

cerec
doctors.com
advanced education for CEREC

Q1|2011

cerec
doctors.com
advanced education for CEREC owners

CEREC

CLINICAL PREPARATION
GUIDELINES

MEET THE FACULTY

WE ARE CERECDOCTORS.COM

INGO
ZIMMER
SIRONA'S MANAGER OF
CEREC SOFTWARE

IPS e.max[®]

“CEREC DOCTORS SPEAK e.maxCAD.”

**“E.MAX CAD FULFILLS
THE PROMISE OF BETTER
DENTISTRY.”**

Dr. Armen Mirzayan

**“E.MAX CAD GIVES ME THE
CONFIDENCE TO USE MY
CEREC ANYWHERE
IN THE MOUTH”**

Dr. Sameer Puri

all ceramic
all you need

emaxchangeseverything.com



ivoclarvivadent.com

Call us toll free at 1-800-533-6825 in the U.S., 1-800-263-8182 in Canada.
©2010 Ivoclar Vivadent, Inc. IPS e.max is a registered trademark of Ivoclar Vivadent.

**ivoclar
vivadent**
passion vision innovation

Contributors

» **cerecdoctors.com**

Co-Founders

Sameer Puri, D.D.S.
Armen Mirzayan, D.D.S., M.A.

» **Clinical Editors**

Mark Fleming, D.D.S.
Darren Greenhalgh, D.D.S.

» **Writer/Editor**

John Roark

» **Contributing Editor**

Jenna Murray

» **Contributors**

Tarun Agarwal, D.D.S., P.A.
Mark Fleming, D.D.S.
Elmar Frank, Dr. med. dent.
Sigrid Frank, Dr. med. dent.
Darren Greenhalgh, D.D.S.
Steve Hatcher, D.D.S.
Armen Mirzayan, D.D.S., M.A.
Sameer Puri, D.D.S.
Brian Thornton, D.D.S.

» **Design**

Craig Kurtz



For sales and membership
information, please contact:

» **Membership Coordinator**

Elizabeth Davison
liz@cerecdoctors.com
877-295-4276
cerecdoctors.com



» **On the cover:**

Ingo Zimmer,
photographed by
Sameer Puri, D.D.S.
at the 2010 Greater New York
Dental Meeting,
New York, N.Y.

Contents

4 | **FROM THE EDITOR**

It's Over ... And It's Just the Beginning
» **Mark Fleming, D.D.S.**

6 | **CLINICAL: CORRELATION 3.84 – AN OLD FAVORITE, IMPROVED**

The new Correlation makes life even better for CEREC doctors
» **Tarun Agarwal, D.D.S., P.A.**

12 | **CEREC CLINICAL PREPARATION GUIDELINES**

Care taken during the prep stage leads to successful outcomes
» **Sameer Puri, D.D.S.**

18 | **INTERVIEW WITH INGO ZIMMER**

Sirona's man behind the CEREC software
» **Sameer Puri, D.D.S.**

26 | **CLINICAL: WHICH ONE IS THE CEREC?**

One-visit versus lab-fabricated veneers – which would you choose?
» **Steve Hatcher, D.D.S.**

28 | **WE ARE CERECDOCTORS.COM**

Meet the cerecdoctors.com faculty – the doctors who make it all happen
» **Sameer Puri, D.D.S.**

36 | **CASE STUDY**

Telescopic CAD/CAM Constructions Using Lithium Disilicate Ceramics,
Teflon, Deep-Drawn and NP Materials
» **Elmar Frank, Dr. med. dent. and Sigrid Frank, Dr. med. dent.**

42 | **DISCUSSION FORUM: RESTORING 7-10**

Directly from the cerecdoctors.com Discussion Forum: Quick answers
to a member query
» **Compiled by Darren Greenhalgh, D.D.S.**

48 | **HAPPENINGS IN THE CAD/CAM WORLD**

Introducing the cerecdoctors.com Mentor Group
» **Sameer Puri, D.D.S.**

50 | **CAD/TOONS!**

The lighter side of CAD/CAM dentistry
» **Brian Thornton, D.D.S.**

FROM THE EDITOR

It's Over ... And It's Just the Beginning

BY MARK FLEMING, D.D.S.

I came into the office the other day, and saw a special edition of *TIME* magazine that featured events that happened in the first decade of the 21st century. I have to admit, I did not realize a decade was coming to an end. Where did the years go? I was amazed by what had happened during this period of time.

I began to look back at what had happened personally for me over the last 10 years. There were really good times and also some definite challenges. I'm sure that is the case for everyone.

I began to look at my CEREC "career." In 2000, I had heard of CAD/CAM dentistry, but knew very little about CEREC. In October 2001, that all changed. I began my CEREC journey, which I continue with today.

Since I have been involved with this technology, I have seen some incredible advances. I have seen the software advance from 2-D to 3-D. A faster milling chamber and advanced acquisition centers have happened. The ability to integrate with cone beam technologies has also happened. What's next?

In this issue, we are honored to have an interview with Ingo Zimmer of Sirona, whose job is to help answer the question, "What's next?" Mr. Zimmer was one of the keynote speakers at the CEREC 25 celebration in Las Vegas. At that meeting, he gave us a sneak peek into the next software release. We are sure you will enjoy his interview.

Ten years ago, Dr. Armen Mirzayan was just getting



involved with CEREC technology. A few years later, he would be part of a select group that tested new software that would move CEREC into the 3-D world. Meeting and forming a partnership with Dr. Sameer Puri, cerectoctors.com was born. In this issue, you get a chance to meet the faculty of cerectoctors.com, the website dedicated to all things CEREC.

The first decade of the 21st century has ended. But it is just the beginning of what will be happening with CEREC. The technology is constantly advancing. Plan to attend the 3rd Annual CEREC Owners Symposium this July at Scottsdale Center for Dentistry. You will hear the latest CEREC information, and meet the greatest minds in CAD/CAM dentistry.

It was three years ago that this magazine came into being. It was and still is our mission to publish a dedicated CEREC resource containing articles and interviews from successful practitioners and researchers that will enhance practitioners' CEREC experience. We hope we have accomplished this.

And, yes, we know we are only at the beginning! Thanks for joining us during these exciting times. ❖

It was three years ago that this magazine came into being. **It was and still is our mission to publish a dedicated CEREC resource** containing articles and interviews from successful practitioners and researchers that will enhance practitioners' CEREC experience. We hope we have accomplished this.



The New Standard For Dental Isolation

Both the original Isolite™ with 5 levels of brilliant intra-oral lighting, and the new lightless IsodryTi™ systems provide continuous adjustable suction, tongue and cheek retraction, throat protection, and a comfort bite block. Dental professionals using this award-winning isolation technology are experiencing:

30% Faster Procedures • Improved Patient Comfort
Reduced Ergonomic Strain

isoliteSYSTEMS

To Learn More about Isolite Systems, Call 800-560-6066

OR VISIT ISOLITESYSTEMS.COM Use Code CEREC2010

cerec
doctors.com

"I don't use CEREC without Isolite." — Armen Mirzayan, DDS, Co-founder, CEREC Doctors.com



CLINICAL

Correlation 3.84 – An Old Favorite, Improved

BY TARUN AGARWAL, D.D.S., P.A.

With so much hype and buzz around Biogeneric crowns, and rightfully so, there are some other significant improvements in the software that are less noticed. For example, with version 3.84, there is a major update to an old favorite – Correlation. Let's outline a great example of how the

new and improved Correlation makes life even better for CEREC doctors.

Those who have heard me speak know that I have loved Correlation. With the release of 3.84, most of my love has turned to Biogeneric crowns and buccal bite. I am now using Correlation less, but there are times where Correlation is still king.

I'm sure you've had situations where a patient comes in with a single missing cusp on a tooth you are going to prep for a crown. Everything else is perfect for Correlation except that one area. Prior to 3.84, you would need to either do a mock-up prior to taking your pre-operative Correlation images, or manually use the tools to digitally add in the missing area in the design process. I have always wondered why the software couldn't just propose the missing area for us (similar to Biogeneric onlays) using the remaining tooth data. Lo and behold, the software engineers have managed to implement exactly this into version 3.84. Now Correlation not only copies the pre-operative tooth, it fills in the missing parts!

Other advancements to Correlation



are the addition of the Scale tool and the removal of the pink line. The pink line used to be required to outline the height of contour. This often limited us in copying good tooth data with

the green line with the fear of the 'mushroom' proposal. Now you simply outline all the good data – even down to the margins – with the green copy line. The Scale tool is now active, and allows you to make scale adjustments to individual cusps, marginal ridges and height of contours. In the past, Scale only worked on the height of contour (pink line).

These advancements represent, in my opinion, the perfecting of the



Correlation concept. Correlation represents a design option that is quick, and gives the dentist more control of the final result. It is truly the best of both worlds – a copy of the original with full

control of all design tools.

CORRELATION 3.84 CASE

This patient came to our office for limited evaluation of the lower left area (Figures 1, 2). His chief complaint was that part of his tooth had broken. He didn't complain of any pain or sensitivity to the tooth. Clinical and radiographic examination (Figure 3) revealed a broken disto-lingual cusp #20 with extensive decay that

Big Savings for CEREC® Connect Users

BruxZir®

SOLID ZIRCONIA
CROWNS & BRIDGES

\$79/unit
via CEREC Connect*

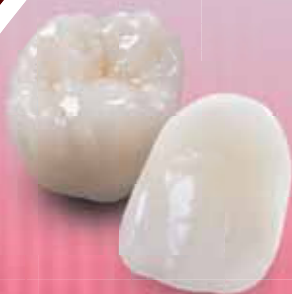


- ✓ Save \$20 per unit
- ✓ Save \$10 by not using impression material & tray
- ✓ Save \$7 on in bound case shipping

Total savings, \$37

IPS e.max® CAD

\$79/unit
via CEREC Connect*



IPS e.max and IPS Empress are registered trademarks of Ivoclar Vivadent. CEREC and inLab are registered trademarks of Sirona Dental Systems Inc.

*Price valid for model-free monolithic BruxZir or IPS e.max restorations fabricated from a digital file via CEREC connect. Price does not include \$7 overnight return shipping.

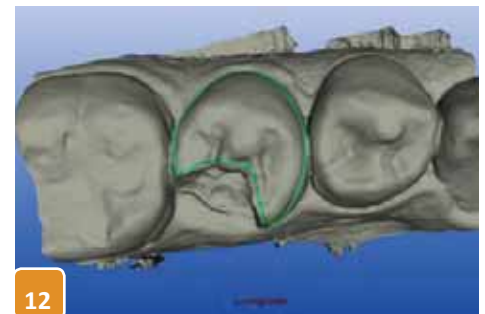
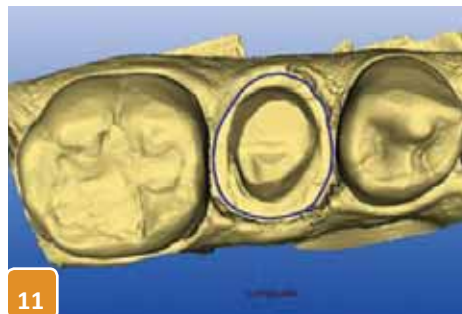
- ❖ Conventional or adhesive cementation
- ❖ Virtually perfect contacts and occlusion
- ❖ IPS Empress®-like esthetics

800-854-7256
www.glidewell dental.com



**GLIDEWELL
LABORATORIES**

"The Standard of Care"



appeared to enter, or, at a minimum, closely approximated the pulp. Patient was advised of the need for endodontic treatment and full-coverage restoration of tooth #20. Patient agreed and scheduled his appointment for single-visit endodontic treatment with final CEREC restoration.

CLINICAL TREATMENT – CEREC CORRELATION 3.84

The workflow for Correlation in version 3.84 has not changed. Once the patient is completely numb and the area isolated (my favorites are Isolite or rubber dam), your pre-operative

CEREC images for Correlation are taken (Figure 4). Since there is no longer a pink line, it is often helpful to fully capture all the tooth data by taking buccal and lingual roll shots.

For me, tooth preparation ALWAYS begins with proper occlusal reduction using an appropriate depth reduction bur (Figure 5). This will ensure complete occlusal reduction to the recommended thickness for the ceramic. By the way, the second biggest reason for failure of ceramic restorations is inadequate occlusal reduction (first is occlusion). The rough crown preparation is completed, and all the decay is removed (Figure 6).

