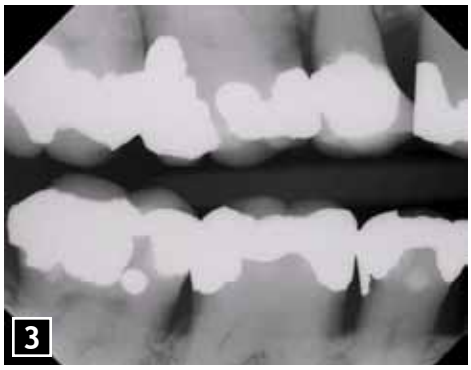
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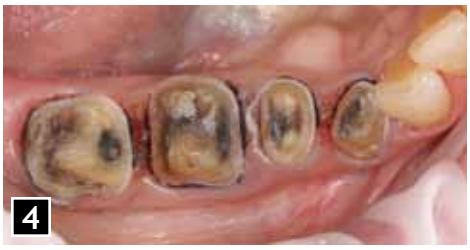
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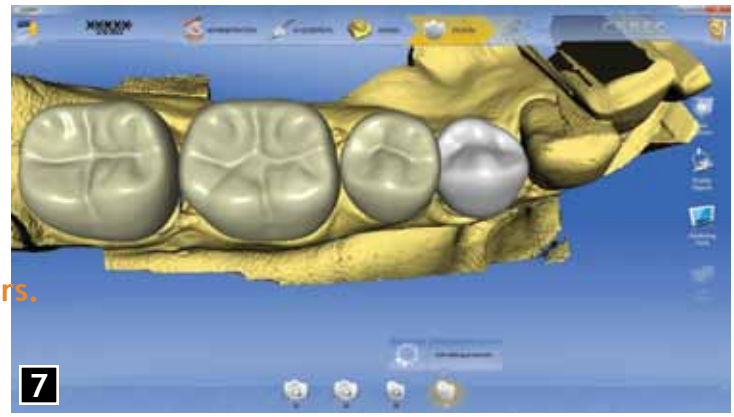
CASE STUDY

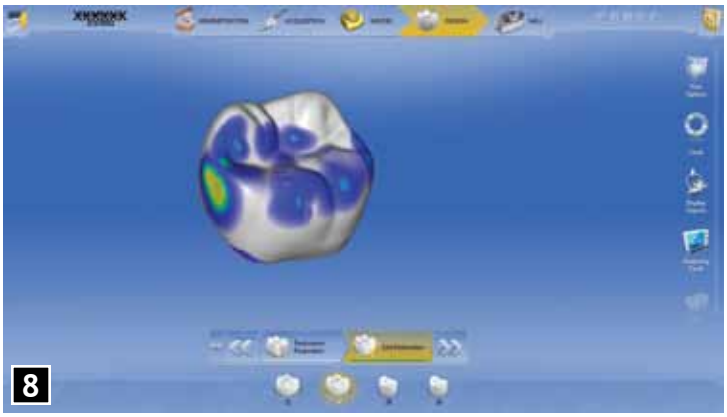
A 76-year-old female presented with large failing amalgam restorations on teeth #28, #29, #30 and #31 (Fig. 1). Tooth #31 had a broken DB cusp. Other than the sharp edge on #31, the teeth were asymptomatic. Radiographically, the teeth showed recurrent decay as well as large, multi-surface amalgams (Figs. 2 and 3).

The decision was made to prepare teeth #28-31 for full coverage e.max crowns. This material was selected due to its excellent esthetics, durability and strength. Local anesthetic (Septocaine) was applied and the teeth were prepared for full-coverage restorations using a combination of coarse, medium and fine diamonds (Fig. 4).

While every attempt was made to keep the preparations supragingival, invariably certain parts of the prep did go subgingival. Gingival retraction was accomplished with a two-cord technique. Size 00 and 2 cords were soaked in an aluminum chloride solution, and both cords were placed using an instrument. Once the tissue was allowed to retract, the teeth were powdered using the Sirona Optispray and the size 2 cord was removed, leaving the 00 in place and the teeth were imaged. The 00 cord was allowed to be left in place until after cementation.

A full quadrant of the lower arch, as well as the opposing teeth and a buccal bite were captured with the CEREC



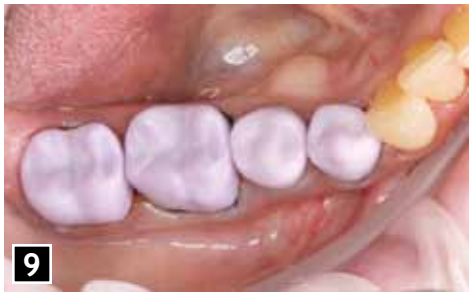


Bluecam and the software created a virtual model (Fig. 5). The design method using CEREC version 4.02 was Biogeneric individual with buccal bite articulation.

Margins were drawn on all four preparations and the insertion axis for each was designated (Fig. 6). The insertion axis position is critical at this stage in order to achieve good initial proposals. All four preparations had approximately the same orientation of the model as the preps had a common path of draw. With multiple restorations, the clinician should attempt to always create preparations that draw to minimize issues that might occur with multiple paths of draw. The more parallel the preparations, the fewer issues with adjustments the clinician experiences.

Once the preparations were marginated, the four restorations were calculated simultaneously for the initial proposals (Fig. 7). The contacts and occlusion were then refined prior to milling (Fig. 8).

The restoration for #28 was completely designed and sent to the milling chamber before any refinements were done to the other crowns. Once the crown started milling, the other designs were completed and ready to mill. Subsequent crowns were milled in order from #28 to #31. Due to the fact that the proposals were quick to design, the limiting factor was the milling unit in the design process. Each restoration was milled one at a time in the MC XL milling unit; approximately 30 minutes later, the restorations were milled and ready for try-in.



All four of the e.max crowns were milled and tried in (Fig. 9). Usually there is the need for minor adjustment of the contacts to get all the restorations to seat together, but in this case they all fully seated without any need for adjustment. The contacts all had a snap fit and the only occlusal adjustment made at this phase was a slight adjustment on the MB cusp of #30.

The e.max blocks chosen were LT A3 for #28 and #29, and LT A3.5 for #30 and #31. The restorations were then cleaned, stained and glazed. The e.max stains and glaze paste for IPS e.max were used and the crowns were fired on the e.max crystallization tray (Fig. 10). Once the restorations were crystallized, they were prepared for bonding by etching the internal surface with HF

acid for 20 seconds. It's imperative that e.max is not over-etched, as this can cause unnecessary crack propagation and a weakened restoration. Silane (Kerr Silane Primer) was applied to the internal of the restorations after etching to enhance the bond between porcelain and the resin cement (Fig. 11).

The crowns were cemented using Kerr NX3 and XTR bonding agent. All excess cement was removed and the occlusion was checked again. The entire procedure took approximately three hours and the patient was very pleased to have all this done in a single appointment. The immediate postoperative view showed restorations that blended in the archform and restored the function and structure of the teeth that were worked on (Fig. 12). The two-week postoperative view shows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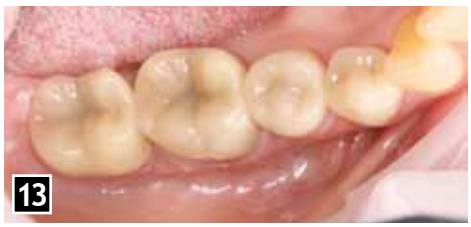
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tissue that is healed and healthy, and by attempting to keep all the margins supragingival, we are able to provide the patient with biologically friendly restorations (Fig. 13).

This was a great example of how the new 4.0 software allows us to fabricate multiple restorations simultaneously with confidence and accuracy in a single visit. The 4.0 software is the most advanced chairside CAD/CAM software available and sets the bar for all other systems. While 4.0 is exciting for the CEREC clinician, one can only imagine what future versions of this platform will be able to accomplish.

For questions and additional information, Dr. Torres can be reached at garyshooter@cfl.rr.com.

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CASE STUDY

ANTERIOR RECONSTRUCTION USING THE "SARMEN" TECHNIQUE

By Dan Reardon, D.D.S.

Often, offices that incorporate CEREC in to their daily practice fail to fully utilize the capabilities that the system can offer when integrated completely.

Single-tooth dentistry has been performed successfully for more than 27 years with the CEREC system. Pioneers were able to use creative techniques to restore multiple teeth with the early versions of the software. Now, utilizing the new 4.0 software, users can work on multiple teeth simultaneously with ease (Fig. 1).

Despite the evolution of the software and its ability to now manage and manipulate an unlimited number of teeth, the limiting factor for the system is, and always has been, the milling unit. While you can easily design six anterior restorations at once, you have to mill them one restoration at a time.

Given that in every dental office the amount of time a procedure takes is directly correlated to that office's profitability, the bottleneck at the milling unit can have a significant impact on scheduling and production.

Ideally, there should be a way to leverage your milling time versus your prep time; meaning, while you are prepping one tooth, another one is milling. This technique, called the "SArmen" technique, is taught at the CEREC courses at Scottsdale Center for Dentistry.

This article will explore a clinical case using the SArmen technique and will discuss the clinical situations in which the technique can be valuable and save time for the clinician.

While the concept of the SArmen technique is to leverage your prep and mill time instead of treating all restorations simultaneously, we don't discard the basic premise of treating anterior teeth with the CEREC, which is to test drive each case with a proper mock-up.


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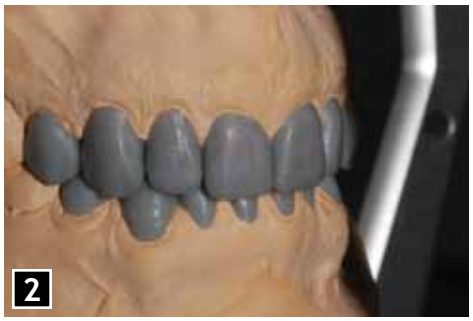
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Every anterior case should have a proper wax-up that will allow the clinician to test drive the case by transferring the wax-up to the patient's mouth. A competent lab such as The Winter Laboratory in Laguna Beach, Calif., can create esthetic and functional wax-ups for the CEREC clinician (Fig. 2). Once this wax-up is completed and transferred to the mouth, this serves as a template for the final restorations. Biocopy is currently the most predictable solution to treat multiple anterior restorations, and this wax-up is critical to determine whether the case will be a success or not. If the majority of your time is spent in a proper wax-up and transfer of the information, very little machine effort is required to actually manipulate the case in the software. In fact, I will be as bold as to say that you can have the world's greatest software but if you don't follow the principles of esthetic dentistry, the case will be an esthetic failure.

After the case is transferred to the patient's mouth utilizing bisacryl composite as a provisional, the patient can evaluate the case for esthetics, function, phonetics and any other criteria. Whether the teeth are too large or too small, whether the teeth need to have different contours or whether you want to make any other modifications, all depends on this step. Get the mock- up in the mouth correct and you will have a successful case. If you don't take the time during the mock-up to get it right, and instead rely on manipulating with the software, you will be headed for a long appointment and less-than-ideal results.

As good as the CEREC 4.0 software is, and as many tools as there are that allow you to manipulate the design, the software cannot project how the final restorations will look in the mouth no matter how advanced it is. This still needs to be done the old-fashioned way.

After the patient evaluates the mock-up in the mouth, the next step is to get

their approval on whether they like the way their teeth look. It may take a few minutes for the patient to decide they love their teeth. Alternately, you can choose to send the patient home with the mock up in the mouth and wait a few days or a few weeks, depending on the complexity of the changes required. Regardless, the patient should be absolutely thrilled with the esthetics in the mouth.

After the patient's approval, the decision is made on which technique to use with regard to treating the teeth. If the case is to be done in a single visit for maximum efficiency, the decision can be made to use the SArmen technique for its competence.

As mentioned, the premise behind the SArmen technique is to leverage your prep time and your mill time. This means that while one restoration is in the milling chamber, the next restoration is being worked on in the mouth. To only work on one tooth at a time might sound counterintuitive, considering that with the 4.0 software we have the ability to work on multiple teeth at once, but the sheer efficiency of the SArmen Technique merits that it's a tool to have in your CEREC restorative tool belt.

CLINICAL EXAMPLE

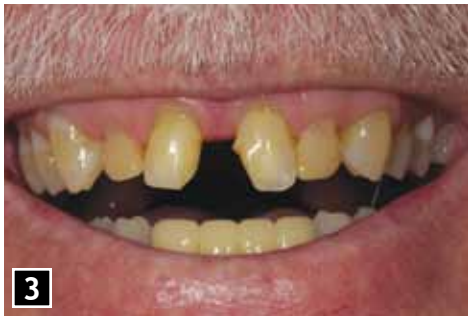
A 63-year-old male with significant diastema presented to the office for an esthetic consult (Fig. 3). He had an approximate 4 mm diastema between the two central incisors (Fig. 4). After determining the ideal esthetic position size and angulation, it was decided that orthodontics would be necessary prior to any restorative work on the anterior teeth.

The patient, however, was not interested in orthodontics and so was educated about the complications and outcomes without orthodontic treatment prior to restoring the case. Regardless, he refused any orthodontic treatment completely. Therefore, the lab completed the wax-up and provided the relined SilTech provisional matrix to aid in fabrication of the provisionals in the mouth wax-up (Fig. 6).

The patient was anesthetized with Septocaine. The anterior six teeth were prepped for full-coverage restorations to allow the ceramic proper contours as well as to allow for the change of size and shape of the teeth. Wherever possible, the preparations were kept supragingival (Fig. 7).

By placing bisacryl in the putty matrix, the wax-up was transferred to the patient's mouth (Fig. 8). This allows the patient to preview the final results prior to making the restorations in ceramic. Any modifications that may be needed should be completed on the mock-up instead of trying to manipulate those changes with the software, as with the mock-up will be easier, faster and more predictable.

Now utilizing the SArmen technique, the case is started. Typically, the goal is to prep a few teeth at a time instead of the entire case to allow for simplified imaging, design and milling. By leveraging prep time with mill time, the clinician is able to complete the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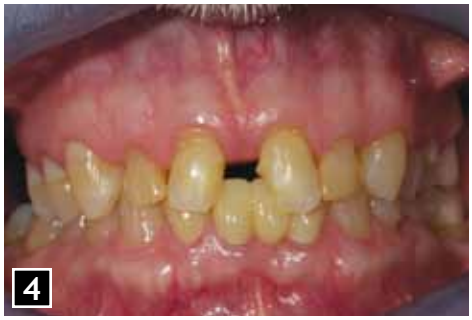
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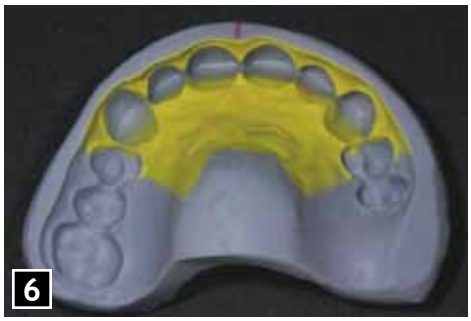
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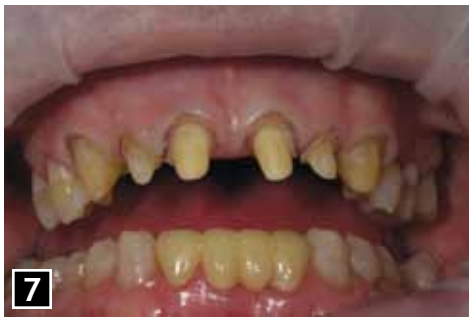
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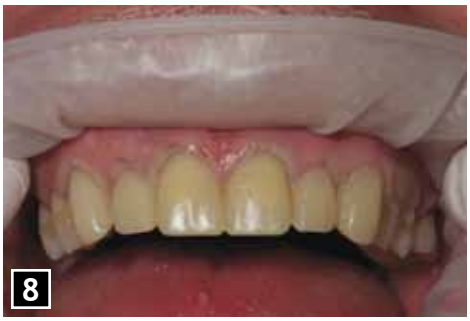
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case faster (Fig. 9). So, while one set of teeth are being prepped in the mouth, another set are milling. Another group of teeth might be being stained and glazed in the lab by a team member (Fig. 10). The fundamental principle in doing the SArmen technique for these types of cases is that there is always something happening, and no down time. So, when you decide to use this technique, be sure to use it when there are no other distractions in the office such as hygiene checks, emergencies, etc.

Finally, after all teeth have been stained and glazed, they can be bonded in together. The restorations were etched with 5% HF acid for 20 seconds, and silane was applied to the internal surface of the porcelain. RelyX Veneer (translucent) cement was used here with Optibond Solo Plus bonding agent to allow for maximum adhesion of the porcelain to the tooth. Final occlusal adjustments were made and the lingual surfaces were polished. Because the final restorations were made using the Biocopy technique, copying the mock-up in the mouth ensured the adjustments would be minimal (Figs. 11 and 12).

The immediate post-operative photo shows that the diastema was able to be closed. A slight space remained in the gingival embrasure between the two central incisors due to the large space that had to be closed for the case (Fig. 13). The patient was aware of this possible complication. A retracted view showed well-integrated restorations that dramatically changed the appearance of the teeth (Fig. 14). The final smile showed a patient whose entire personality was changed by enhancing the appearance of the dentition (Fig. 15).

By utilizing a technique that allows the clinician to leverage their prep and mill time, a multi-unit anterior case such as the one shown here can easily be accomplished in one afternoon. This is not to say that every case should be treated this way. The CEREC 4.0 software is robust and powerful enough to allow for treatment of multiple restorations simultaneously. The technique that the clinician uses will depend on the clinical situation as well as the scheduling for that day.

Used properly, CEREC restorations are a great tool to have in your restorative tool belt whether you are treating one tooth or 10. By understanding the software, and getting advanced training on how to use it properly, the CEREC system can be more than just a single-tooth solution in your office.


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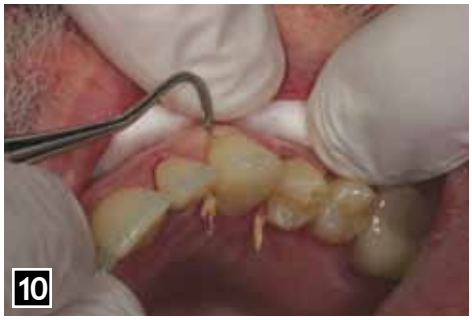
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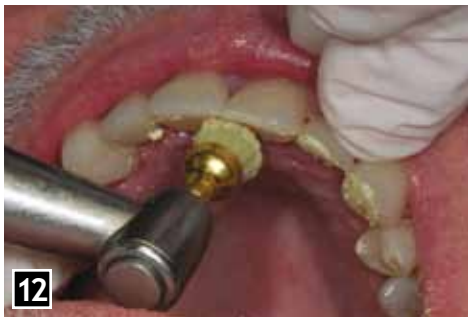
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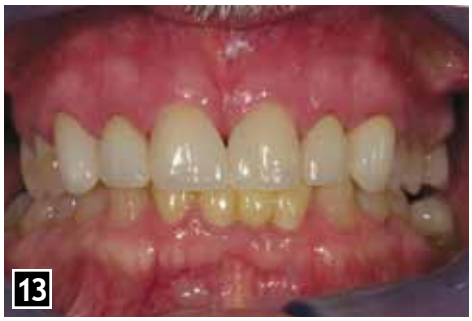
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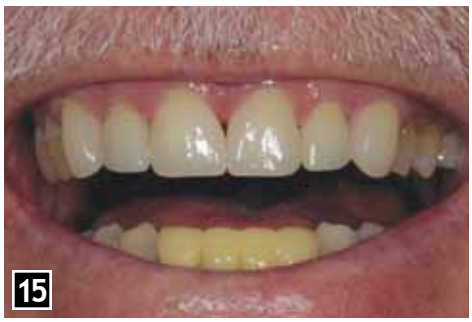
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THE DIGITAL FRONTIER

By Armen Mirzayan, M.A., D.D.S.

My wife and I met in dental school and started a practice together more than a decade ago. Over time, we have essentially developed two separate practices at the same location. She mainly focuses on orthodontics and my passion is CEREC and guided implant placements. Often times, we have the opportunity to collaborate on cases and frequently refer patients to each other for a team approach.

This particular case features the collaboration of digital dentistry and the new frontier in our profession. A patient with a long-standing crown presented for a cosmetic consult (Fig. 1) a few years prior to definitive treatment. Over that course of time all the treatment options were presented and the patient ultimately chose to close the diastema and address only the left central incisor. Fortunately, the patient had three previous attempts at closing the space with previous crowns leading to less than desired results, which made case acceptance with the combined approach much easier.

At the initial restorative appointment, the crown was removed and a new CEREC was fabricated with the attachment for the clear retainers built into the crown (Fig. 2). The temporary was then bonded into place (Fig. 3) and the Invisalign therapy was started by Dr. Jean Lee-Mirzayan. Over the course of approximately seven months, the central insicor was moved to close the diastema (Figs. 4 and 5). The initial crown was deliberately designed to mimic the exact mesio-distal dimension of the right central incisor.

After orthodontic alignment was completed, the temporary crown (Fig. 6) was replaced in a single appointment. The shade match was made with the Vita Easy Shade electronic system and verified with the CEREC block intraorally (Fig. 7). The temporary ceramic crown was removed and the preparation was modified. A soft tissue laser (SIrolase) was used to sculpt the tissue of both centrals


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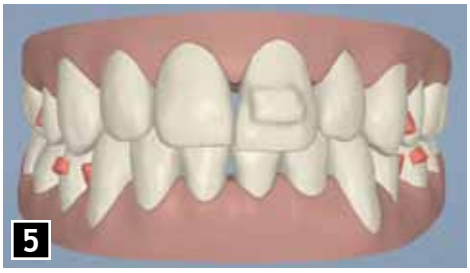
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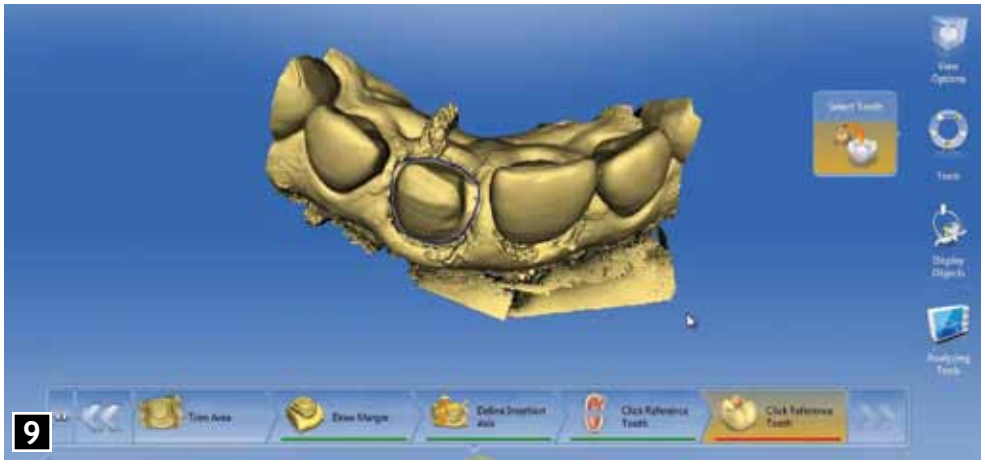