Due to extensive decay and loss of sound tooth structure, it was decided to complete endodontic treatment and foundation prior to fabricating CEREC restoration.

In my opinion, proper endodontic treatment involves the use of rubber dam with total isolation (Figure 7). Here a light-cured material (OpalDam, Ultradent) is used to seal the rubber dam. Although I rarely advocate the use of posts in restorative treatment, the extensive decay and subsequent lack of sound tooth structure led to the determination that a fiber post (RelyX Fiber Post, 3M/ESPE) would help reinforce and retain the foundation

A New **WEBSITE** Equals NEW PATIENTS



“2,273 new patients!”

Grove Dental Associates, Downers Grove, IL

“1,219 new patients!”

Dr. Arthur Novick, Reston, VA

“228 new patients!”

Dr. Matthew Kutz, Monona, WI

Officite

The *New Patient* Website People

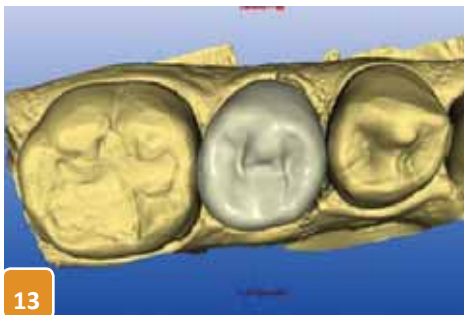
Websites starting at **\$995**

877.708.4424
www.officite.com

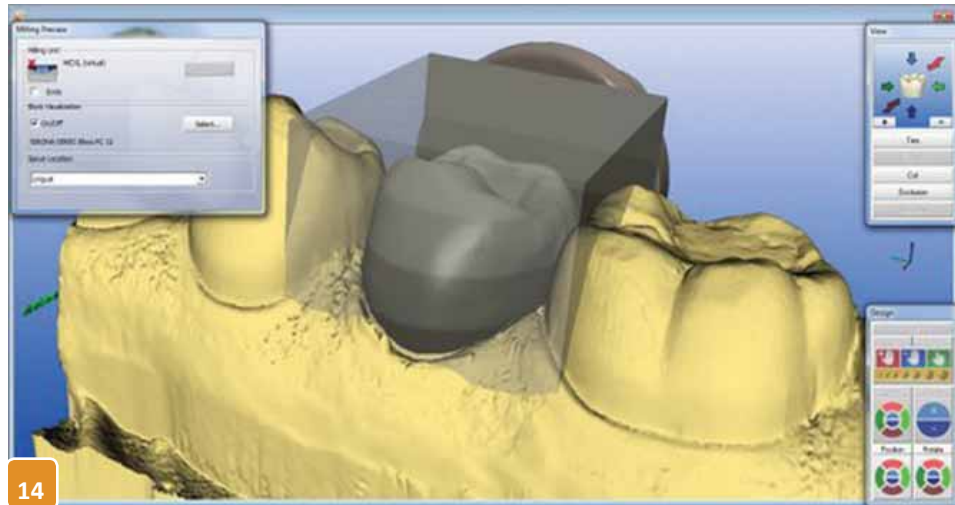
We Can Manage Your **Entire Digital Presence**

- Customizable Websites
- Advanced SEO
- Pay Per Click Advertising
- Social Networking
- Blog Management
- Google Place Search Optimization
- Patient Reviews Management





13



14



15



16



17

(Figure 8). The post was bonded into place, foundation placed, and the final preparation completed (Figure 9).

The next step is to capture your images for CEREC (Figure 10) and draw your margins (Figure 11). Since there is no longer the need to outline a pink line for height of contour, the only screen that pops up is your green copy line. Here you outline only the parts of the tooth you want to copy (Figure 12). Please note how the green line does not include any of the broken tooth, and extends all the way down to the margin on the buccal. After a few seconds, the software gives you the proposal (Figure 13). This is the initial proposal with no adjustments. The new Correlation has fixed the broken part of the tooth with anatomically

correct tooth structure and has copied the exact contours all the way to the margin, basically giving us a completed design – just check and verify the interproximal contacts! The restoration is placed within the multi-colored block (CEREC Bloc, Sirona) and sent to the milling unit (Figure 14).

Once the milling process is completed (about eight minutes in the MCXL), the restoration is tried in the mouth to verify contacts, margins, and esthetics (Figure 15). My assistant will then stain and glaze the restoration (Figure



18

16) to achieve a smooth, shiny surface and ideal aesthetics. The restoration is surface-treated, bonded into place (Figure 17), and final radiograph taken (Figure 18).

Correlation has been one of the best features of CEREC, and now with the enhancements in version 3.84, it is still a relevant design process. Although buccal bite and Biogeneric crowns have taken front and center stage, don't forget that Correlation is still one of the fastest and easiest ways to produce a CEREC restoration! ❖

For additional information or questions, reach Dr. Agarwal at DrA@raleighdentalarts.com.

Introducing VITABLOCS® RealLife and Rapid Layer Technology



RUN-OF-THE-MILL THAT'S ANYTHING BUT

Two New Innovations from VITA

The new VITABLOCS® RealLife and VITA Rapid Layer Technology instantly enhance the efficiency and esthetic ability of your CEREC milling system. VITABLOCS RealLife features a curved dentin layer that blends into a more-translucent enamel for must-see esthetics, while VITA Rapid Layer Technology makes it possible to manufacture fully anatomical bridge restorations - both YZ framework and the veneer - from your machine. Backed by more than a quarter century of clinical testing, no other machinable can offer you the confidence that comes with genuine VITA products. Visit vident.com and meet the two newest building blocks in the VITA legacy. 800-828-3839 | www.vident.com

VITA®

CLINICAL

CEREC CLINICAL PREPARATION GUIDELINES

BY SAMEER PURI, D.D.S.

One of the most crucial things we see with regard to the success of CEREC restorations is the ability to provide the machine with a proper preparation. Most often when clinicians have an unsuccessful outcome with CEREC, it is typically related to improper preparation design.

An ideal preparation will lead to a stress-free appointment and clinically superior restoration. If your preparation is correct, then every subsequent step in the CEREC process is that much easier – the imaging and design, as well as the cementation are all simplified with a proper preparation. This article will attempt to clarify what is needed from CEREC users to provide the optimal result for their patients.

Every single successful CEREC preparation has certain things in common. The clinician should attempt to have the following items in the preparation (Figure 1):

- 1.5-2 mm of occlusal reduction
- 1.2 mm of axial reduction
- Supragingival margins where possible
- Distinct separation from the teeth

For partial-coverage restorations, it's recommended that a minimum 1.5 mm of thickness of a non-functional cusp should be maintained, and for a functional cusp, no less than 2.0 mm is recommended (Figure 2).



OCCUSAL REDUCTION

The most critical aspect of any preparation is occlusal reduction. Inadequate reduction is guaranteed to lead to premature clinical failure. If you visit any commercial laboratory and ask any technician what they would like most from their clinicians, the answer typically will be, "more occlusal reduction." The CEREC is really no different. Adequate occlusal reduction allows the porcelain to have enough strength to resist occlusal forces, as well as provides the thickness necessary to develop the appropriate occlusal anatomy.

The recommended occlusal reduction for CEREC restorations is 1.5 mm to 2 mm (Figure 3). There is discussion on whether e.max can have less reduction due to its strength of 360-400 mpa, as compared to 100-150 mpa of traditional porcelains. While there is no doubt that e.max is a stronger material – and there are anecdotal reports of clinicians pushing the limits of the material to 1.0 mm or less – until further clinical studies are done, it is the author's recommendation that especially on molars, all attempts should be made to keep e.max occlusal thickness to 1.5 mm, the same as other materials (Figure 4).

AXIAL REDUCTION

When performing axial reduction, one has to look at the clinical situation and determine if axial reduction is necessary. Due to the fact that we are adhesively bonding in the restorations, traditional preparation techniques may not necessarily be valid or required. When preparation designs were first developed under the guidance of GV Black, our luting agent was zinc phosphate, which provides no adhesive bond, and simply relies on mechanical retention to keep the restorations in place. Therefore, the preparations themselves had to be extremely retentive in order to keep the restoration on the tooth.

Today, with the increasing popularity of adhesive resins, less mechanical retention is necessary as clinicians are able to save more enamel to bond to. Typically a buccal shoulder is placed to provide an anti-rotation feature, as well as to provide for esthetics by taking the margins closer to the tissue. The lingual can be kept flat to preserve tooth structure and does not need to be reduced if there is not an existing crown preparation already there (Figure 5).

If, however, there is insufficient enamel on the tooth, then as much retention and resistance form should be placed into the preparation as possible. This will prevent the restoration from relying strictly on an adhesive bond to stay on the tooth.

Axially, 1.2 mm of reduction is recommended when placing a shoulder. Typically, the rule of having 3 mm of axial wall length can be ignored,

simply because again we are relying less on mechanical retention and more on adhesive retention. So every effort should be made to conserve tooth structure, and avoid unnecessary reduction to gain wall length (Figure 6).



Margins should be kept supragingival whenever possible, unless decay or defects in the tooth dictate otherwise. Subgingival preparations were necessary in the days of PFMs and metal margins in order to hide the margins. However, subgingival margins can lead to inflammation, biologic width invasion and unnecessary tooth reduction. By keeping margins supragingival, we are able to provide an area that is easier to clean and maintain for the patient.

SEPARATION FROM THE ADJACENT TEETH

One of the principles that we teach in the hands-on courses at Scottsdale Center is to provide for distinct separation from the adjacent teeth. By gaining separation, the clinician provides several advantages to the CEREC system.

Separation allows for easier imaging and margination with the CEREC camera. Consider it a quality control of your preparation. If your preparation has separation and visible margins in the image acquisition step, then the rest of the procedure should go smoothly. If you cannot see your margins at the acquisition step, chances of a poor-fitting restoration are increased.

Separation also allows for proper emergence profile of the restoration from the preparation. If the restoration margins are finished in the middle of the contact area, not only are they more difficult to visualize, they also cause an awkward contour of the interproximal area. By having the separation, we are able to develop a smooth proximal contour with a broad contact with the adjacent tooth.

By getting distinct separation, we are able to have a tooth that blends in more naturally, and is easier to marginate and finish (Figure 7).

FERRULE EFFECT

Ferrule is the phenomena that requires tooth structure beyond the margin of the build-up. When placing restorations adhesively on teeth that are severely broken down, literature shows that at least 1 mm of ferrule should be present

on the buccal and lingual of the prep to prevent premature failure of the restoration. Interproximally, ferrule is not needed, simply due to the way occlusal forces are distributed. When a patient goes into excursive movements, all the force is placed on the buccal and lingual walls. By having 1 mm of ferrule present, this prevents the breakage of the marginal seal on the lingual from progressive occlusal forces in excursive movements.

CONCLUSION

By giving the CEREC the proper preparation, a more superior clinical result can be obtained than if one is sloppy with the technique. Care should be taken during the preparation phase, as it significantly impacts the remainder of the procedure.



PHOTO CAPTIONS:

Fig. 1: A successful CEREC preparation contains visible margins, distinct separation from the adjacent teeth and 1.5 mm to 2.0 mm of occlusal reduction.

Fig. 2: Partial-coverage restorations should maintain at least 2 mm of tooth structure at the base of a functional cusp, and 1.5 mm on a non-functional cusp.

Fig. 3: Proper reduction involves using a depth-cutting bur. Here, a 2.0 mm reduction bur is used to quickly reduce the occlusal table.

Fig. 4: The final preparation fulfills the criteria of a successful CEREC preparation.

Fig. 5: If adequate enamel remains, traditional retention and resistance form becomes less critical. Here, the interproximal is reduced to gain separation from the adjacent teeth, which also provides some resistance to dislodging.

Fig. 6: Traditional reduction is not critical when we are bonding. Precious tooth structure can be saved by not having to take the margins subgingival.

Fig. 7: Distinct separation allows for easy imaging. If you don't see your margins clearly at the imaging step, modify your prep and isolation as needed and reimage.

Fig. 8: For broken teeth, it's critical to get at least 1 mm of ferrule on the buccal and lingual to avoid premature failure of the restoration.

Fig. 9: Traditional posts are not necessary if there is sufficient tooth structure to bond to, and the clinician has the ability to get adequate ferrule.