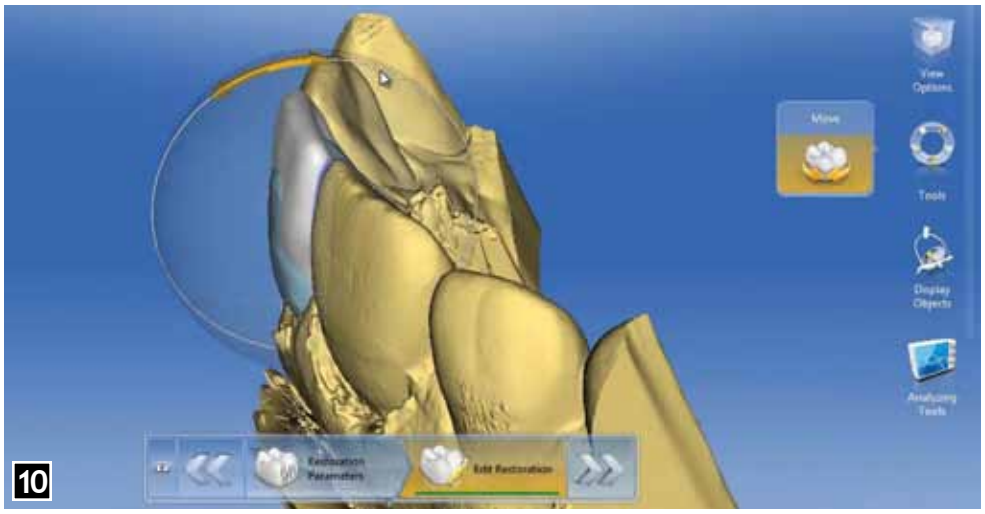

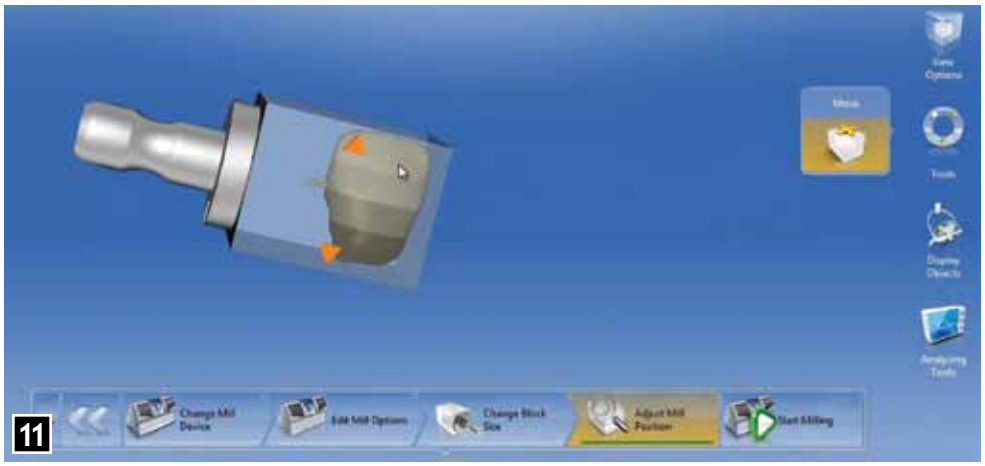

to establish an appropriate gingival zenith. The tissue was then retracted with cord around the preparation and the preparation was masked out by bleach shade flowable resin (Variolink). The preparation was opaqued with Optispray (Fig. 8) and the optica impression was taken.

CEREC has a design feature named Biogeneric Reference (Fig. 9) where you can mirror the neighboring tooth for your proposals. The opposing arch was imaged along with the buccal bite to relate the arches and derive the appropriate occlusal scheme. Once the restoration was proposed, minor editing was done using the rotate and position tool (Fig. 10) first to align the restoration in the arch form. The restoration was then properly placed in the multilayered block (Trilux Forte 1m2c shade, Fig. 11) and was subsequently milled in about 10 minutes.

At try-in the contacts were verified and the incisal edge was modified to mimic the right central incisor (Fig. 12). The restoration was then bonded into place making sure proper isolation and hemostasis was achieved (Fig. 13). Once the adjacent teeth were rehydrated and the patient presented for one week post-op (Fig. 14), the restoration blended into the arch and was undetectable to the satisfaction of the patient. At this appointment, a new impression was taken and retainers were fabricated, making sure to place the finish line of the retainer flush to the cervical gingiva.

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CEREC GUIDE
A NEW OPTION FOR IMPLANT SURGERY

BY SAMEER PURI, D.D.S., AND ARMEN MIRZAYAN, D.D.S.

PART 1 | As the CEREC system has evolved, the indications for its use are ever-growing. No longer can we say that the CEREC technology is used simply for the fabrication of inlays, onlays and crowns. While this was the case with early versions of the system, when used properly, CEREC can now also be used for a large number of other chairside restorative solutions including bridges, implant restorations, anterior crowns and veneers, to just name a few.

In addition to restorative work, with the introduction of the Sirona GALILEOS cone beam system and the XG 3D, CEREC users have the ability to treatment plan their implant surgeries. The traditional method of simply placing implants where there is sufficient bone no longer applies. By using the data from the CEREC and GALILEOS, the position of the implant can be based on the final restoration and not on the limitations of the bone. Implant dentistry has become truly a restoratively driven procedure with this integration.

Users are able to marry the restorative information created from the CEREC system with the radiographic data created from the GALILEOS and XG 3D to plan their implant surgeries (Fig. 1). From this information, users can order a surgical guide and perform guided-implant surgery.

Guided surgery is the process by which a surgical guide is used with keys of increasing diameter to determine the final placement of the implant. The surgical guide contains a hole, which represents the implant position in the bone. The keys fit into the surgical guide and they guide the implant drill to the proper position and size in order to create the osteotomy (Fig. 2).

Each set of keys corresponds to the various-sized implant drills that are supplied with the different implant systems. The clinician starts with the smallest implant drill, typically a 2 mm twist drill, to start the osteotomy, which fits into the correspondingly sized implant key of 2 mm. Then the progressively larger drills with their corresponding keys are used to enlarge the osteotomy to receive the implant. The size and position of the

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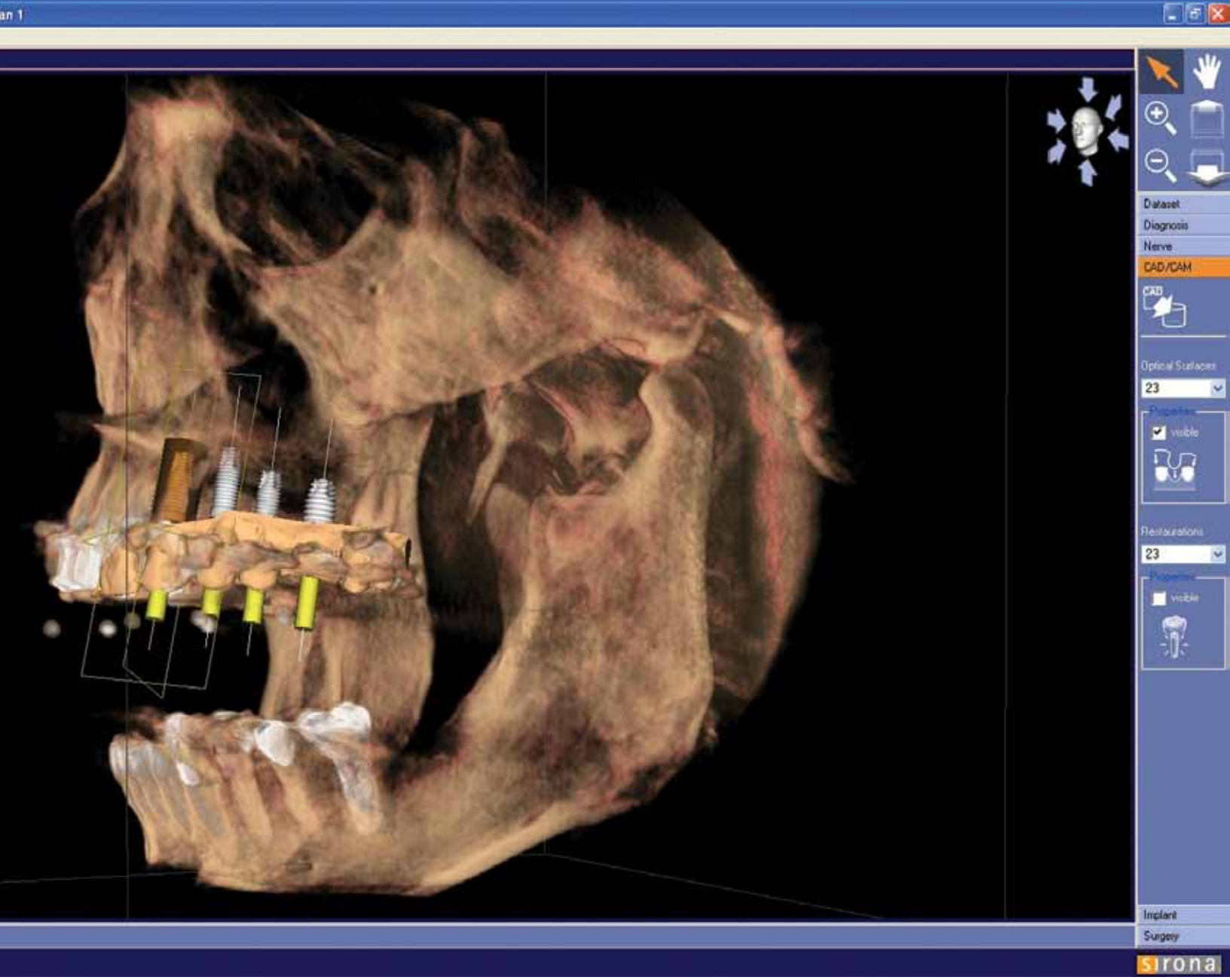

osteotomy is based on the integration of the restoration proposal in the CEREC with the GALILEOS or XG 3D data. In a word, guided surgery allows the clinician to place the implant exactly where it was planned by using the CEREC proposal as the template for the final restoration.

While innovative, this process of creating a surgical guide based on the restorative outcome still required multiple visits. The first visit was to scan the patient with the CEREC and obtain a proposal. The patient was then scanned in the GALILEOS or XG3D and radiographic data was obtained. After exporting the proposal from the CEREC into the radiographic data and marrying it together, the position of the implant could be determined. The data was then sent to Sirona for fabrication of the surgical guide and, approximately one week later, the office received the surgical guide and surgery could commence.

While the surgical guide is no doubt helpful to the clinician for planning purposes, for routine cases some clinicians felt that the steps to make a surgical guide were unnecessary due to the supposed ease of the case. While it's clear that the surgical guides aid in proper implant placement and minimize many potential risks of surgery, underutilization by the masses for routine cases was noted. The CEREC Guide may be the answer to this, as it allows the clinician to fabricate the surgical guide chairside in one visit – similar to the other restorative procedures performed by the CEREC. This simple procedure to create a guide could

well prompt clinicians to utilize surgical guides in more cases thereby offering improved patient care and minimizing potential problems.

Due to detailed patents, the integration of the CAD/CAM data with the cone beam data and the production of a surgical guide can only be done with the CEREC and GALILEOS or CEREC and XG 3D systems. As you can imagine, the benefits of these patents allow for the CEREC clinician to diagnose needed treatment, acquire the necessary scans and fabricate the surgical guide — all in one visit. This allows the patient to have the opportunity to receive the implant and have the surgery performed at their initial visit, minimizing not only treatment time but also associated costs. The clinician does not have to send the case to the laboratory or outside to fabricate the restoration. The CEREC guide can be milled using the CEREC software and the MC XL milling unit.

PROCEDURE

The key to creating the surgical guide is to transfer the position of the missing tooth to the radiographic cone beam data. To do this, specialized X-ray aids are used to indicate the placement of the missing tooth and the patient is scanned in the cone beam with the X-ray aid in place. These X-ray aids come in three sizes (small, medium and large), and come with a corresponding acrylic block from which the actual surgical guide is milled (Fig. 3).

To fabricate the CEREC guide chairside, the following steps are completed. The first step is to take temperature-sensitive thermoplastic resin and mold it to the model of the teeth. The approved procedure by Sirona is to do this on a model of the teeth (Fig. 4).