**GET YOUR DENTAL
PRACTICE ON THE FIRST
PAGE OF GOOGLE®, YAHOO®
AND BING®**



Whether you need a customized website or you already have one that you want to be seen on the first page of search results, **call us today!**

**ONE DENTAL OFFICE
PER ZIP CODE AVAILABLE!**

DO YOU WANT TO KNOW...

- How Many Patients Are Searching For A Dentist In Your Area
- What Keywords Are They Searching For
- Where Your Website Ranks For Google, Bing & Yahoo Searches
- Where Your Competition Ranks
- What You Need To Do To Compete With The Dental Offices Ranking #1

**FREE OFFER FOR CEREC DOCS!
Ranking Report \$399 Value!**

WE WORK WITH ALL WEBSITES

FOR A LIMITED TIME WE ARE OFFERING
CUSTOMIZED WEBSITES FOR ONLY

\$499

**DENTIST
IDENTITY**
identify yourself online

**800.303.6029
Dentistidentity.com**

YOUNG&MOTIVATED®
YOUNG ADULT LEADERSHIP AND LIFE SKILLS WORKSHOP

YOU CAN MAKE A DIFFERENCE

IN THE LIFE OF A YOUNG
PERSON YOU KNOW

Created specifically for young adults ages 15 to 25+, Young&Motivated has been designed to empower attendees with the insight and skills to achieve their full potential. In the course of two concentrated days, they'll have the tools to master the fundamental components of life:

TIME • MONEY • RELATIONSHIPS



“I am so glad my dad gave me this opportunity. I feel much more guided in my future. Time, money and relationships are perfect topics and applicable for everyone.”

- Brooke, Age 20

Tuition:

\$1,250 for new participants

\$950 for returning graduates

At Scottsdale Center for Dentistry

Course Dates:

JUNE 2011
2
THURSDAY

JUNE 2011
3
FRIDAY

AUGUST 2011
12
FRIDAY

AUGUST 2011
13
SATURDAY

800.743.5694

youngandmotivated.com





Sirona - The global leader in 3D Digital Dentistry brings you GALILEOS.

As the first comprehensive 3D Imaging solution GALILEOS combines X-ray diagnostics, implant visualization, CAD/CAM prosthetic treatment planning and patient communication in one tool. This unmatched clinical efficiency improves treatment acceptance, reduces uncertainty and increases productivity.



For more information please contact Sirona or your local Patterson Representative. If you would like to learn more about our surgical guides, patient cases and GALILEOS CEREC Integration please visit www.Sirona3D.com

PUT THE FUTURE OF DENTISTRY IN YOUR HANDS TODAY!

Join us for a 2011 3D Summit on Digital Dentistry

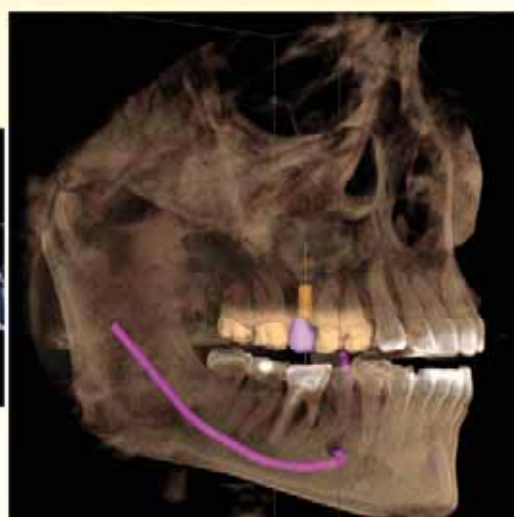
The only live patient, continuing education seminar teaching full clinical integration of 3D Cone Beam imaging and CAD/ CAM dentistry.

Chicago, IL - April 1 & 2

Scottsdale, AZ - April 29 & 30

San Antonio, TX- June 10 & 11

Minneapolis, MN - July 29 & 30



Up to 6 CE Credits available
www.3DSummit.com

Smart Phone QR Code



"The possibilities for Galileos - Cerec integration are huge. The predictability and ease of use are really going to propel a lot of GPs to confidently offer and place implants. This is going to have a tremendous impact on their patients' potential well-being."

Dr. Armen Mirzayan - Los Angeles, CA

"The live Patient Surgery by Dr. Patel was among the best learning experiences I've had in 26 Years!"

Dr. Kevin Shuster - Prescott, AZ

Note: Cities and dates subject to change without notice

4835 Sirona Drive, Suite 100, Charlotte, NC, 28273 | 800-659-5977 | www.sirona3d.com

The Dental Company





||| Q&A WITH ||| INGO ZIMMER

BY SAMEER PURI, D.D.S. ||| We are excited for this issue to interview someone very unique. Ingo Zimmer captivated the audience at the August 2010 CEREC 25 meeting with his lecture on the future of CEREC. With the yearly software update on the horizon, I thought it fitting to introduce all the CEREC owners to the man behind the software. Mr. Zimmer has been a longtime employee at Sirona and has risen in the ranks from a programmer to manager of the whole programming team of engineers, and also is responsible for bringing the ideas of the software to reality. His latest creation was the buccal bite feature, which, if you have used it, is one of the most significant advances with regard to occlusion in the software in many years. Ingo will be speaking at the 3rd Annual CEREC Owners Symposium in Scottsdale in July, where he will give you a real-time view of the software, present and future.

Q: *Can you tell us your role at Sirona Bensheim?*

A: I work in the CAD/CAM division as manager, CEREC software. I am in charge of the CEREC and CEREC Connect software. My job is to manage the entire programming team, and make sure that the concepts that are discussed and envisioned become a reality. This includes managing conceptual design, envisioning, storyboarding and then the actual programming of the various aspects of the software. Bensheim

is the global R&D headquarters of Sirona, so there are a lot of moving parts that need to work together. My goal is to make sure everything – from beginning to end – happens in a smooth and consistent manner.

Q: *How long have you been involved with the development of the software?*

A: My career at the Sirona factory in Bensheim, Germany started seven years ago as a CEREC

software developer. By 2007, I had become the CEREC software team leader. Since late 2009, I have been manager CEREC software. This has led me to have hands-on experience with the software virtually since we went to 3-D. As you can imagine, there have been many changes over the past seven years, and all of those changes involve many people. Programmers, engineers, marketing managers all play a role in the development and launch of the software. I've been fortunate to have played a role in virtually all aspects of the software, which has given me the experience for my position today.

Q: What kind of engineers work on the software development team?

A: Engineers with various backgrounds work on the team. We have computer scientists, as well as mathematicians, physicists and people from the technical optics and image processing fields. We even have laboratory technicians on the team to combine the dental knowledge with the algorithms in the software. This is a great mix of people, and I feel honored to be a part of it. I am always impressed by the passion the people in our CAD/CAM division have. Everyone wants to make the product better every day, and works hard to bring the concepts and ideas of software design to reality.

Q: Take the readers through the birth of a software version. What happens, who is involved and how do you decide when a product will be launched?

A: We typically launch one software upgrade per year. This is an exciting but challenging process that has to be precisely planned. Besides the R&D team, other groups like product management, marketing or beta testers are involved in this process, in close coordination

with our general management. We start with the requirement analysis and discuss all feature wishes, requirements and ideas along one goal: making the product even better and easier to use. Satisfying our customers has been a top priority, so every single mouse click, every single move of the cursor, every single aspect of the user experience is thoroughly discussed. This can sometimes be a contentious aspect of the software design process, as there are so many users, and every single person uses the software just a bit differently. We take into account how each change, each evolution of the software will affect all the users in the world.

After agreeing on what features will make it into the next upgrade, we start with the programming. This is a time-consuming and sometimes tedious process. Unlike other systems, the CEREC software is completely custom. Every algorithm has been uniquely programmed, instead of taking off-the-shelf software and applying it to the dental field. This is what makes the CEREC software so unique. Milestones during the development process help to review the progress of the project, and beta-testing the software is a fundamental part of it. We are fortunate to have a core group of beta testers who spend months working with and testing the software before it's ready to be released. The moment when all the programming and testing is completed and we say: "Perfect — that's it. Let's release it!" is always very exciting. The celebration for my team is short-lived, however, as this is the eventual kick-off for the next upgrade.

Q: You recently had the opportunity to speak at the CEREC 25 meeting as a keynote speaker. How did it feel to address 2,500 people at the largest CEREC meeting ever held?

A: That was certainly one of the most exciting moments in my life. It was an incredible feeling to be onstage giving the audience a look behind the scenes of the latest CEREC developments. It was very special to me speaking at this event – and a lot of fun. More importantly, so many of the attendees came up to me after my lecture and thanked me for giving them a sneak peek into the next software release. It was great to be able to see the results of your team’s hard work being enjoyed by the thousands of passionate clinicians at the meeting. No doubt this was the best CEREC event I have ever attended. It was so perfectly organized – thanks to Roddy MacLeod and his team. They did an incredible job.

Q: *As of this printing, there are approximately 30,000 CEREC owners worldwide, and each has a*

with new innovations and continuous further developments in our software. During the last 25 years, we have shown that we have the best dental CAD/CAM software, and I am certain that this will continue. We work very hard for this – every day.

Q: *What type of testing do you do before a software release?*

A: Over the course of the last few years, software testing has become more and more complex. On one hand, because of more and more features that came into the software, and on the other hand, because of the different products that we have. Along with the CEREC software, we also develop the CEREC Connect software, the inLab software, the inLab Stack software and the CEREC meets GALILEOS software. In addition,

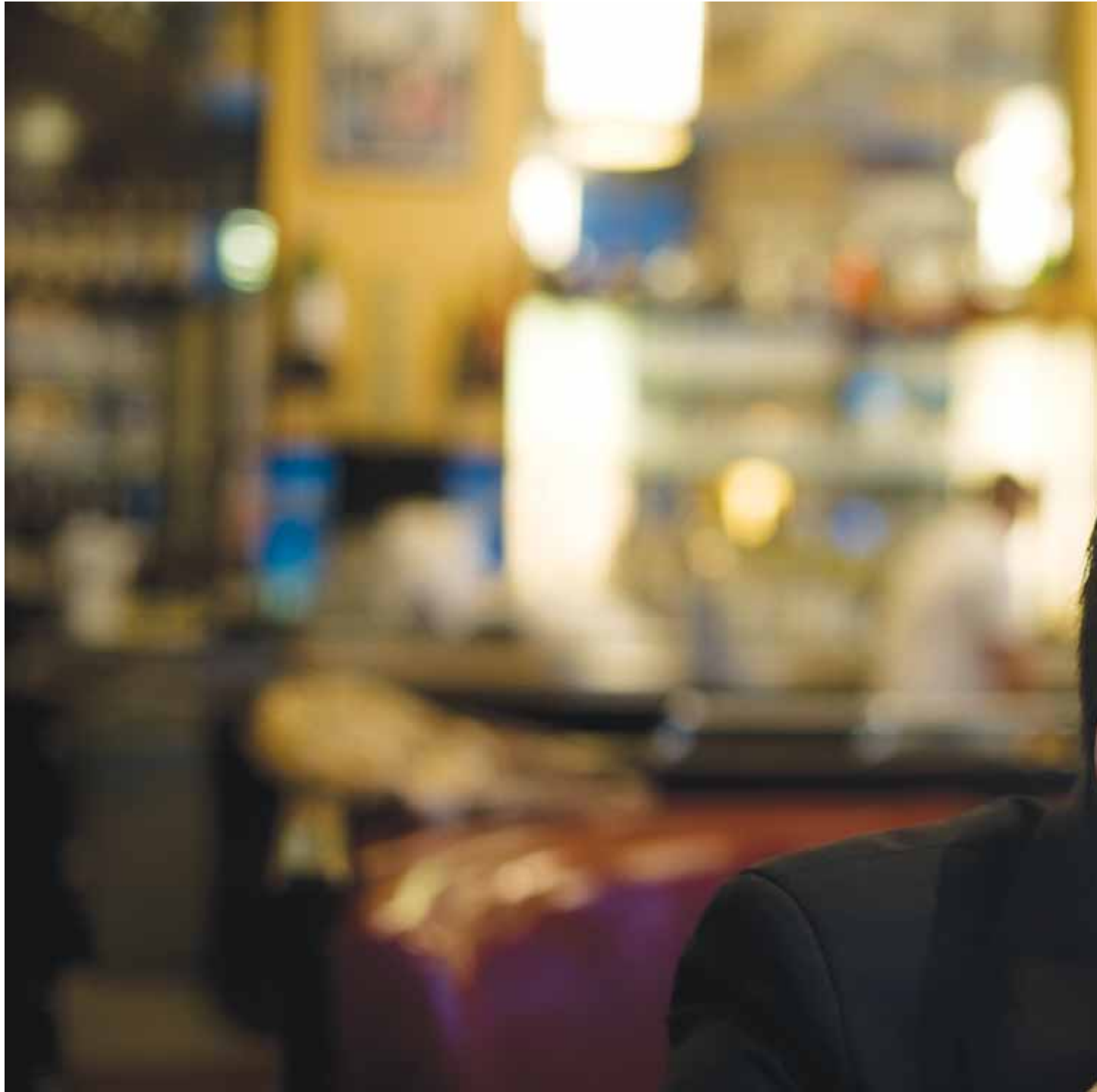
||| I am always impressed by the passion the people in our CAD/CAM division have. Everyone wants to make the product better every day, and works hard to bring the concepts and ideas of software design to reality. |||

||| INGO ZIMMER

particular wish that they want in the software. What is the process for determining what features go into a particular software version?

A: Of course every user has his particular wish, and that’s simply because of the versatile possibility of the applications of the software. While one user prefers doing posterior inlays/crowns, another user focuses on high-esthetics anterior restorations, and the next user specializes in bridges and implants. This creates individual workflows and requirements. We listen carefully to our users, and try to match these requirements

we support various hardware platforms for all the systems, like the acquisition units, milling units, lab scanners and lab PCs, including the various operating systems. So this is why testing is very important and has to be done attentively. We use different testing methods during the development process, and we do extensive beta testing. We have a great testing team performing system tests using, for example, automated testing methods to ensure that we release an as-bug-free-as-possible software.





Q: *Sirona is known for their secrecy with regards to future products and developments. This sometimes leads to criticism when the clinicians feel as though no progress is being made. How do you handle the concerns of these doctors?*

A: We also would like to release new features sooner than later, but sometimes research and development needs its time. Take Biogeneric, for example. We started working on this project about four years before we released it in the software. We needed this time to get from a breakthrough idea to the final product. And, in the times where competition is watching our steps very carefully; we have to be careful what we talk about in public. This patience and evolution led to one of the most significant advances in CEREC dentistry in 25 years. This patented process is something that no one can do other than CEREC, and it makes the design process very simple for new and experienced users alike. On the other hand, we do share a lot of news as well. Just think of my keynote at the CEREC 25, where I gave an inside look at various developments in the R&D department.

Q: *What has been your favorite feature of the past?*

A: Biogeneric, for sure! This is a breakthrough concept that has completely changed the way of reconstructing virtual restorations. In cooperation with the inventor, Professor Mehl from the University of Zürich, we accomplished something unique. No one else has something similar! Biogeneric looks at the adjacent teeth in the arch, and uses that information to give the proposal. This means less work for the clinician and faster designs. The entire process has come to a point where the user can simply scan the arch, draw a margin and get a virtual perfect proposal with little to no effort. By far this has been my favorite, and a favorite of the engineers as well. This was

an incredibly long process to design, but I think you will agree that it was well worth the wait.

Q: *What can the CEREC owners expect to see in 2011?*

A: As you can imagine, we work on various projects and further developments here in the R&D department. I just want to say this: 2011 will be a great year for CEREC. Stay tuned. Remember that question about secrecy you asked earlier? This is where you get to experience that secrecy.

||| The time to jump on board is now. CEREC is CAD/CAM for everyone. |||

||| INGO ZIMMER

Q: *For 25 years, CEREC has been the only CAD/CAM system around. Today, competitors are trying to out-do Sirona in CAD/CAM. What must Sirona do to ensure that they will maintain their number one position atop the dental CAD/CAM world?*

A: Generally, competition is a good thing – for the customer and for us. Competition creates an additional motivation for us because we always want to be number one. I believe that we have the best dental CAD/CAM product line in this business, and we work very hard to stay at the top of this world. The mix of new innovations, continuous further developments and people with passion are the cornerstones for keeping this up, as well as the great commitment from Sirona to build a new center of innovation in Bensheim to house the largest R&D team in the dental industry. This new center of innovation will house the entire CEREC team, where we will continue to develop the software for our users worldwide.

Q: *If there were no limitations, how would you design the software, and what features would be present that today are not present?*

A: No limitations? Just having two buttons: Acquire and Mill. This is our goal, and this is what we are working toward with every single feature. Biogeneric is the first step toward this. It will only get better and easier for all users.

Q: *What features do you feel are necessary to include before the clinicians who have not yet adopted CEREC decide that it's time for them to jump on board the CEREC bandwagon?*

A: I actually think that we are already there. Taking optical impressions with the BlueCam has never been easier. The Biogeneric software reduces the design time to a minimum, and with the MCXL, milling restorations has never been faster. Lots of clinical studies prove that our system works. So the time to jump on board is now. CEREC is CAD/CAM for everyone.

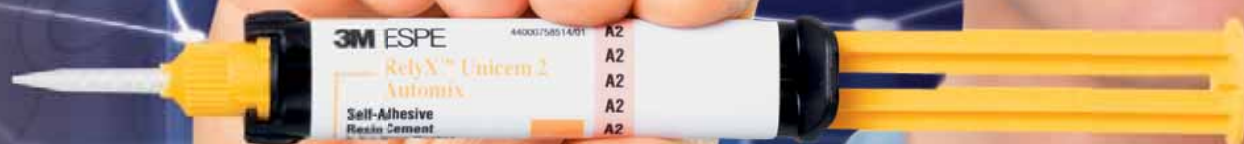
Q: *Will there ever come a point with the software where you say "We can't do any more. We have designed everything that we could design"?*

A: I hope not. Otherwise, I have to look for a new job (laughs). But seriously, we have a lot of great ideas and visions for the future of dental CAD/CAM. So I don't see that point anywhere near.

Q: *What does the future hold for Ingo Zimmer at Sirona?*

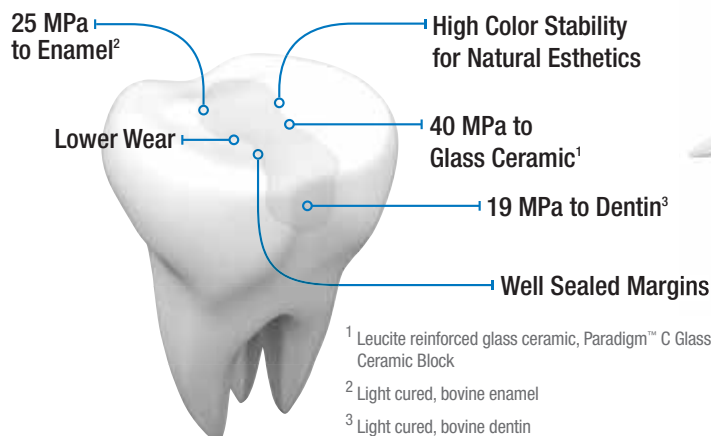
A: Sirona is a fantastic place to work. Great people and great products. CEREC is my passion, and I am looking forward to being part of new innovations that Sirona will be creating in the future. ❖

Chairside Solution for CAD/CAM



Simplicity — powered by performance

Featuring enhancements to bond strength, mechanical properties and esthetics; the innovative formulation delivers an even higher level of performance which is ideal for inlays/onlays fabricated from a variety of materials such as glass ceramic and composite.



RelyX™ Unicem 2 Automix
Self-Adhesive Resin Cement

▶ For a **FREE SAMPLE** visit
www.3MESPE.com/RelyXUnicem2Sample

▶ For more information visit
www.3MESPE.com/RelyXUnicem2

3M ESPE

CLINICAL

Which One Is the CEREC?

BY STEVE HATCHER, D.D.S.

I purchased my practice a couple of years ago. The previous doctor had completed this patient's lower anterior Empress veneers during the February 2008 timeframe, when we were transitioning the practice.

CASE 1

Fast-forward a couple of years, and the patient ended up fracturing the veneer on #24. He had moved to Charlotte, N.C., which is a solid two hours from the practice. How inconvenient! Well, thank goodness for CEREC.

In situations like this, with the proper training, CEREC Technology can really shine. I told the patient I would do my best and let him decide if he would like the one-visit veneer versus having a lab-fabricated veneer. His response was pretty simple after he saw the veneer. He replied, "Can I have it?"

My response was, "Absolutely!"

I was quite amazed myself at how well the veneer turned out (Figure 1). This was accomplished with a VITA Block 2M2 with no glaze; I just put a nice polish on it. I used Biogeneric Reference to make this restoration. You can see the red dot on tooth #23, which I used as my Biogeneric reference point (Figure 2).

Here is the proposal (Figure 3). A lot of you will pick up pretty quickly that

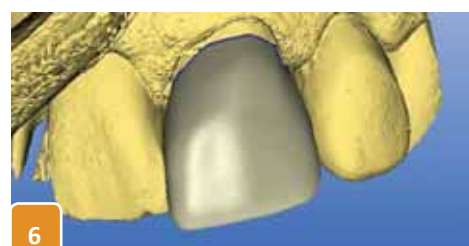
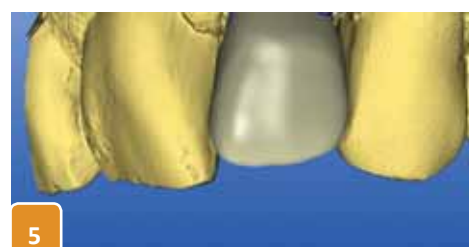
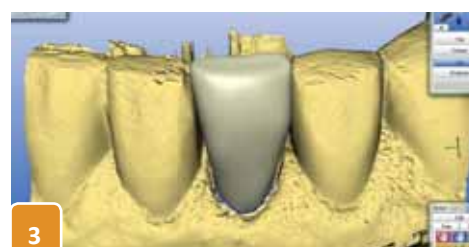
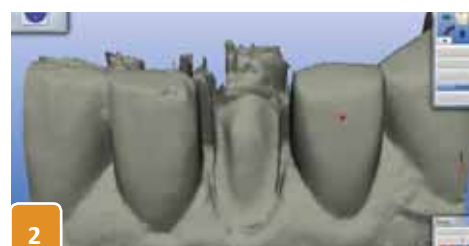
the final incisal edges do not match the proposal and the final picture. I ended up reducing the incisal edge quite a bit. They were flat even before, and I believe that his occlusion was a mitigating factor that caused the fracture in the first place. I do not want history to repeat itself! This simple case outlines the capabilities of the 3.84 software.

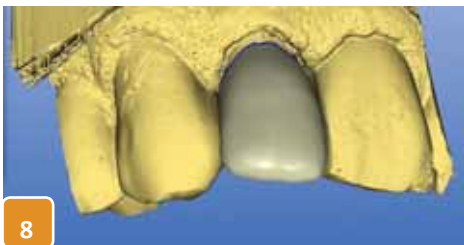
Attempt anterior restorations in your practice. I still use a lab for some cases, but this is an invaluable tool to have in your belt. I would like to thank all of the instructors at Scottsdale Center whose help made this possible.

CASE 2

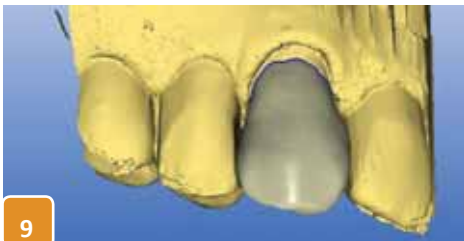
Patient had moderate crowding with some caries on #10. I recommended orthodontics, but patient refused due to his age (mid-60s). I do not have a pre-op of #10, but it was severely rotated and buccally inclined (Figure 4).

The patient was so thrilled with the improvement to this tooth that he wanted the other teeth to look better. So we ended up finishing the other





8



9



10

social six. The sequence was as follows: #9 Biogeneric, #6 Correlation, #8 Biogeneric, #7 Biogeneric (Figure 5).

In Figures 6-10, one thing you will notice is that I never prepped more than one tooth at a time. I went about the sequence in a very deliberate way. It was sort of a modified Sarmen technique using Biogeneric. While one tooth was milling I would proceed to another area. Now is this case perfect? Absolutely not, but the patient liked it because it looked natural to him. I used the VITA Triluxe blocks 1M2 for this

case with just glaze. These blocks are amazing for the anterior. The rotation on #7 was able to be corrected with the CEREC, but the inclination of #10 was just too great to correct without orthodontics.