The radiographic X-ray aid is embedded into the resin mold in the position of the missing tooth, while the material is still soft (Fig. 5). Since the X-ray aid is placed in the edentulous area, it will represent the restoration to restore the edentulous area in the patient's mouth. Once the resin hardens, the radiographic X-ray aid is embedded into the resin and can now be accurately used as a radiographic marker when the cone beam is taken (Fig. 6).

The stent is then taken to the patient's mouth and the patient is scanned with the surgical guide and the embedded marker (Fig. 7). After the scan, the radiographic marker clearly is shown in the 3-D scan of the patient's mouth (Fig. 8).

Because the radiographic marker is used in place of the CEREC proposal as in the traditional method, the ability to correctly position the implant is greatly enhanced. The integrated implant-planning software is part of GALILEOS and the software allows for simple implant planning with no need to export the dicom data to a third-party software.

After the implant planning is complete, this data is now transferred back to the CEREC (Fig. 9), and with the 4.0.2 CEREC software an acrylic insert is milled by the MC XL milling unit (Figs. 10 and 11). This acrylic insert is what will be used to perform guided surgery for the patient as it contains a pre-drilled hole where the surgical keys can be placed. The X-ray aid is removed from the surgical stent (Fig. 12) and the acrylic insert is placed into the surgical guide (Figs. 13 and 14).

With the acrylic insert in place, the pre-drilled hole can accept the surgical keys that will guide the implant drill to the proper spot (Fig. 15). The keys are specific to each implant system and can be reused for each additional surgery. The key is placed into the surgical guide and, depending on the implant system,


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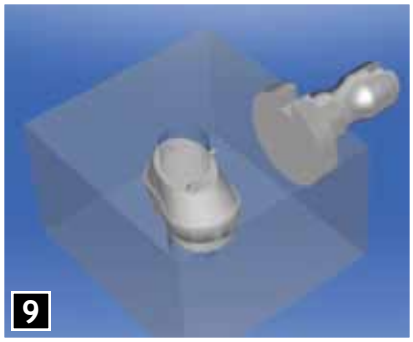
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each key gets progressively larger and allows the implant drill sequence to be followed for the proper placement of the implant itself (Fig. 16).

We hope that this preview will give you a sneak peek into the upcoming CEREC Guide. The blocks and X-ray aids will be available in summer of 2012. In our next issue of cerecdoctors.com magazine, we will feature an actual surgical case performed with the CEREC Guide. No doubt this is a step forward for all CEREC users who are involved in implant surgery. The ability to fabricate surgical guides further opens the possibilities for CEREC users to be able to perform more procedures with their systems.

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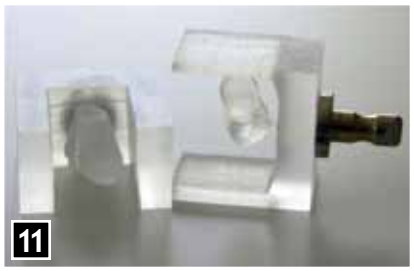
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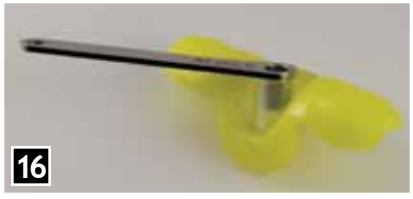
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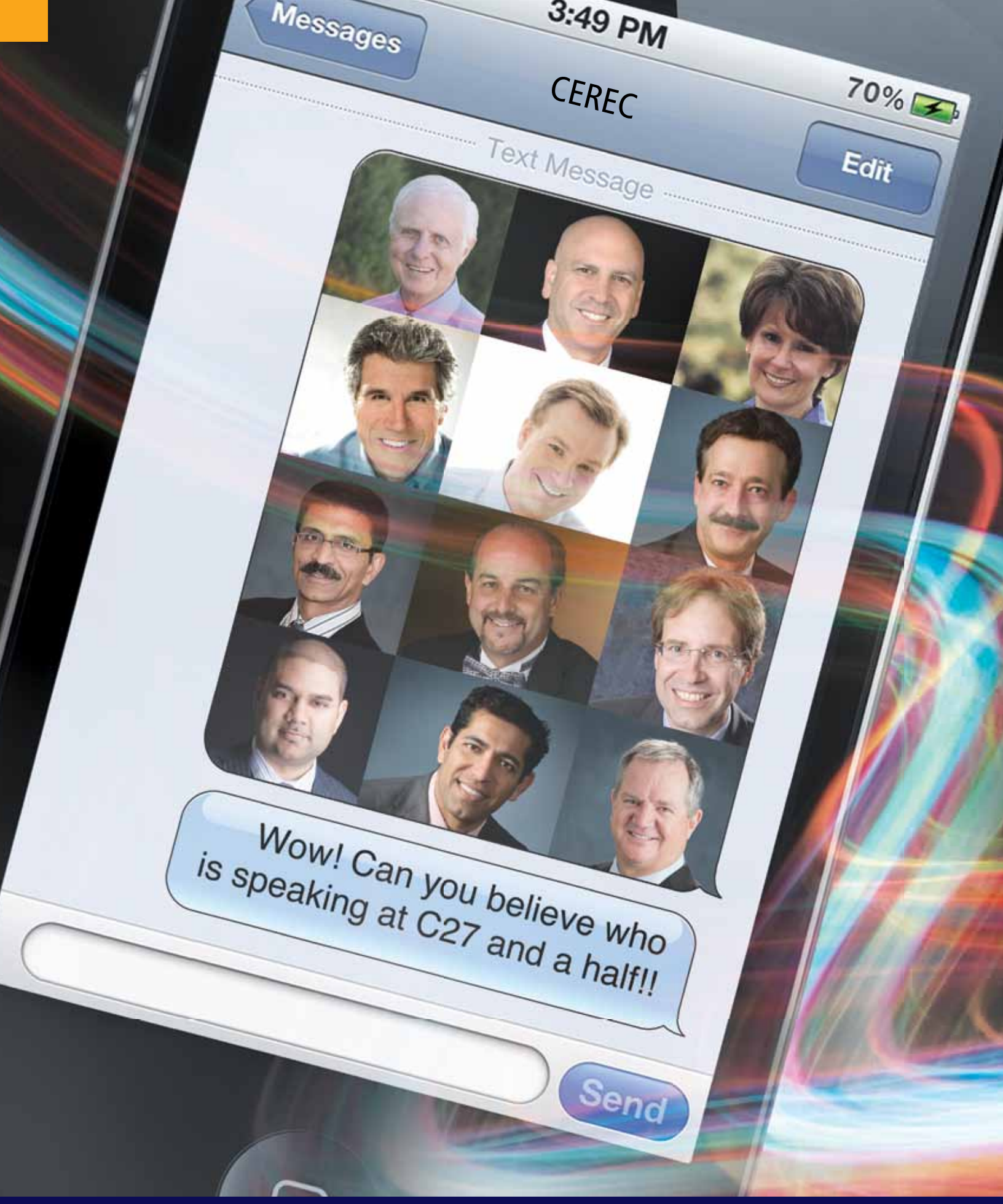
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NEW RELEASES FROM SIRONA

CEREC Guide, inLab SW 4.0, CEREC Connect 4.1, MCXL Practice Lab — and 2012 just kicked off!

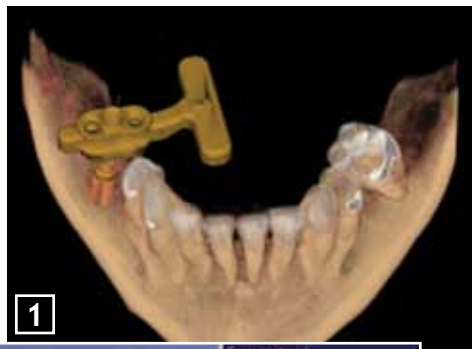
By Ingo Zimmer

A surgical guide for single-visit implantology. A brand new version of our CAD/CAM software for laboratories. New CEREC Connect software with a redesigned Sirona connect portal and a CEREC MCXL version specifically made for practice labs. These are the CAD/CAM product highlights Sirona recently launched.

CEREC GUIDE

The integration of Sirona 3-D cone beam data with CEREC restoration data in order to plan the implant, design and fabricate the custom abutment and final prosthetic was truly a breakthrough in CAD/CAM dentistry. With the SICAT Optiguide it is even possible to order a surgical guide based on the optical impression made with the CEREC acquisition system. And now Sirona is taking it to the next level - a chairside fabricated surgical guide. CEREC Guide allows for a simple and safe start into the field of implantology.

The process to create the CEREC guide is quick and easy: A thermoplastic material is heated up and placed over the interdental space and the adjacent teeth. While the material is soft, a so-called X-ray aid is placed at the implant position. After the thermoplastic material has cured, the 3-D cone beam scan is performed. The implant-planning software detects the X-ray aid and creates a three-dimensional representation of it (Fig. 1). Now the implant and the surgical guide can be planned in the software (Fig. 2). After transferring the custom-designed surgical guide into the CEREC software it can be milled with the MCXL milling unit. (Fig. 3) The CEREC Guide supports implants from various implant manufacturers and works with tooth-supported surgical guides as well as established, fully-guided surgical systems.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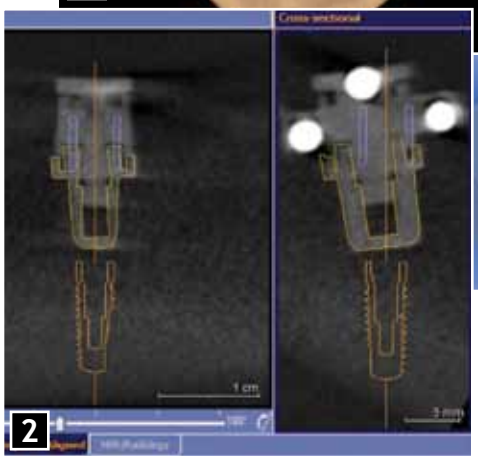
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With CEREC Guide, Sirona completes the spectrum of choices for producing surgical guides. Whether the SICAT Classic Guide, the SICAT Optiguide or now the CEREC Guide. The practitioner has the choice. Only Sirona provides the option to produce a surgical guide based on 3D cone beam scans and digital impressions.

CEREC MCXL PRACTICE LAB

Specifically designed for in-office labs, Sirona now offers the new CEREC MCXL Practice Lab milling unit. This unit has four motors, which means an increased range of materials and indications. (Fig. 4) Coupled with the CEREC SW 4.0 and inLab SW 4.0, the CEREC MCXL Practice Lab milling unit adds the capabilities to mill models, custom abutments, multi-


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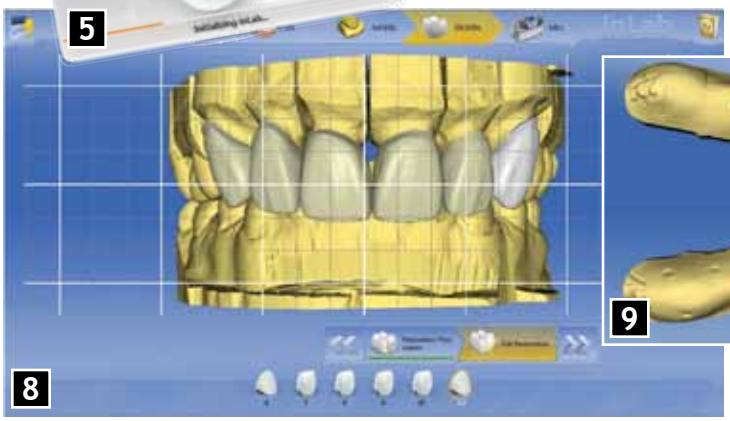
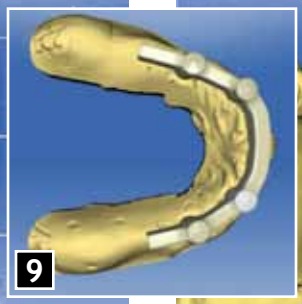
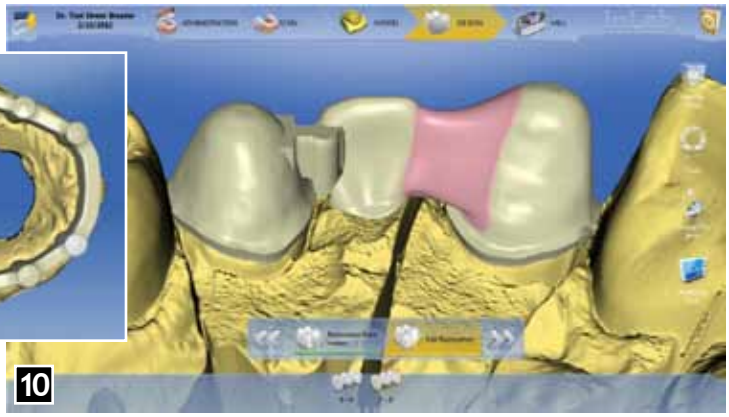






layer design restorations and even inCoris TZI full-contour crowns and bridges.