If you are not doing anteriors with your CEREC, give it a try. One way to transition into anteriors would be to use the machine for your provisionals. You will be glad that you did. ❖

For additional information or questions, reach Dr. Hatcher at steven.hatcher@gmail.com.

Is your practice becoming a pain in the neck?

52%

of all dentists report chronic neck pain*

**See more
Treat more
Practice longer**

With a dental microscope from Carl Zeiss

*2007 Survey conducted by the ADA.

For more details or to find an authorized distributor in your area call (800) 442-4020

Carl Zeiss Meditec, Inc.

(800) 442-4020

www.meditec.zeiss.com/us/dentistry



SUR.3359



MENTOR GROUP

We Are cerecdoctors.com

BY SAMEER PURI, D.D.S.

With the launch of the cerecdoctors.com Mentor Group, it's fitting to introduce you to the faculty members who helped start it all. From humble beginnings – just an idea on how to better share CEREC-related knowledge via the Internet – cerecdoctors.com has grown into the

world's largest online CEREC community, a quarterly magazine, and a full-course, hands-on curriculum at Scottsdale Center for Dentistry.

We want to introduce you to the team who helps make all this happen. They are the ones tirelessly answering questions on the website, the ones who create the videos, who volunteer to help the thousands of clinicians who have come through the Levels 2-6 courses for hands on-training. They are CEREC beta testers, educators and clinicians whose singular goal is to help raise the bar in CEREC dentistry.

They ARE cerecdoctors.com.



JEFFREY CASO, D.D.S.

- Dental School: New York University College of Dentistry; Class of 1989
- Years in practice: 21

- Years using CEREC: 6
- Years as a beta tester: 3

My practice is on Long Island. I work in the same town I grew up in, and I started my practice from scratch right out of dental school. I enjoy family dentistry and treat many people who I have known for my entire life. I have

been married to my lovely wife Lynn for 21 years and we have three sons. Outside of dentistry, my passions include boating (I currently hold a United States Coast Guard Masters license for the operation of commercial vessels), fishing and woodworking.

I am so happy to be a faculty member of cerecdoctors.com, because it allows me to be a part of the best team of CEREC educators in the world. cerecdoctors.com has some of the best minds in dentistry, and collectively, the level of talent is an inspiration every day.

• **Most memorable cerecdoctors.com experience:** The first day that I was a mentor at Scottsdale Center. The entire experience was so fulfilling, and it was amazing to help colleagues through their learning curves.

• **My patients love CEREC because:** They really appreciate the level of commitment that I have put into using the technology efficiently with their best interests in mind. They mostly enjoy the time saving and the comfort afterward.

• **If someone took my CEREC machine, I would:** Stop practicing. Really!

• **In five years, CEREC will be:** In just about every office in the country.



MARK FLEMING, D.D.S.

- Dental School: Ohio State University School of Dentistry; Class of 1978
- Years in practice: 33

- Years using CEREC: 9
- Years as a beta tester: 6

After graduation, I set up practice in Cincinnati, Ohio and stayed there until 1993. We then moved to Florida, and in October of 1993, I opened my current practice.

• **Favorite CEREC feature:** It is a simple one: to be able to work in 3-D. I believe the first 3-D software was version 980. In essence, we are now working with version 3840, which shows how far we have come. Patients enjoy watching their restorations being created right before their eyes, which is part of the WOW factor of this technology.

• **Favorite CEREC moment:** A patient broke off an anterior tooth. Due to spinal problems, she had recently been confined to a wheelchair. We were able to fabricate a crown in one visit, which was huge for her due to her difficulty getting to the office from the rehabilitative center. When



» The cerecdoctors.com faculty. From Left to right: Darren Greenhalgh, Mike Skramstad, Pete Gardell, Jeffrey Caso, Mark Fleming, Rich Rosenblatt

we were finished, she looked in the mirror and said, "You gave me back my smile." After all she had been through, it made my day to bring something like her smile back to her.

I've been very fortunate to be affiliated with cerecdoctors.com, and to help others maximize their experiences with the CEREC technology. I'm looking forward to many more years of helping others with CEREC.



PETE GARDELL, D.D.S.

- **Dental School:** New York University College of Dentistry; Class of 1989
- **Years in practice:** 21

- **Years using CEREC:** 6
- **Years as a beta tester:** 3

Three years after graduating, I did a start-up from scratch. I migrated away from amalgam, doing a lot of direct

resins and indirect ceramic. I looked at the CEREC technology for a number of years, but was afraid to commit due to the money involved. As time went on, I saw that the large directs I had placed didn't stand the test of time. Breakage, recurrent decay and the developing of an unaesthetic matte finish made me question my ability to be a good dentist.

I had a partner who arranged for a CEREC demo. It went terribly wrong, but to my surprise, she wanted to go

ahead. I thought we could utilize the machine and make it work. In the first four months, she did a total of one restoration, and that was on me and I designed it! She kept coming up with excuses not to learn the system. I told her that since I signed the papers, I would take the machine.

I started taking courses and learning how to utilize the system. My old dental school roommate also bought the system, and we flew to California for a course by two guys from DentalTown – Sam and Armen – who seemed to know what they were doing. They also set up an online resource with videos to help people learn.

In the course, I had the first of many “a-ha” moments. For the first time I found a group of dentists who freely shared their ideas, and it was refreshing. They showed us that by experimenting with the way the system works, you can increase your efficiency. I got home and hit the ground running.

• **Favorite CEREC moment:** A patient wanted to redo his smile and we started to do the work-up. He was diagnosed with cancer and had to undergo chemotherapy. He fought hard for a year and seemed to be on the rebound. It was Thanksgiving, and he asked if he could get his teeth done so he could go and visit with his family for Christmas. He was leaving in seven days.

The only way I could do it was with the CEREC. We spent four hours doing eight veneers. When I gave him the mirror, he looked and he cried. He said that now he could go see his family and be proud.

I saw him after the holidays and he

couldn't stop thanking me, which really made me feel good. Unfortunately, he lost his battle a few months later. His wife sent me a nice card after his passing and she made a point to mention how having his teeth done had given him so much happiness.

• **Favorite CEREC feature:** The buccal bite.

• **If someone took my CEREC machine, I would:** Sell my practice and open up a pizza restaurant. There is no way I could enjoy dentistry without the use of CEREC.

• **Also:** Jeff Caso and I have gotten involved with creating or finding products that help the CEREC owner work more efficiently. We started the DentalCadProducts.com site to bring these products to market. Our mission statement: Simple solutions to high-tech problems. Our goal is to continue the search to find and create things to help the CEREC community.



DARREN GREENHALGH, D.D.S.

• **Dental School:** Case Western Reserve Dental School; Class of 2000

• **Years in practice:** 10

• **Years using CEREC:** 10

• **Years as a beta tester:** 5

Returning home upon graduating, I had the opportunity to associate at a few dental offices in the Puget Sound area. I tried to learn everything I could about clinical excellence in dentistry. One opportunity that presented itself was to learn about CAD/CAM technology. When I saw this in action, I was intrigued. Luckily, a couple of

months later, a CEREC 3 machine was delivered to one of the offices I associated with.

After a few years of working with the CEREC machine, I started a practice from scratch. The first piece of equipment that I moved into my office in October of 2004 was a CEREC. I kid you not – before my operatories were even finished, before the paint was even dry – I had a CEREC machine in my office. It has really been a fun experience with my patients and colleagues.

• **Most memorable cerecdoctors.com moment:** My favorite moments by far have been associated with the doctors and their staff members who attend the courses at Scottsdale Center. It's great to see everything click with the participants and see how excited they are to go home to their practices and make things so much easier and more predictable. It's very rewarding helping others make the CEREC process work better for them.

• **My patients love CEREC:** I've had so many compliments because of this technology. My patients are really happy to be finished with most of their restorative appointments in one visit. The most typical feedback I receive is, “This isn't the type of dentistry I've had in the past; wow, things have really changed!”

Interestingly, patients who have been with me or the practice for some time are expecting to be done in one appointment. For a large portion of my patients, one-visit dentistry is almost expected now!

• **Helping CEREC owners:** For seven years, I have moderated the Puget Sound CEREC study club;

I have had the huge pleasure of instructing many CEREC owners through basic and advanced training; I have traveled all over the United States and Canada speaking about the benefits of CEREC technology. I have served for years as a moderator for the CEREC room on dentaltown.com, and have been on *cerecdoctors.com* since the very beginning. And I have been lucky enough to work with some really talented people on *cerecdoctors.com* magazine. It has been a wonderful ride.



RICHARD ROSENBLATT, D.M.D.

- **Dental School:** University of Medicine and Dentistry of New Jersey; Class of 1997

- **Years in practice:** 13
- **Years using CEREC:** 8
- **Years as a beta tester:** 4

I grew up in a small town on the Jersey Shore called Wayside. I got married my senior year of dental school, and my wife Aimee wanted to move back to the Chicago suburbs where she grew up. I got a great job at East Village Dental Centre. The owner, Gary Treinkman – who has been a great friend and mentor – was very progressive, and sent me out to learn about all the procedures we did in our practice. He purchased the first CEREC for the practice in 2003 when the software went 3-D.

In 2007 I purchased a practice in Lake Forest, Ill. The first piece of equipment I bought was a CEREC AU; then I upgraded to the CEREC

AC. I started what is considered the largest CEREC study club in the country in 2005. I became a beta tester for Sirona in 2006, and a trainer for Patterson in 2007. I was asked to be the moderator for the CEREC boards on dentaltown.com. I became faculty for *cerecdoctors.com* in 2008 and a faculty mentor for Scottsdale Center around the same time.

I was probably one of the first members of *cerecdoctors.com*. I was active on the message boards. I have been friends with Sam and Armen for many years, and as the website began to grow, they asked if I'd like to become faculty on the site and help make teaching videos. I didn't blink. I was honored, and knew that this site was going to be the go-to place for online CEREC education. I wanted to be there to help it grow.

- **Most memorable CEREC moment:** Speaking at the CEREC 25 event in August of 2010. Seeing that many dentists as passionate as I am about dentistry was so invigorating. It was a feeling that is tough to describe, but it made one feel as if a shift is coming soon. I love the CEREC community, and how much they love dentistry and the technology.

- **If someone took my CEREC machine, I would:** Punch them in the nose. I'm kidding! If someone took away my CEREC machine, I'd buy another one. I cannot EVER go back to conventional impressions.

- **In five years, CEREC will:** Take over the world! OK, that may be a little dramatic, but I think that it will continue to push digital-impression technology to a place where more

and more dentists will realize that it is not only better than conventional impressions, it also will improve one's dentistry by leaps and bounds.



MICHAEL SKRAMSTAD, D.D.S.

- **Dental School:** University of Minnesota; Class of 2000

- **Years in practice:** 10

- **Years using CEREC:** 7
- **Years as a beta tester:** 3

After graduation, I bought an existing practice right out of the gate. Looking back at my professional career, that risky decision turned out to be the wisest I ever made. It allowed me the freedom to figure out exactly how I wanted to practice and who I wanted to be as a dentist.

I took extensive CE and formed a plan for the future. That led me to a new office, a new business partner, and CAD/CAM. CEREC turned out to be the cornerstone of the technology-driven practice that we envisioned. Now almost everything that I do professionally revolves around CEREC. Not only do I base my restorative care using CAD/CAM, I also lecture and train extensively on the technology.

- **Favorite CEREC feature:** The ability to produce a restoration in a single visit. I absolutely love the reaction and excitement that my patients get out of CEREC restorations. I am constantly amazed at the response that we get when people can watch their crown being made. Their excitement is infectious and it affects my office in a tremendous way.

On a personal level, my favorite procedures are anterior restorations. I love the challenge and control of using photography and staining/glazing to produce lab-quality esthetics in a single visit.

• **Why I became a cerecdocctors.com faculty member:** When the site first launched, I joined to learn everything that I possibly could about CEREC. You always think that you know everything, but even as faculty, I'm constantly learning from everyone else's experiences and tips. I loved CEREC from day one and I think that Sam and Armen recognized that fact

from how much I participated on the site. One night I received an e-mail from them asking if I wanted to be more involved and I accepted immediately. It was one of the greatest honors in my professional life and I cannot thank them enough for their friendship and everything they have done for me.