INLAB SW 4.0

With the introduction of the CEREC SW 4.0 Sirona launched a new software generation. The software was built on an entirely new platform and completely redesigned. Based on this new platform, Sirona has launched a new version of our CAD/CAM software for laboratories - inLab SW 4.0. It's the most intuitive, powerful and versatile inLab software ever (Fig. 5).

A new graphical interface guides the user through the design process. Multiple restoration design allows working on different restorations - in both jaws - at the same time. New design tools working directly on the virtual restoration for a fast, intuitive and effective design. The software also supports the widest range of indications. Full contour restorations (Fig. 6), copings, frameworks, customized implant abutments (Fig. 7), smile design (Fig. 8), diagnostic wax-up, cutbacks, bars (Fig. 9), telescopes and attachments (Fig. 10) are just a few highlights. The new inLab SW 4.0 is truly the most powerful CAD/CAM software Sirona ever made.

CEREC CONNECT SW 4.1

Sending a digital impression with CEREC Connect is faster, easier and more precise than a traditional impression. And it gives both the dentist and the lab the opportunity to evaluate the data while the patient is still in the chair. The new CEREC Connect SW 4.1 supports multiple restorations in both arches (Fig. 11) and allows the dentist to add multiple image catalogs when taking the optical impression. This, for example, gives the option to take images from the pre-op situation. Another highlight is a completely redesigned Sirona Connect portal. The portal is the digital cloud transferring the digital impressions between the dentist and the lab. The portal has a new graphical interface and makes the process of sending cases from the dentist to the lab even faster and easier. (Fig. 12) The new Sirona Connect portal is built in the latest software releases for CEREC Connect 4.1 and inLab SW 4.0.

GETTING TO KNOW CEREC INLAB 4.0

By Mike Skramstad, D.D.S.

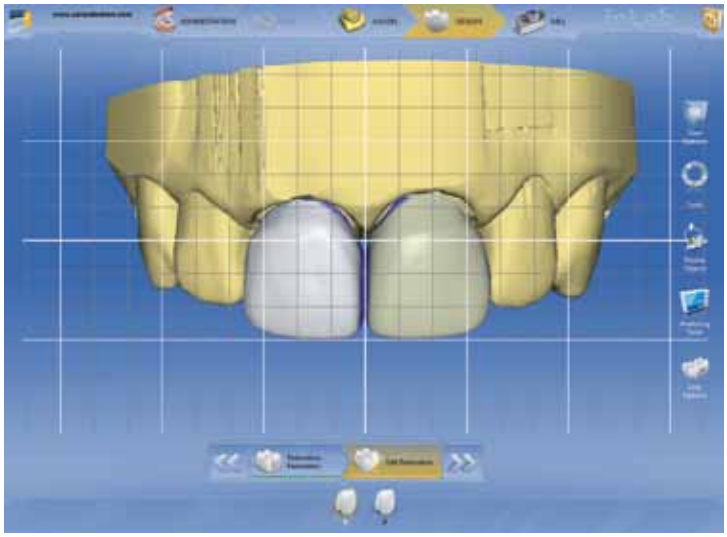
The introduction of the 4.0 software allowed CEREC users to experience an entirely new interface with which to design their restorations. New features and tools allowed users to completely change their workflow and increase the indications of the system.

Laboratory users can now experience the same with the recent introduction of the inLab software. Users can make use of new features in an interface similar to the chairside software but with expanded capabilities. Not only can users design single and multiple restorations, they can also design bridges, frameworks, implant abutments, stack mills as well as create telescopic crowns and implant bars.

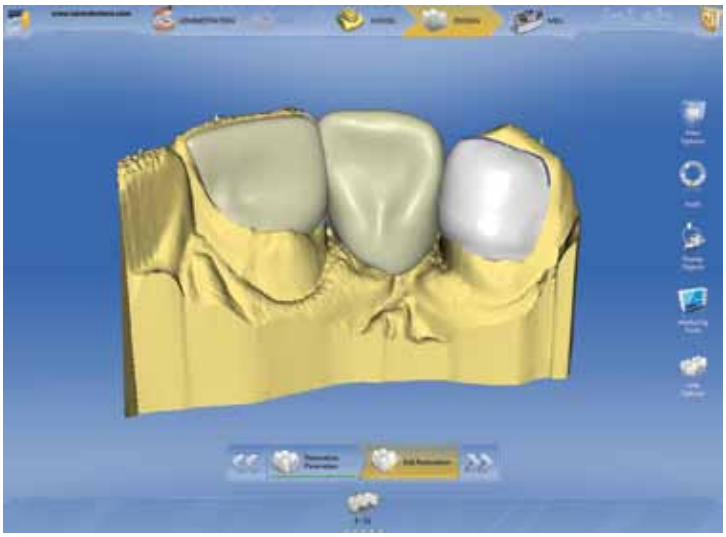
This introductory article will give you a sneak preview of the inLab software with screen shots and descriptions. For detailed videos on each feature, visit the digital learning page on www.cerecdoctors.com and look in the inLab section.

1 Administration phase, Single Restoration: This image shows the Restoration Types and Design Modes for single-unit restoration(s). Notice that you pick your milling device and material directly from this Administration screen.

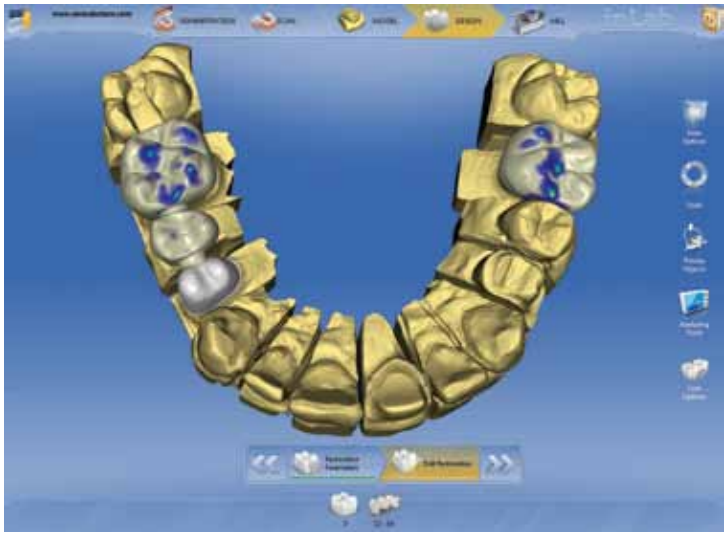
2 Administration phase, Bridge Restoration: This image illustrates both the Restoration Type and Design Modes available when doing bridge restorations. Notice new features such as Telescopes, Bars and Precision Attachments.



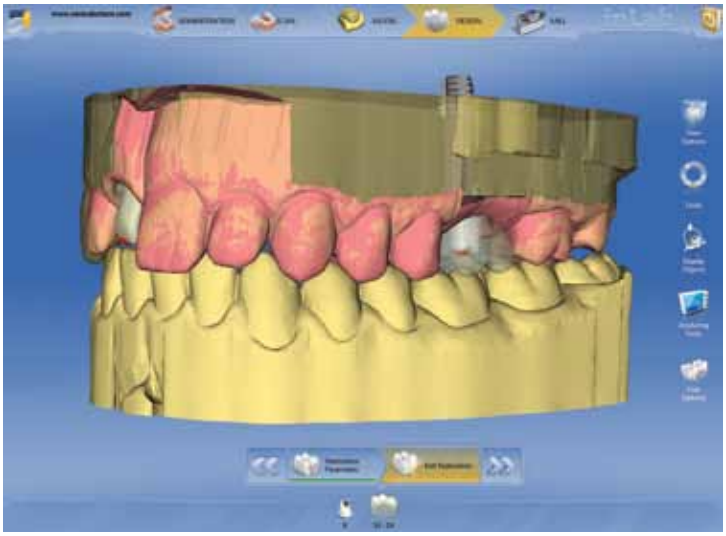
3 inLab 4.0 introduces a new Analyzing tool called "Grid Mode." This feature will aid in designing correct proportions when doing multiple restorations. In particular, when doing anterior multiple restorations.



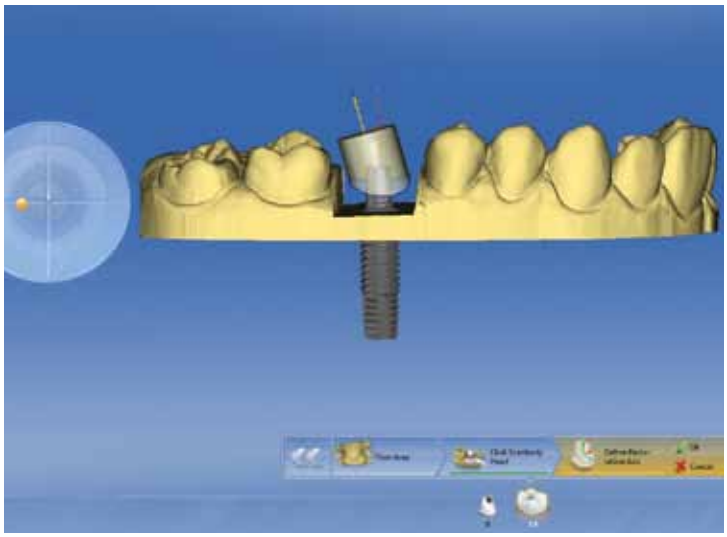
4 Here, a Maryland Bridge design (initial proposal) is demonstrated. The new features of the inLab 4.0 software allow us to easily fabricate restorations that were previously difficult in prior versions.



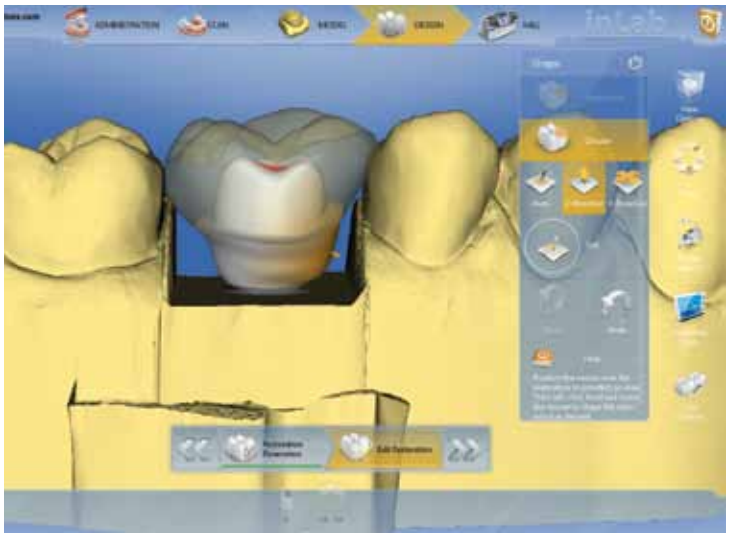
5 This case shows the ability to not only design restorations in different quadrants, but also a bridge that was designed with two framework units and one full contour. inLab 4.0 has very few limitations and lets the user be in control at all times.



6 This image shows the new abutment features of the software. You are now able to design multiple abutments at the same time using all the available image catalogs. Here we see an abutment (8) and an abutment with abutment crown (14), all in an articulated full-arch occlusion with gingivamask.

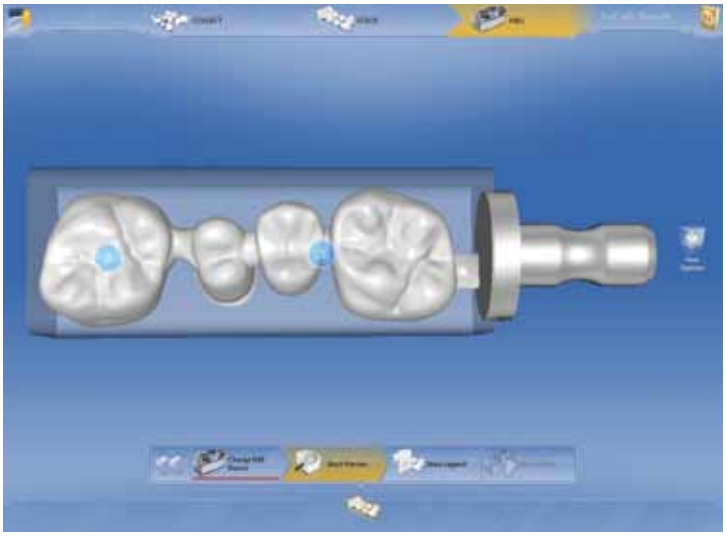


7 inLab 4.0 allows you to incline the abutment restoration axis up to 20 degrees to the implant axis. This great new feature makes it easier to use milled abutments in most any scenario.



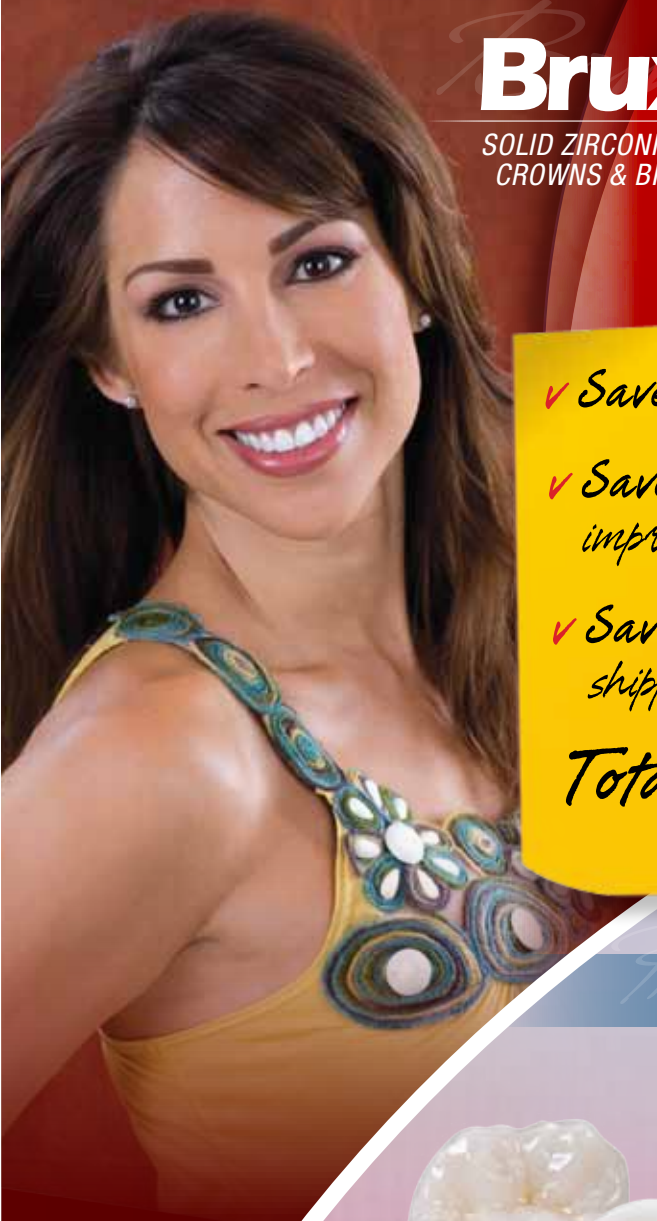
8 The addition of the Anatomical and Circular Shape tools makes designing emergence profiles more predictable and efficient.

9 inLab 4.0 has introduced a new tool called Scale. We can now manipulate (both radially and occlusally) the margin, axial wall thickness and occlusal height.



10 Stack milling of restorations is much more intuitive and less restrictive. Any full-contour restoration or framework can be introduced into the stack mill — regardless of design mode.

Big Savings for CEREC® Connect Users



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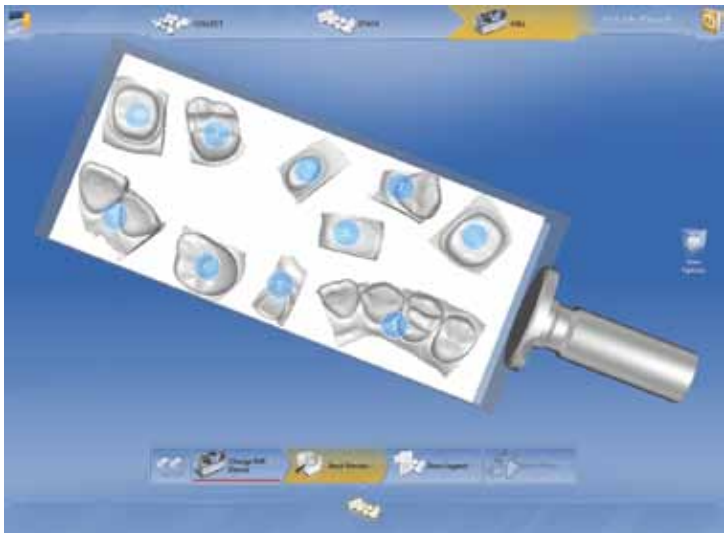
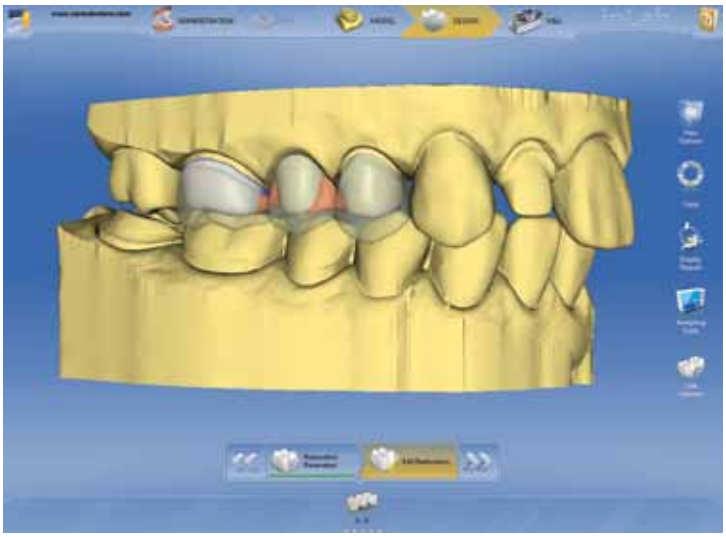


11 This image shows the stack milling of models.



12 inLab 4.0 has made fabrication of multilayer restorations easier than ever. We now have the ability to manipulate both the margin and connector after the restoration has been split.

13 One of the new features is the Telescope restoration. This picture illustrates five single-unit telescope restorations.

14 This final image puts together three of the new features of the inLab 4.0 software. This case incorporates four telescope restorations attached by bars with distal cylindrical precision attachments bilaterally.

PRACTICING & TEACHING: BEST OF BOTH WORLDS

By Mark Fleming, D.D.S.

One of the hardest-working doctors in CAD/CAM, Dr. Rich Rosenblatt is a Chicago-area CEREC

practitioner with a general family practice who has been on board with the software since 2003. His passion for CEREC has brought him many happy patients, and led him to a second career in teaching for cerecdoctors.com.

Q: ***How long have you been in practice?***
A: I started practicing in July of 1998, after a one-year GPR. I moved to Chicago in 1999 and started working for a fantastic mentor and friend, Gary Treinkman. I purchased my own practice in March of 2007.

Q: ***What is the size of your practice?***
A: I bought a very small, four-operatory practice; two hygiene ops and two that I work out of. I have just over 1,000 patients at this time.

Q: ***What type of dentistry do you do?***
A: I do a little bit of everything. When I started practicing as an associate in Chicago, my mentor basically sent me to any course that he thought would add value to the practice. He sent me to learn implants, lasers (both soft- and hard-tissue), CEREC and Invisalign, just to name a few. He also taught me endo and how to efficiently do extractions.

I have continued this thought process to try and keep as much in house as possible. I have added things like NTIs, snoring and sleep apnea treatment and Six Month Smiles orthodontics. I'm also starting to take the Spear courses at Scottsdale Center of Dentistry. *Facially Generated Treatment Planning* was the most amazing course I have ever taken in my life! I guess at the end of the day, I'm truly a general dentist. I have a family practice, and people have been coming to this office for more than 30 years.

Q: ***Why was CEREC your CAD/CAM choice?***
A: I was an associate when I started with CEREC in 2003, so there was not a total choice for me. That being said, Gary would talk with me a lot about big purchases. CEREC was a huge purchase for the practice. When we bought in 2003, there were nowhere near the CAD/CAM options that there are now. We saw the new 3-D software at the Chicago Midwinter Meeting and were blown away when we could see that tooth and model spinning around the screen. There was a local doctor who had been using CEREC since, maybe, the CEREC 1 days. He let us come and watch a live patient and we were immediately on board!

Q: ***How does this technology fit in to your office philosophy?***
A: My office is all about my patients. My staff may say that it is all about me but that is a discussion for another day! I want to provide the best dentistry every day for my patients. That is one of the reasons I continue to take so much CE every year. CEREC not only allowed me to improve my dentistry by seeing it blown up on a screen 20 times its size, it allowed the convenience of one-visit dentistry for my

patients. It really is amazing how patients react to this technology. They are not only amazed when we are doing it, but they really appreciate having it done in one visit. Ask your patients if they had the choice to have a crown done in one visit or even two before, and even if the one-visit appointment is about 30 minutes longer, they would choose it. We all think our patients love us, but believe me when I tell you they only want to see us two times a year and that is for cleanings. They don't want gooey impressions or temporaries or second injections, and they definitely don't want to have to take time off of whatever

their plans are to come back and see us.

Q: ***How does CEREC impact your practice?***
A: When the economy took a hit in '08, I was one year in to my ownership journey. I needed to save money in whatever way I could. CEREC allowed me to fix my costs and save money by keeping the extra profit dollars from my indirect restorations in my pocket. Patients would comment how much it meant to them they did not have to take off of work a second day for the seat appointment. Lots of patients were worried about losing their jobs and did not want to take off of work if they didn't have to.

Q: ***What is your favorite CEREC procedure?***
A: I think the coolest CEREC procedure is doing a crown underneath a partial denture. I don't know who gets more excited when that partial fits over the new e.max crown like a glove — me or the patient!

Q: ***What is your most unique CEREC procedure?***
A: The most unique procedure that I have done was probably Maryland bridges. Being a part of the cerecdoctors.com community and having best friends like the faculty on that site, you tend to think outside the box a bunch. I remember when I learned that it would be possible to do something like that, and then tried it and it worked like a charm.

Q: ***If someone was to take your CEREC away today, you would ...?***
A: CEREC *is* my practice, so taking it away would basically take away my practice. There was a short period of time where I worked as an associate in a different office than the original practice I started in. After using CEREC for a few years I had to go back to conventional impressions and I really struggled. Not only was it hard for me to take consistent PVS impressions and see if my entire prep was adequate, but crown and bridge was way less enjoyable. At the end of the day, those who know me know how much I try to enjoy life. I need to be able to walk around smiling. Why do something if you don't enjoy doing it? It is why we went into dentistry, to be our own boss and do things the way we want to. CEREC allows me to enjoy what I do, every day that I practice!