• **Most memorable CEREC moment:** A few of us had the opportunity to test the CEREC AC BlueCam. We were so excited about the upgrade and could not wait for all the CEREC users to find out about the new acquisition unit and the doors it would open up for the future. I remember Sam and Armen

allowing me to make the introductory video that was "the announcement" of the BlueCam release. That was a tremendous honor for all of us at cerecdocctors.com and for sure was the most exciting time in recent memory for all of us involved.

• **Helping CEREC owners:** Off-site training has been an integral part of what we do as faculty. The training facility at Scottsdale Center for Dentistry has helped countless users go from "day-to-day" users to CEREC experts. The atmosphere at the Center is unmatched, and our results with the attendees speak for themselves. ❖

cerec
doctors.com

WHAT'S HAPPENING ON THE WORLD'S MOST POWERFUL ONLINE CEREC COMMUNITY?

NEW SOFTWARE

Be among the first to know – Find out about the new 2011 developments!

ALL NEW VIDEO CONTENT

Hundreds of how-to videos; all new content in high definition

WE GO WHERE YOU GO

Accessible on your PC, Mac, iPhone, iMac or other mobile device

NEW DISCUSSION FORUM FEATURES

- Avatars – Get instant recognition. Create your own identifying avatar; other members will know you at a glance!
- Instant Messaging – Send other forum members a one-on-one for e-chat
- Subscribe to members/threads – Never miss new forum content from your favorite members or discussion threads



ANNUAL MEMBERSHIP

\$425

TO BECOME A MEMBER OR RENEW YOUR MEMBERSHIP,
CALL LIZ AT 877.295.4276 OR
EMAIL LIZ@CERECDOCTORS.COM

ADVANCE YOUR CEREC KNOWLEDGE

Join the scores of doctors who have perfected their CEREC skills at Scottsdale Center for Dentistry. Learning directly from the best minds in CAD/CAM dentistry, you'll beat the learning curve, make the most of your CEREC investment, and discover a new level of enjoyment in your practice. It can be done. We'll show you how.



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

Sameer Puri, D.D.S.

Level 1

Patterson Beginning Orientation (Contact your Patterson rep for details)

LEVEL 2

CEREC Mastery – Rapid Integration Into Your Practice

Designed to give you the skill set necessary to use the software to its fullest capabilities, you'll get a thorough review of what it takes to make the CEREC process predictable and efficient.

LEVEL 3

Posterior Quadrant Proficiency

Properly used, CEREC will produce highly esthetic posterior restorations with perfect occlusion and contacts, whether you are treating a single tooth or complete quadrant.

LEVEL 4

Mastering CEREC Anteriors

Get the tools necessary to complete any anterior case with ease, positively impacting your productivity, clinical quality and client service excellence.

LEVEL 5

Fundamentals of CEREC and GALILEOS Integration

Learn all aspects of guided-implant planning using the GALILEOS and the CEREC, plus a complete understanding of all guided systems available to work with the CEREC and GALILEOS Integration protocol.

LEVEL 6

CEREC InLab Proficiency

Through lecture and hands-on, increase your knowledge of the inLab software, and improve your ability to better manipulate porcelain, plus, advanced cutback and stain and glaze techniques.

BUSINESS B

Optimizing the CEREC Practice

Strategies for driving practice growth through effective CEREC integration for doctors and their teams



**TO ADVANCE
YOUR KNOWLEDGE, CALL:
866.781.0072
WWW.CERECDOCTORS.COM/CURRICULUM**

IT'S THE BIGGEST CEREC EVENT OF 2011

3RD ANNUAL
CEREC
OWNERS SYMPOSIUM
JULY 15 - 16, 2011
SCOTTSDALE CENTER FOR DENTISTRY

THE WHO'S WHO OF CEREC KNOWLEDGE WILL INCLUDE :

- Dr. Sameer Puri
- Dr. Armen Mirzayan
- Dr. Russell Giordano
- Dr. Mark Fleming
- Dr. Dzon Nguyen
- Imtiaz Manji
- Dr. Vanik Kaufmann-Jinoian
- Dr. Mike DiTolla
- Dr. Dan Poticny
- Dr. Mike Skramstad
- Dr. Pete Gardell
- Ingo Zimmer

2 DAYS WITH THE GREATEST MINDS IN CAD/CAM DENTISTRY,

showcasing the latest news, products
and advancements from the front
lines of CEREC technology.

EDUCATION

Get up to speed on the latest technology,
and learn from the best in the business!

PRODUCT INFORMATION

Breakout sessions presenting the newest
and greatest CEREC-related products

EXHIBITS

The newest products and services
from our dental industry partners

TIPS & TRICKS

Streamline your CEREC proficiency
with the latest software

SOCIAL EVENTS

Relax and unwind with vendors, colleagues
and the cerectoctors.com faculty and staff

REGISTER TODAY
CONTACT: SHAYNA PHIPPS
480.588.9101
shayna@cerectoctors.com
cerectoctors.com/symposium

REGISTER BEFORE
APRIL 1, 2011 AND RECEIVE
\$400 OFF
TUITION

Before April 1, 2011: \$1,095 Regular Tuition: \$1,495



CASE-STUDY

Telescopic CAD/CAM Constructions Using Lithium Disilicate Ceramics, Teflon, Deep-Drawn and NP Materials

BY ELMAR FRANK, DR. MED. DENT. AND SIGRID FRANK, DR. MED. DENT.

The chairside CAD/CAM world has come such a long way in the past few years; it's difficult to keep track of all its aspects and applications. Continued education and drive are the only way to stay on top of your game and keep your own comfort level from dropping below the state of the art. Depending

on the challenges that present themselves in daily practice, using what we've learned in our profession and what we know about CEREC can present amazing possibilities.

This article is a case-in-point, describing a practically seamless CAD/CAM process for creating telescopic dental restorations consisting of primary telescopes (made of lithium disilicate), secondary telescopes (made of computer-milled Teflon or a deep-drawn thermoplastic material), as well as tertiary structures made of laser-sintered/non-precious alloys (inCoris NP).

The workflow described in the following cases represents a shift away from the conventional, analog fabrication of telescopic restorations toward a digital CAD/CAM process. Although Sirona's CEREC and inLab CAD/CAM systems do not normally cater to the design of telescopic crowns, it was nonetheless possible to create complex telescopic restorations by performing certain modifications and intermediate manual steps. The



goal was to demonstrate what will be within the future capabilities of these two dental CAD/CAM systems.

CASE STUDY

The patient's dentition displayed pre-existing damage in the form of massive cervical defects, cross bites on both sides, and pronounced bruxism (Figure 1).

The preparation for the placement of telescopic crowns (Figure 2) features heavily chamfered walls, and reveals a good amount of periodontal damage.

Following preparation and periodontal therapy, a temporary appliance was placed (Figures 3, 4).

Impressions of the prepared dentition were taken using Thixoform



Ultra. Scanning models of the upper jaw/lower jaw were then created out of Cambase stone. The optical scan was performed with the aid of a modified CEREC AC unit (Figure 5).

Using rubber bands, the Bluecam was attached to a vertical drill stand, as available in any hardware store. This provided the basis for the shake-free, non-contact scanning of the model with inLab V3.65.

In the absence of dedicated telescope design software, the primary telescopes were designed as single-tooth crown copings in the "Framework" design mode. The following parameters were applied:

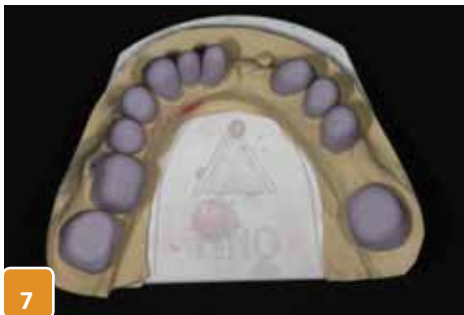
- Minimum thickness (radial): 0.8 mm
- Minimum thickness (occlusal): 0.6 mm



» Drs. Elmar Frank and Sigrid Frank of Besigheim, Germany.
Top: Dr. Frank, treatment planning



6



7



8



9



10



11



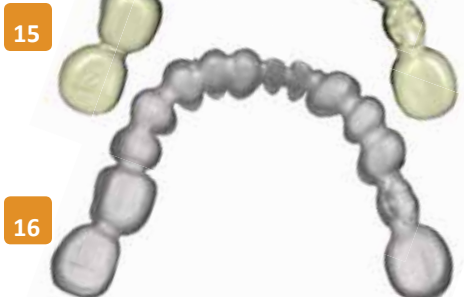
12



13



14



15



16

The primary crowns were then milled in lithium disilicate (e.max CAD) using the inLab MC XL unit. Try-in took place before sintering, and a fixation impression was taken using Impregum material (Figures 6, 7).

On this model, the primary crowns were parallelized with the aid of a 1° bur (Komet) attached to a manual milling device (W&H) (Figure 8).

This was followed by sintering and the smoothing of the primary crowns using fine-grade diamond-coated abrasive tools. Polishing was then performed with the aid of diamond paste and bison brushes. Figure 9 shows the results.

Following the completion of the primary telescopes, the secondary copings were deep-drawn (USIG). Figure 10 shows the thermoplastic foil, pressed directly onto the primary telescopes. Figure 11 shows the foil from the underside.

Figure 12 shows the model with the resulting primary and secondary telescopes in place.

The secondary copings were placed on the primary crowns, powdered and then scanned (Figure 13).

Again using inLab V3.65 (in the "Framework" design mode), a bridge framework was created, using the following parameters:



- Minimum thickness (radial): 0.6 mm
- Minimum thickness (occlusal): 0.6 mm
- Connector cross section: min. 8 mm²

The data was then transmitted to a manufacturer of laser-sintered structures (infiniDent Germany), which was commissioned to fabricate the bridge framework (in this case the tertiary structure). Figures 14 – 16 show – respectively – the virtual model of the lower jaw in inLab with the primary and secondary telescopes in place, the virtual tertiary construction as an inLab framework, and the laser-sintered inCoris NP tertiary framework from infiniDent.

The finished tertiary framework was

mounted on the model and equipped with drainage slits for the adhesive. Figures 17 – 19 show the framework for the upper and lower, the former displaying drainage slits. Figures 20 and 21 show the complete construction for the lower jaw.

After the intraoral try-in, the secondary copings and the tertiary framework were coated with metal primer and then bonded intraorally (Figure 22) and in a tension-free manner with the aid of USIG adhesive. Figure 23 shows the tertiary lower jaw structure with the secondary framework cemented in place.

After the removal of the adhesive



residue, the framework was veneered (Figures 24, 25).

The primary telescopes were adhesively bonded using Clearfill (Figure 26).

A plastic insertion tray was used in order to achieve an exact positioning and to prevent the leakage of adhesive

between the primary and secondary telescopes. The results are shown in Figures 27 and 28: The lower and upper jaw restorations in place.

This procedure resulted in two perfectly acceptable bridge restorations weighing 19 g and 21 g, respectively (Figures 29, 30).

- The final results can be seen in Figures 31 and 32.

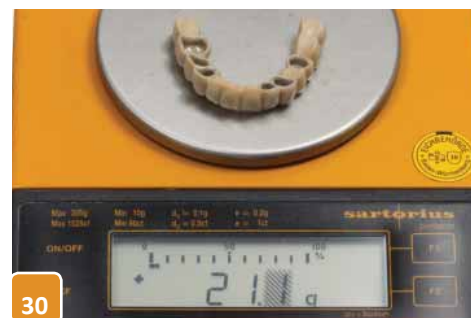
DISCUSSION

In the 18 months following this first telescope case, our practice produced several of these semi-CAD/CAM bridges. In some cases, we fabricated the primary telescope blanks out of inCoris NP instead of e.max CAD. The advantage here is that the primary telescopes are less fragile than the ultrathin lithium disilicate copings which have been sintered but not yet bonded. A disadvantage is the inferior aesthetics of steel telescopes. However, this was less relevant in the given cases (Figures 33 and 34, cover dentures).

Initially we used electroformed copings/Teflon copings in certain cases. In the majority of cases, we meanwhile create the secondary copings directly on the primary copings using a deep-drawing process (ErkoDent USIG system) (Figures 35, 36).

Alternatively, we have designed tertiary frameworks which have then been milled out of steel by infiniDent Italy (Figure 37). In cases where transverse/sublingual bars were necessary, we fabricated the frameworks manually using the conventional steel casting method.

In the absence of suitable blanks



for our milling machine, we were compelled to outsource the milling of secondary components made of Teflon. The necessity to ship these components to a foreign address delayed the manufacturing process. It would therefore be desirable if the corresponding materials were available for the inLab system.

The USIG technique enables us to produce secondary telescopes with good frictional properties – in-house, without any significant input of time and effort, and without having to resort to precious metals. In our opinion, the main advantage of having separate secondary and tertiary

structures is that the secondary telescope can be easily replaced in the event of a loss of friction and/or necessary repairs.

As a rule, we use the Gradia veneering composite. In some cases we use hollowed Genios teeth (VITA).

Admittedly, the design of components such as telescope crowns and tertiary frameworks on a non-dedicated CAD/CAM system is somewhat complex and challenging. On the other hand, it accords with our desire to achieve a chairside or semi-chairside workflow. The preparation of the posts should be as exact and parallel as possible in order



33



34



35



36

welcome addition to the software.

The handling of the milled and sintered ceramic telescopes is problematic. Prior to adhesive bonding, they are prone to fractures if treated roughly. After a full-surface adhesive bond has been created, this is no longer a problem.

Without exception, we designed the



37



38



39

to avoid excessive material thickness. Excess material (e.g., to compensate for undercuts and non-parallelisms) requires laborious manual reduction at a later stage on the parallel milling device.

The scanning procedure can now be performed more easily with the aid of the recently introduced inEos Blue scanner. At the time of our initial experiments, this scanner was not yet available. It is unlikely that a CEREC user who only occasionally produces such telescopic bridges will want to invest in a complete set of laboratory equipment. Logically, some users may want to deploy an already available

CEREC AC unit for laboratory scanning purposes. A further "trick" for acquiring non-contact, shake-free scans of a completely powdered model is to rest the camera on the edge of an appropriately sized bowl (Figures 38, 39). This prevents any contact with the sensitive powder layer.

The manual reworking/adjustment of the primary telescopes is laborious and time-consuming. The minimum material thickness needs to be continuously monitored. Even when machined in an unsintered state, the ceramic material is hard and brittle. A dedicated telescope design function would therefore represent a major and

tertiary frameworks in the "bridge framework" mode. Consisting of up to 14 units in some cases, the designs result in extremely large data files.

A further difficulty is the definition of the insertion axis, which is correct only for one jaw side (or, strictly speaking, only for a single tooth). In addition, we would welcome a spacer setting in excess of 100 μm in order to achieve a loose fit between the secondary and tertiary telescope (necessary for adhesive bonding purposes).

The possibility to create designs with built-in "holes" and "slits" would be a further useful addition to future software versions.

Above all, we would welcome a genuine telescope design function capable of generating parallel surfaces and frictional surfaces with a definable cone angle. These surfaces could then be milled automatically, thus eliminating the need for laborious manual parallel alignment. ♦

DISCUSSION FORUM

cerecdoctors.com Discussion Forum: Restoring 7–10

COMPILED BY DARREN GREENHALGH, D.D.S.

We are pleased to introduce a new section of *cerecdoctors.com* magazine to you. This compilation of posts from the discussion forum of www.cerecdoctors.com gives a preview of the different conversations that are occurring online.

This particular discussion centers performing their cases. This please visit www.cerecdoctors.com on how to restore teeth #7-10 with discussion will share what some of and type "restoring" in the search line. the CEREC. As you know, all CEREC the [cerecdoctors.com](http://www.cerecdoctors.com) faculty and We hope you enjoy this new feature users have different techniques mentors prefer. of the magazine, and that it will help and their favorite sequences for To participate in this discussion, enhance your CEREC experience.

RESTORING TEETH #7-10

**DR. SCOTT
GRAHAM**
Clinton
Township,
Michigan

» I just watched Mike Skramstad's video of imaging 7-10 for veneers with the BlueCam. He designed starting with #7 and then did virtual seat over to #10. My case will include crowns on #s 7 and 10, with 8 and 9 as veneers. This will be my first multiple anterior case doing four units. I will be correlating in the mouth as 7 and 10 contours are fine, and 8 and 9 will be mocked-up in composite. Should I do 8 and 9 first to get the midline and cant established, and then do 7 and 10 as separate units? Or do it just like in the video?

**DR. MIKE
SKRAMSTAD**
Orono,
Minnesota



» Hey Scott -

I did that video a really long time ago. The video really illustrated how easy it was to image anteriors with the BlueCam. I still like virtual seat a lot; probably do it a lot more than some of the faculty for four-unit anterior cases.

However, since 3.80 came out, in a situation like yours, I would prep one at a time and do Sarmen technique. In previous software versions, I was not a huge Sarmen fan in the anterior. Armen and I would have battles on who was right. I still contend that I was, by the way. :)

Since 3.80 came out though, and the pink line was eliminated, there is no easier way to do anteriors than Sarmen.

There are tons of ways to do this. Here is one way, and we'll let others chime in with suggestions. Start with #10.

1. Image pre-op of #10 full crown (take roll shots)
2. Prep #10 full crown/image and image #9 veneer pre-op (from incisal and take buccal roll shots)
3. Design/mill #10, prep #9 veneer, image #9 veneer and #8 pre-op veneer

4. Design/mill #9, prep #8 veneer, image #8 veneer prep and #7 pre-op crown
5. Design/mill #8, prep #7 crown, image #7 crown, design and mill

This is a lot of imaging. However, trust me when I say that it goes much smoother. Also, when you have the adjacent tooth prepped, you can draw the green line to capture the entire pre-op contact area.

If you want a video of this, let me know. I just did a huge replacement case like this.

The most important thing that Sarmen does in V3.80 is control "width" of teeth when doing multiple units. If you are going to do virtual seat (which I still do, especially in 8-10 unit cases, I'll do a combo of virtual seat Sarmen), you have to understand the "cut optical impression" technique, otherwise you will have issues with design. This is an excellent topic and I'm sure there will be a nice discussion.

**DR. ARMEN
MIRZAYAN**
Los Angeles,
California



» *"However, since 3.80 came out, in a situation like yours I would prep one at a time and do Sarmen technique. In previous software versions, I was not a huge Sarmen fan in the anterior. Armen and I would have battles on who was right. Still contend that I was by the way. :)"*

Since 3.80 came out though, and the pink line was eliminated, there is no easier way to do anteriors than Sarmen."

WAIT A SECOND!!!

You just conceded right there, dude! In your own writing, Sarmen prevails after all. LOL.

Yeah, the more progress the software makes, the easier things get. But nothing beats leveraging prep time and mill time.

By the way Skram and Rich, we just scrapped a chunk of the content and exercises in Level 4 to commit to this approach completely and jigs if you want to transfer pre-ops to preps, in large models.

**DR. MIKE
SKRAMSTAD**
Orono,
Minnesota



» Armen, it prevails in Version 3.80. In all versions prior to that — no good in the anterior. Pink line messed things up too much. I liked virtual seat much better. Now — unbeatable.

**DR. ARMEN
MIRZAYAN**
Los Angeles,
California



» We can get into a whole other argument on this — Jigs are worthless. :) They became obsolete when we image now from the occlusal for veneers. For big cases on a wax-up, transfer it directly into the mouth in acrylic.

In all seriousness, I know they work for a lot of people and it's a REALLY important concept to learn and should be taught.

I meant if someone gives you a model of eight prepped teeth next to each other and a model of a wax-up and you wanted to do it extra-orally.

Sarmen just destroys everything else. Especially when you wrap the green line down interproximal to the cervical. Speckled look on contact is awesome. No need to touch it.

DR. MARK FLEMING
Sarasota,
Florida



» It was amazing to watch the light bulbs go off for people in the last class. They felt very comfortable doing those anterior cases.

DR. DARREN GREENHALGH
Mill Creek,
Washington



» But jigs are a great back-up.

Sarmen is a fantastic technique – one that you can't beat with the patient in the chair.

But if you temporize and send the patient away – virtual seat or one at a time work great with the jig.

I don't like to transfer the wax-up. Why not just transfer the wax-up digitally? I know you don't get to perfect the occlusion without transferring the wax-up, but my wax-ups always look better than my temps.

DR. MIKE SKRAMSTAD
Orono,
Minnesota



» Wax-ups always look better, but the occlusion is likely off, too.

The question I always ask people is, "How often do you make your temps and not have to adjust the occlusion at all?" Most people would reply, not very often. Then why would imaging a wax-up on a model be any different? You will most likely have to adjust the finals then.

Most of the time, if I'm doing large cases indirect, then I am making temps anyway. So I just image those. If I do direct, then I do Sarmen. Lately, I'm doing Sarmen even when I do indirect (large cases). I like to do multiple fires, so I have the patient back a few days later.

One technique I do to "fix" the problem so the wax-up looks better is image the wax-up in the occlusion folder prior to the appointment, and the temps in the Antagonist appointment. Now you have the best of both worlds: the beauty of the wax-up and the occlusion of the temps.

One other way I would image the wax-up would be if GREAT care were taken doing it (i.e., facebow, custom incisal guide table, etc.).

DR. CARY AUSTIN
Hendersonville,
Tennessee

» Mike – I do have two questions.

Was the correlate the natural teeth or a wax-up model? It appeared to be natural teeth. If doing off a wax-up model, I assume you take Correlation images off the model, and are back to dealing with occlusion again? Any modification of the technique for wax-ups?

Could you also use the correct optical impression technique in order to have access to both proximal areas for the copy line? Any advantage?

DR. SCOTT GRAHAM
Clinton
Township,
Michigan

» Mike, thank you (and all the other contributors too) for all the time you spend making the rest of us better CEREC dentists. This video gives me a great deal of confidence to tackle multiple anterior restorations. I'm also glad you guys encouraged Sirona to get rid of the pink line!!

DR. MIKE SKRAMSTAD
Orono,
Minnesota



» @Cary: I don't image off a model every time. This particular case was just imaging veneers that had poor fit, but contour was fine. If I'm using a wax-up, I transfer into the mouth with acrylic and prep the actual acrylic. Other times with minor adjustments, my preference is composite mockup, and sometimes I just do virtual seat. Lots of ways.

@Scott: You're welcome. That's what we are here for.

DR. RICH ROSENBLATT
Highland Park,
Illinois



» Skram, sorry to make you post that on your vacation (NOT!). You did a great job of demonstrating why that is such a fantastic and predictable way to do anteriors.

Scott, the faculty works hard to make this site the best bang for the buck out there. It helps that we are such good friends and communicate a ton about what we want to accomplish on the site. Also helps that those guys work their butts off and love what they do. Proud to call them friends and peers!

DR. KEVIN HICKEY
Manilus,
New York

» Yeah, I've been asking for an updated Sarmen for quite a while. Would be great to see an updated posterior one, too. Will this video be a part of the video section? Thank you, thank you.

DR. RICH ROSENBLATT
Highland Park,
Illinois



» Kevin, posterior will be the same as anterior. It's about the rules of the technique. I'm sure we will get one up at some point, though.

DR. KEVIN HICKEY
Manilus,
New York

» Skram, you have no reservations of going with the copy of the distal contact area and being assured of a contact? Any problems with black triangles mesial of the cuspid, since you weren't able to copy that area?

DR. RICH ROSENBLATT
Highland Park,
Illinois



» Kevin, remember that the initial restoration was proposed to that distal contact area. Anything inside that green line is a 1:1 copy, so if you don't touch it, if you drop that green line to copy that entire distal area and don't touch it at all, the contact is dead-on and there should be no black triangle if you made a nice broad contact on the initial restoration.

DR. KEVIN HICKEY
Manilus,
New York

» Understand; however, when you design the cuspid, you can't get the green line on the correlate, interproximally below the mesial contact area (black triangle area) so you won't get a 1:1 copy in that area and you have to rely on the software's proposal. Didn't know if that might cause a black triangle to occur. Might be a bigger problem if you were just doing 7-10.

Another question – I assume the normal imaging of the next tooth to prep is, incisal shot, then a roll shot of the buccal. What about a change in pitch to register more of the distal surface?

DR. MIKE SKRAMSTAD
Orono,
Minnesota



» Kevin – You bring up two good points:

1. Obviously, I didn't finish my designs on the video above. But you need to be more careful and spend a bit more time on the first one because the software is proposing both of your interproximal areas. Shouldn't be a problem with black triangles if you are careful with your design. If you want to get really advanced, you can combine Sarmen with the

correct optical impression "cut" technique.