A SECOND CAREER WITH CERECDOCTORS.COM

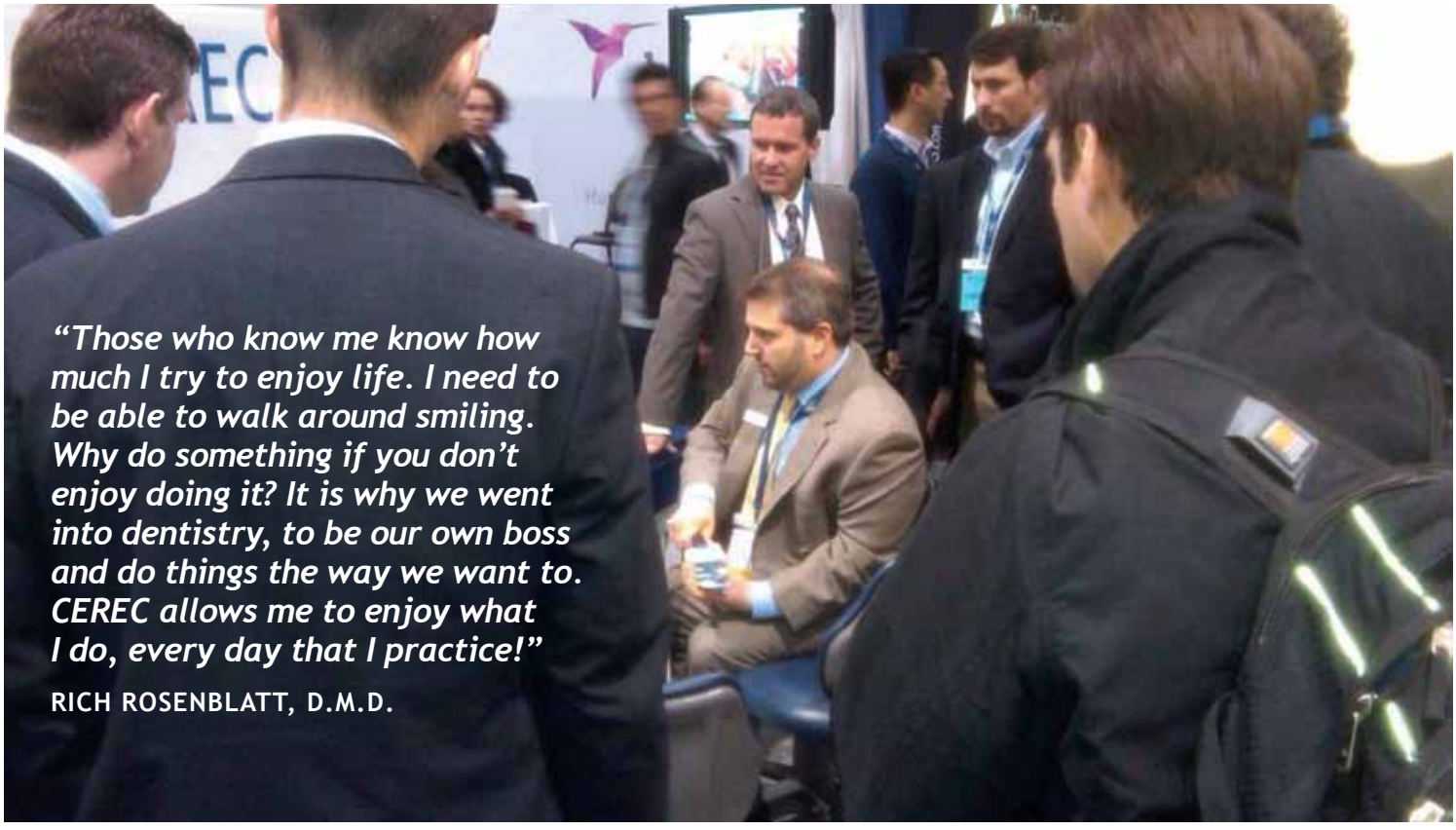
Q: ***How did you get started with cerecdoctors.com?***
A: I became good friends with Sameer Puri and Armen Mirzayan through Dentaltown. We were some of the only people posting cases early on in 2004, and that is how I got to know them initially. They decided to start cerecdoctors.com a few years later and I was one of the first to sign up for membership. It was a great concept. I would post on the site all the time. It started to grow and they needed help, so in 2008 they asked me if I wanted come on board as faculty to help with all the questions and case submissions from members. I loved doing it and was honored to be asked.

Q: ***What are the strengths of cerecdoctors.com?***
A: I think that the strongest part of cerecdoctors.com is its sense of community. I think that this can be attributed to the faculty members: Sam, Armen, Mike Skramstad, Mark Fleming, Pete Gardell, Jeff Caso and Darren Greenhalgh are seven of the most amazing people that I know. They are fantastic CEREC users, but even better people. They give up countless hours to help other users on their CEREC journeys. Not only are they selfless but they are down to earth. We all decided that cerecdoctors.com needed to be a place where users could post any case or any question and feel supported. We do not allow negativity on the site. It is all about being positive and supportive of others. Creating the mentor program has taken this attitude to a different level. If you have never posted a case or question on our message boards, you will be overwhelmed by the support, kindness and enthusiasm of our mentors and members.

Q: ***What do you like most about being a part of cerecdoctors.com?***
A: The thing I enjoy most about cerecdoctors.com is the thing I enjoy most about being a trainer: helping others. There is just an indescribable feeling you get when you see or read a post from a CEREC user during that "light-bulb" moment.

Q: ***What kind of training do you do?***
A: I feel as if I started a second career about four years ago. I started a study club in 2005 that has grown into one of the largest CEREC study clubs in the country with more than 270 members. Sameer and Tarun Agarwal gave me an opportunity to speak at the Townie Meeting in 2007. I knew from that point forward I wanted to speak publicly and teach others CEREC. I became a basic trainer and in-office trainer for Patterson in 2008. I also became a certified speaker for Sirona around the same time. I would help out at the Center and assist with the hands-on part of the training that Sam and Armen were teaching for the various levels of courses out there.

The one thing I always felt was missing in the training curriculum was a course just for assistants. I wanted to create a course just for staff, no doctors allowed. I talked to Sameer and to Don Bell from Ivoclar Vivadent about my idea. They both liked it. I wanted to take the course on the road and create something that teaches staff the basics about how to properly design restorations, and then Ivoclar teaches them about materials and how to characterize restorations. The class is mainly hands-on and is a great way for staff members to learn an amazing skill and allow their doctor to become more productive. I now practice three days a week and teach two to three days a week. I feel that I have the best of both worlds and am doing exactly what I want to be doing. Add that to an amazing wife and kids, and I feel pretty blessed.



"Those who know me know how much I try to enjoy life. I need to be able to walk around smiling. Why do something if you don't enjoy doing it? It is why we went into dentistry, to be our own boss and do things the way we want to. CEREC allows me to enjoy what I do, every day that I practice!"

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PRODUCTS OF INTEREST: CHICAGO EDITION

By Martin R. Mendelson, D.D.S.

Greetings from Scottsdale! When Sam asked me to consider a column for cerecdoctors.com, I jumped at the chance. I have been living in a CAD/CAM world since 2004 — first with inLab and then with CEREC for the last four + years at VITA. I have even been restored with CEREC and have 12 CEREC-fabricated veneers in my own mouth to prove it!

This quarterly column is intended to be a snapshot of what is new in the world of CAD/CAM. What better way to launch the column than with an overview of new products, which were the stars of the Chicago Midwinter Meeting.

TETRIC EVOCERAM BULK FILL COMPOSITE

ivoclar vivadent | This innovative product is a nano-hybrid composite that has been designed for a bulk-fill technique. The material contains "shrinkage stress reliever" particles, which allow the material to be used to bulk-fill preparations. In addition, the material features a polymerization booster, which enables 4 mm-thick sections of the material to be cured in 10 seconds. It comes in three universal shades.

LAVA ULTIMATE CAD/CAM RESTORATIVE

3m espe | This product debuted in late 2011 and has different material properties than other CAD/CAM restorative materials. It can be used for crowns (including implant-supported crowns) onlays, inlays and veneers. The material has a high flexural strength and fracture toughness. Due to these material properties, 3M ESPE has extended a 10-year limited warranty for restorations milled from this material.

VITA 6000 MS HIGH SPEED SINTERING FURNACE

vident, a vita company | This new self-calibrating furnace from VITA can sinter up to 25 units simultaneously in 80 minutes. The system is fully automated and can be programmed for conventional or user-defined sintering. For those of you who already own a 6000M porcelain furnace, the new 6000M sintering furnace can be simultaneously controlled from one VITA vPad control unit.

ABOUT THE AUTHOR

Dr. Mendelson is a member of the resident faculty and vice president of faculty club development and professional relations for Spear in Scottsdale, Ariz.

SIMPLE VENEER ON PEG LATERAL, MINIMAL PREP

In this recurring section of cerecdoctors.com magazine, we like to share a sample of the different conversations that are occurring online.

In this thread, cerecdoctors.com co-founder Armen Mirzayan shows how a cosmetic concern can be treated successfully using conservative treatment.

Armen Mirzayan (cerecdoctors.com co-founder) | Los Angeles

Mehran Lari | Tucson, Ariz.

Nice, Armen. I have one in my cousin's mouth, it's no prep and it is three years old and it is still intact ;)

Darin O'Bryan | North Bend, Ore.

Very nice. How much prep is minimal? I have a case coming up that may be perfect for this. Also, what material did you use?

Armen Mirzayan (cerecdoctors.com co-founder)

To get a reliable mill, you need at least 0.4mm in thickness, otherwise it can shatter. If I'm afraid of this happening, I will use the Form Tool to bulk it out and then take a hand piece to trim it back. In this case here, I used my compact miller to be delicate with it.

Baron Grutter | Gladstone, Miss.

Material? Any straining or cutback? Looks fantastic, do you have a prep shot or .rst file? I'm really trying to wrap my head around minimal prep with CEREC. Thanks for sharing.

Armen Mirzayan (cerecdoctors.com co-founder)

I did this without opposing and buccal bite. Should have done that or even correlation from mock-up. Spent way too much time designing after this proposal.

Jeffrey Caso (Faculty) | Merrick, N.Y.

Nice proposal :)

Baron Grutter

In a case like this, do you tend to over-contour and then trim back intra-orally? In particular, the middle one-third of the mesial line angle is very challenging to smooth out properly with the software. It's really not that bad, but I can't imagine any way to fully smooth it without using a hand piece.

Also, when I tried doing it with BioReference under Veneer, I got initial proposals that were much more natural looking. Admittedly, they were still a bit peg-ish, but easier to manipulate. Any reason why you chose Crown Mode instead?

Thanks for offering the chance to learn.

Armen Mirzayan (cerecdoctors.com co-founder)

Great question and this is exactly why I posted the case and .rst.

1. There are many reasons why to call it a crown versus a veneer: you can't use the VITABLOCKS RealLife in Veneer Mode. Also, for multilayered blocks, if you are in Veneer Mode, you can only place the sprue in ONE spot to have the layers line up correctly (I have to double check this in 4.02, but it was gospel in 3.8). This was a 1m2c Trilux block, pretty much my go-to block for most anteriors.

2. Regarding the design: in anteriors, we always recommend Biogeneric Copy. Always mock up or use pre-op to reduce design time. Cases like these you could spend more than 10 minutes playing around with designing.

3. In thin areas, I over-build and mill and then trim back. If too thin, it can shatter in the milling machine.

Dan Reardon | Montrose, Colo.

I would be interested in hearing about the sprue position in Veneer Mode. Hopefully it is different than 3.8?

Mike Skramstad (Faculty) | Edina, Minn.

That is fixed.

ALWAYS use Veneer Design Mode in 4.0.2 when doing Biogeneric veneers. Your proposal is 1,000 times better, and you can put the sprue anywhere on multicolor blocks. Let me run that case for you real quick, and see what I get. ...

Yep, way better in veneer mode.

Also, haven't you found that 4.0 hates veneer margins that are not straight? If they go in a little inter-proximally (margin), it makes that contact screwy. I hate that.

Armen Mirzayan (cerecdoctors.com co-founder)

Cool.

Thanks for verifying sprue location on Veneer mode. Bottom line correlation for quick designs.

Mike Skramstad (Faculty)

Definitely. Although Biogeneric is getting much better if you have a minimal prep, especially if you don't have incisal reduction.

The other thing about Veneer mode is the sprue movement is different. Don't know if there is a video on that. It shows you optimal place in green and you have to click to a different location (instead of moving the wheel).

Armen Mirzayan (cerecdoctors.com co-founder)

I'll play with it a bit tomorrow. Can you move and rotate the block in Veneer Mode?

Mike Skramstad (Faculty)

Yes, you can do both.

Darren Greenhalgh (Faculty) | Mill Creek, Wash.

Nice case, Armen. Any reason why you didn't mock it up quickly? Did you use the easy shade?

Dan Reardon

So, is the block choice the only reason to call it a crown now? Otherwise, Veneer Mode in both Biocopy and Biogeneric? I have a single veneer on the schedule tomorrow, that's why I am so interested. Thanks for the clarification with 4.0 guys.

Peter Gardell (Faculty) | Stamford, Conn.

I did a case similarly using Paradigm and doing a cutback à la LeSage. Nice option for this post-ortho 15-year-old. After she finishes growing I can see doing similar with ceramic.

Richard Rosenblatt (Faculty) | Highland Park, Ill.

I want to show a case I did with Lava Ultimate for no-prep veneers. The kid is a freshman at the Air Force Academy. He finished up ortho and had peg laterals, and I wanted to see if I could close it up and make it look good. I think the case came out nice. Fit was unbelievable. They were a bit long to me when I looked back at the photographs and the polish on #10 was weak. I'm getting him back here when he is on break hopefully, and maybe I'll shorten them a bit and try the LeSage Technique. That would probably make them a home run.

David Christensen | Waldwick, N.J.

Can't wait to see it. I have thought about using it on a few cases but have chickened out.
What is the LeSage Technique?

Peter Gardell

Brian LeSage showed how he mills a composite veneer then does a cutback on it. Can get these things super thin. For these no preps it is a great option. Here are some shots to demonstrate the LeSage Technique:

At left: Material is Paradigm. Little trick with these thin veneers is you can mill out more than one by changing the restoration position in the mill phase.

Center: Here is veneer on "die" with cutbacks and final.

At right: Delivered and then bonding on centrals.

Can't find pre-ops but will continue to look.

Great solution for post-ortho corrections. The composite blocks mill with great margins when thin and easy to characterize.

Jeffrey Caso

That case is great, Pete. How did you do the cutback? Disc? Also, what composite did you use?

Peter Gardell

Paradigm block. Tetric stain and empress direct on top. Cutback with fine diamond.

Baron Grutter

How does one go about milling two restorations from one block? I'm still trying to figure this out. It would be nice, particularly for small inlays/onlays. Is this purely stack milling with InLab? If so, can anyone describe that process?

Peter Gardell

Done in chairside. Mill first restoration then when you are ready to mill the second, move the restoration with the Move Tool in mill phase. Sometimes you can get it to work when doing very small restorations such as these minimal-prep veneers.

Baron Grutter

Does the mill not care that the block is smaller than normal? Or does it just position according to the end of the block? Do you flatten it off first, or do you just leave the leftover sprue and such?

Peter Gardell

Touch process went straight through without error. This was a Paradigm block, so not sure if Touch process is different. Will try with another block to see if it works.

Jonathan James | Harlingen, Texas

Hi Peter,

I'm interested to know if you were able to mill those two veneers with any other material as well. I tried doing this with two small inlays with Lava Ultimate 14L block, and it did go through the Touch process successfully but it did not mill the second restoration because it started milling down where the last restoration ended. Therefore, it just cut away the excess material like it was at the top of the block and there was no material left to mill the restoration itself. Any thoughts?

Baron Grutter

Touch process? Is this a pre-4.0 technique? I'm not familiar with it.

Jonathan James

Baron, Touch process refers to the process your milling unit goes through in the beginning as it verifies the size of the block and that the burs are appropriate.

Mike Skramstad (Faculty)

You don't really need to use the Move Tool. You just flatten out the block with a model trimmer. It will automatically mill as far away from the sprued position as possible, based on the Touch process.

Jonathan James

Sweet! I just tried it and was able to mill a crown and veneer out of one e.max block.

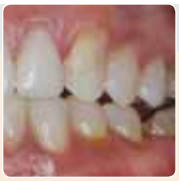
Baron Grutter

I can't believe I was not aware of this. This makes the task of choosing the best sprue position even more challenging. How to position to avoid margins or contacts AND leave enough block for a second restoration? This'll be interesting.

Armen Mirzayan (cerecdoctors.com co-founder)




Mike Skramstad (Faculty)




This is one of the things we teach in Level 5. With the inLab stack software, you can actually "measure" the restorations down to a .10 of a mm so you know exactly what will fit and what won't.

Awesome final shots Armen.

I posted these photos on another thread, but are you trying to glaze these ultra-thin veneers? I stopped trying to glaze and have been hand polishing them. You can knock them out super fast and they look great.

Baron Grutter

Do you mean to say that you used Empress for this? That seems pretty thin. I'm all for it, I'm just new to all of this and didn't realize you could mill anything so thin other than e.max.

Mike Skramstad (Faculty)

You can easily mill both Vita and Lava Ultimate just as thin or potentially thinner than e.max. Empress you can mill thin, but it's definitely the worst of the bunch.

That particular veneer was a BL3 Empress Multi. I did that because I had to match the bleach color of her other veneers I did earlier. Bleach-colored Multi blocks are very bright and white. Some patients want this.

Peter Gardell

When you want to mill these very thin restoration use fresh burs, use regular mill and be willing to accept some breakage and need to remill.

Baron Grutter

Probably wouldn't help to use a size 12 step bur since it's milling in Veneer Mode. Correct?

Peter Gardell

Depends on your prep and if it is milling in thin Veneer Mode.

Minimum thickness needs to be dialed down to below 500 for this.

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GOING DIGITAL

By Sameer Puri, D.D.S.

Have you noticed something different about the magazine? We are going high tech! First: the cover. *CEREC 27 & a half* seems appropriate for the

cover, don't you think? For this monumental event, we have to make sure that every CEREC user out there knows about the meeting and makes plans to attend. I cannot say this enough – this will be the CEREC event of the year. Quite possibly the event of the last 27-and-a-half years.

Well, that's all fine and good, but why is cerecdoctors.com – a small little community of a company – promoting the event for Sirona, you might ask. Shouldn't Sirona use their marketing muscle and power to help get the word out? The answer is simple: we are partners. Since the beginning of starting our little website, Sirona and Patterson Dental have been supportive of our efforts at www.cerecdoctors.com. Have we always seen eye-to-eye? No. But at the end of the day, we have gotten where we are with the support of our corporate partners, whose faith in our little company has helped propel us to become the largest online CEREC resource in the world. Every month, almost 60,000 visitors spend an average of more than 11 minutes per visit watching the videos, participating in the discussions and learning and engaging with CEREC and CEREC-related topics.

So it only seemed fitting that since our biggest partner – Sirona – supported us and helped to get the word about us out to all the CEREC owners, we would undoubtedly help spread the message about the largest CEREC event of the year to those CEREC owners. If you go to www.cerecdoctors.com and click on 'Today's Active Topics,' you will see numerous discussions on the upcoming meeting and all the different people who are planning on attending.

Many great speakers are going to be at this event, and your humble correspondent has been given the honor of presenting on the main stage on the first day. I was thinking about what my topic would be. I could talk about the benefits of the Bluecam, the reasons many doctors are discovering the inLab software. We could have a lecture on all the different materials that are available to CEREC owners, like the recently introduced LAVA Ultimate material. I'm sure that many doctors would be interested in hearing the data on e.max, which just had its 10-year in-use anniversary. Ivoclar celebrated this with a release of a compilation of studies that shows its success over the past decade. You see, unlike other systems out there that promise the world and have slick marketing campaigns but no product to stand behind, CEREC continues to expand its offerings to its users.

There is no doubt that no matter what the final topic will be, I promise you that it will be something unlike you have ever experienced before. Since moving full-time to Arizona and working at Scottsdale Center, I've had the unique opportunity to not only work as a practicing dentist but also as a researcher, behind the scenes with the different manufacturers. As CEREC owners and users, we are all accustomed to digital dentistry and digital dentistry will play a huge role in dental practices.

When you click on the cerecdoctors.com icon in an article, it will take you to a video, a discussion thread and/or an RST file that pertains to the article.

Speaking of digital, have you noticed the new icons with each article? In the digital version of the magazine available at www.cerecdoctors.com, when you click on this icon in an article, it will take you to a video, a discussion thread and/or an RST file that pertains to the article. We believe this will enhance your experience with the article and with the magazine in general. You can read about a case, then go to the video of that case and download the file and design it along with the video. How cool is that? It is our intent to continually improve what we do so that you, our readers, can improve on what you do in your office.

So, as we continue our quest to help share the CEREC message with the masses, join us at *CEREC 27 & a half* and stop by the cerecdoctors.com booth. Who knows, we might even give away a great prize to all those in attendance.

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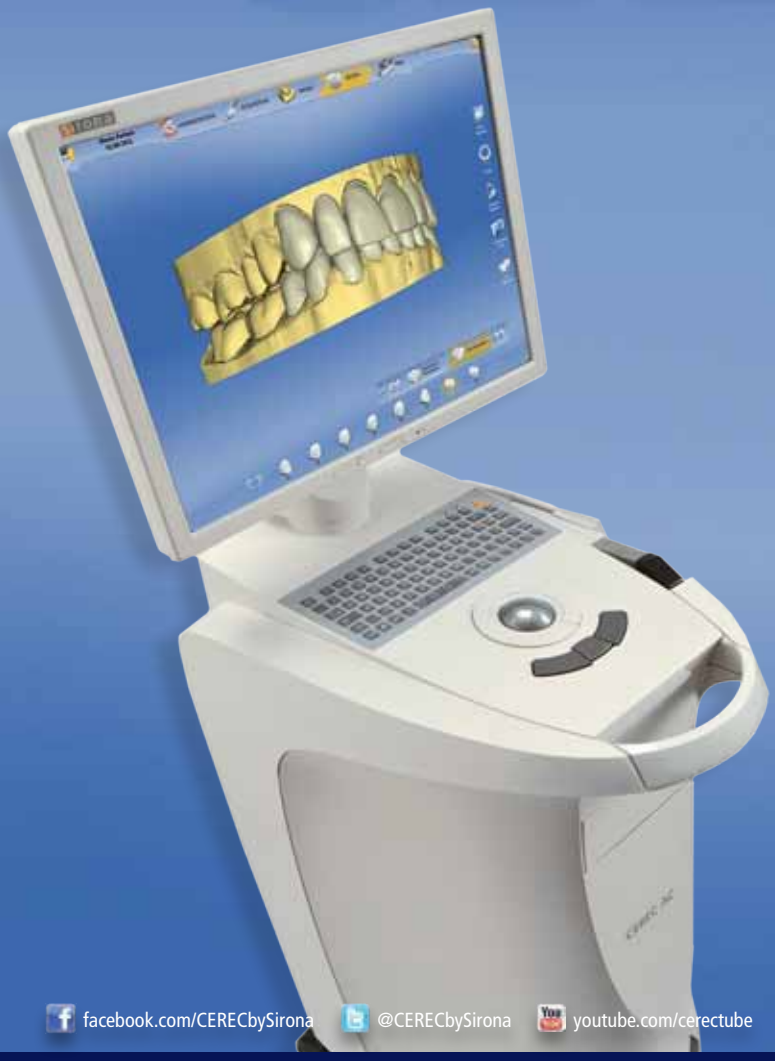

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