2. Yes, pitch shots are fine, that is what I do.

DR. DARREN GREENHALGH
Mill Creek,
Washington



» Good stuff, Skram.

I still like to image my wax-up – I have done the way you suggested before and found that I liked the wax-up better. I just don't like my temps as much, so I haven't imaged them since.

I hear you on the adjustments; if I don't have to touch the ceramic, that would be the best, but I usually find myself touching something up post-op anyway.

It's funny how we like to do things a certain way – every one of us likes systems, because systems work and are predictable. I love Sarmen in the posterior and use it all the time, but I think my biggest hang-up in using it anteriorly is I like to prep all at once in the anterior. Why I am laughing is that I don't have to prep all at once – I always make a prep guide off my wax-up, so for my next anterior case I am going to use Sarmen and my prep guide.

Going to rattle my system!

DR. KEVIN HICKEY
Manilus,
New York

» If you were to use this cut technique and follow up with Sarmen as you said, I don't know if I follow. With Sarmen you are prepping one tooth at a time and imaging the next tooth you are going to prep. So wouldn't your midline be naturally long and flat because the second central was un-prepped? Why would you need to use the cut technique again?

DR. MIKE SKRAMSTAD
Orono,
Minnesota



» Kevin – Either way will work. I just feel it gives me a better initial proposal to work with on the mesials of centrals.



The Gold Standard in Dental Adhesion

THE GOLD STANDARD



Combining proven self etching technologies with a new primer/ bonding resin approach, SURPASS® offers the highest shear bond strengths while eliminating sensitivity in one simple technique.

Independently each SURPASS® bottle optimizes an attribute critical to clinical success. When used as a system, SURPASS® is the new Gold Standard in dental adhesion.

- The conditioner etches enamel as well as phosphoric acid while eliminating post operative sensitivity
- The primer completely wets and penetrates the tooth structure to maximize bond strengths and completely seal the surface
- The bonding resin links the primed surface to all self cure, dual cure or light cure restorative materials
- SURPASS® has only one technique for all procedures
- There are no catalysts needed for any procedures
- SURPASS® offers the highest bond strengths available today. (As reported by Tufts and UNC)

Shear Bond Strengths

	Dentin	Enamel
Surpass®	58.2	60.1
Scotchbond MP+®	37.7	39.2
Optibond FL®	48.2	49.2
All Bond 2®	36.1	42.1
Brush & Bond®	33.7	18.8
SE Bond®	43.7	28.5
Excite®	22.1	23.4

*Dr. John Kanca III, DMD
Inventor of Surpass®*



HAPPENINGS IN THE CAD/CAM WORLD

The cerecdoctors.com Mentor Group

BY SAMEER PURI, D.D.S.

It's amazing how time flies. It seems like yesterday that my oldest daughter was born. Now I wake up and realize that I have a fifth grader in the house. And you know that you are getting up in age when you try to help your kid with her math homework and find yourself a bit lost – reaching into the inner parts of your brain trying to recall the nuances of the Pythagorean Theorem.

I would gladly pass the duty of teaching my kids math on to my wife, but her responsibilities are English and history, whereas I drew the short straw and got stuck with math. Oh, the sacrifices we make for our kids as we try relearning things that we couldn't figure out the first time we tried to learn them.



"No problem, anything for the kids," I say to myself, as I read her textbook and find myself learning all over again the intricacies of algebra and other fine mathematical disciplines. The advantage today is that I have access to the Internet, which was something that hadn't even been invented as I went through school (you know, the one I walked to, uphill, both ways in the snow with no shoes).

When a question comes up that I need to research, my favorite site to visit is wikipedia.com. It's the fifth-most-visited website on the Internet, and accepts no advertising. Its strict intention is for users to provide information by adding and editing content and making sure it stays relevant. It's users helping users.

What an incredible concept! Not unlike how cerecdoctors.com was created: users helping users. Our growth has been tremendous. More than half of the CEREC users in the United States have been on the website at one point or another.

But I write this not to talk about the website, but more about the concept of users helping users. In January, we launched the cerecdoctors.com Mentor Group. These mentors are not your ordinary CEREC doctors. They have gone through a

core curriculum of courses in CEREC, as well as other dental disciplines.

These mentors will stay abreast of the upcoming software and hardware updates via special meetings and special access to future software updates. They will also have a direct line to manufacturers who are instrumental in creating the products that we use on a daily basis in CEREC. Finally, you will see these mentors as you come for a CEREC course at Scottsdale Center for Dentistry, or as you participate in the discussions and watch the videos on cerecdoctors.com.

Why create this group in the first place? The concept is simple, really. Armen and I need help! What started out as a small project of creating an online CEREC resource has

There needs to be a core group of users dedicated to helping their fellow clinicians become masters with the technology.

turned into a legitimate full-time job. And, as with any successful endeavor, there comes a point where you either have to clone yourself, or you have to have knowledgeable clinicians helping you.

Currently, there are 11,000 CEREC owners in the United States, and approximately 30,000 worldwide. Where will this number be in 2015 (which, by the way, is not too far off)? If we are to meet the demands of helping the newcomers

OPTIMIZE YOUR CEREC PRACTICE

2 DAY WORKSHOP

TEAM-DRIVEN STRATEGIES
FOR DRIVING PRACTICE
GROWTH THROUGH
EFFECTIVE CEREC INTEGRATION

PRESENTING *OPTIMIZING THE CEREC PRACTICE*: AN ALL-NEW LEARNING EXPERIENCE THAT WILL REFOCUS AND REALIGN DOCTORS AND THEIR TEAMS, AND GET THEM EXCITED ABOUT DENTISTRY AGAIN!

Led by practice growth expert Imtiaz Manji and renowned CEREC clinician Dr. Sameer Puri, *Optimizing the CEREC Practice* is designed to empower doctors and their teams with valuable skills that will reignite their passion for dentistry and bring back a level of spirit and focus that will ultimately drive practice growth.

Over the course of two intensive and inspiring days, doctors and their teams will gain powerful insight into clinical mastery, value creation, productivity enhancement, team alignment and more.

Optimizing the CEREC Practice happens only once a year; class size is limited to provide an optimal learning environment.



16 CE CREDIT HOURS
TUITION

\$1,450
PER DOCTOR

\$1,250
PER TEAM MEMBER



Imtiaz Manji
Practice Growth Expert



Sameer Puri, D.D.S.
cercdoctors.com

TO REGISTER

CALL OR EMAIL SHAYNA PHIPPS AT

1-800-781-0072

SHAYNA@CERECDOCTORS.COM

cerec
doctors.com
AT SCOTTSDALE CENTER FOR DENTISTRY

and keeping the veterans abreast of all the different changes in the discipline, there needs to be a core group of users dedicated to helping their fellow clinicians become masters with the technology.

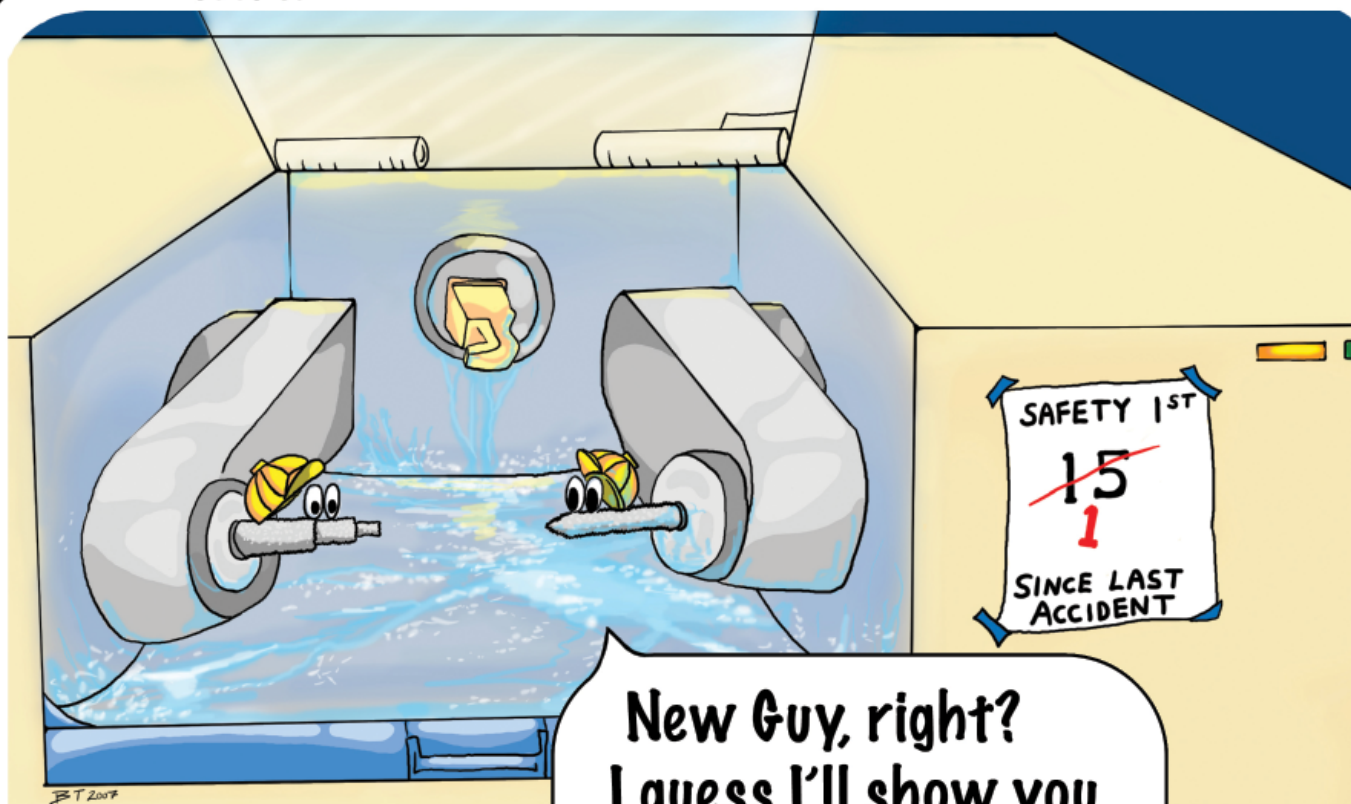
My firm belief is that we have the potential to double the number of users in the next five years. While the early adopters are long gone, those clinicians buying CEREC today are the ones who find it just another tool in their restorative arsenal.

I want to thank all of the mentors for their dedication and

their commitment to helping other CEREC clinicians better themselves. Some of these rising stars will no doubt create a name for themselves in the world of CAD/CAM.

One thing is for certain: The future of CAD/CAM is strong. With the release of the next software version, no doubt a whole new crop of CEREC users will emerge as they see the machine capable of fitting into their practices. And when it's time for some of the old-timers to get refreshed on the software, they need look no further than the Wikipedia of CEREC – cerecthdoctors.com. ❖

CAD/toons!



Brian Thornton DDS

LASER THERAPY MAKING CAD/CAM DENTISTRY EASIER

SIROLaser Advance Inspired by Intuition

Equipped for success.
With Sirona.

- 980nm, 14 watt Peak-Power soft tissue diode laser
- Efficient, economic and comprehensive fiber management
- Rechargeable Li-Ion battery for maximum portability
- Multiple user profiles and settings with touch screen interface

INTEGRATED FINGER
SWITCH AND AVAILABLE
WIRELESS FOOTSWITCH
ACTIVATION

PERFECT FOR GINGIVAL THROUGHING,
IMPLANT UNCOVERY, PERIODONTAL
DEBRIDEMENT AND MORE
ELIMINATES THE NEED FOR
RETRACTION CORD



Sirona Dental Systems LLC, 4835 Sirona Dr., Suite 100, Charlotte, NC 28273 - (800) 659-5977 - www.sirona.com

call 800.659.5977
www.sirolasertraining.com

sirona.
The Dental Company

> **Discover** the Simplicity of CEREC



Experiencing CEREC success is as simple as ABCD. We'll help you through the entire process, starting with **Accepting** the technology and **Beginning** your orientation all the way to **Controlling** the clinical experience and **Developing** your skills.

Let us help you discover just how simple CEREC CAD/CAM can be.



P110930 (1/10)

Contact your Patterson representative or call **1-800-873-7683**.


PATTERSON
DENTAL