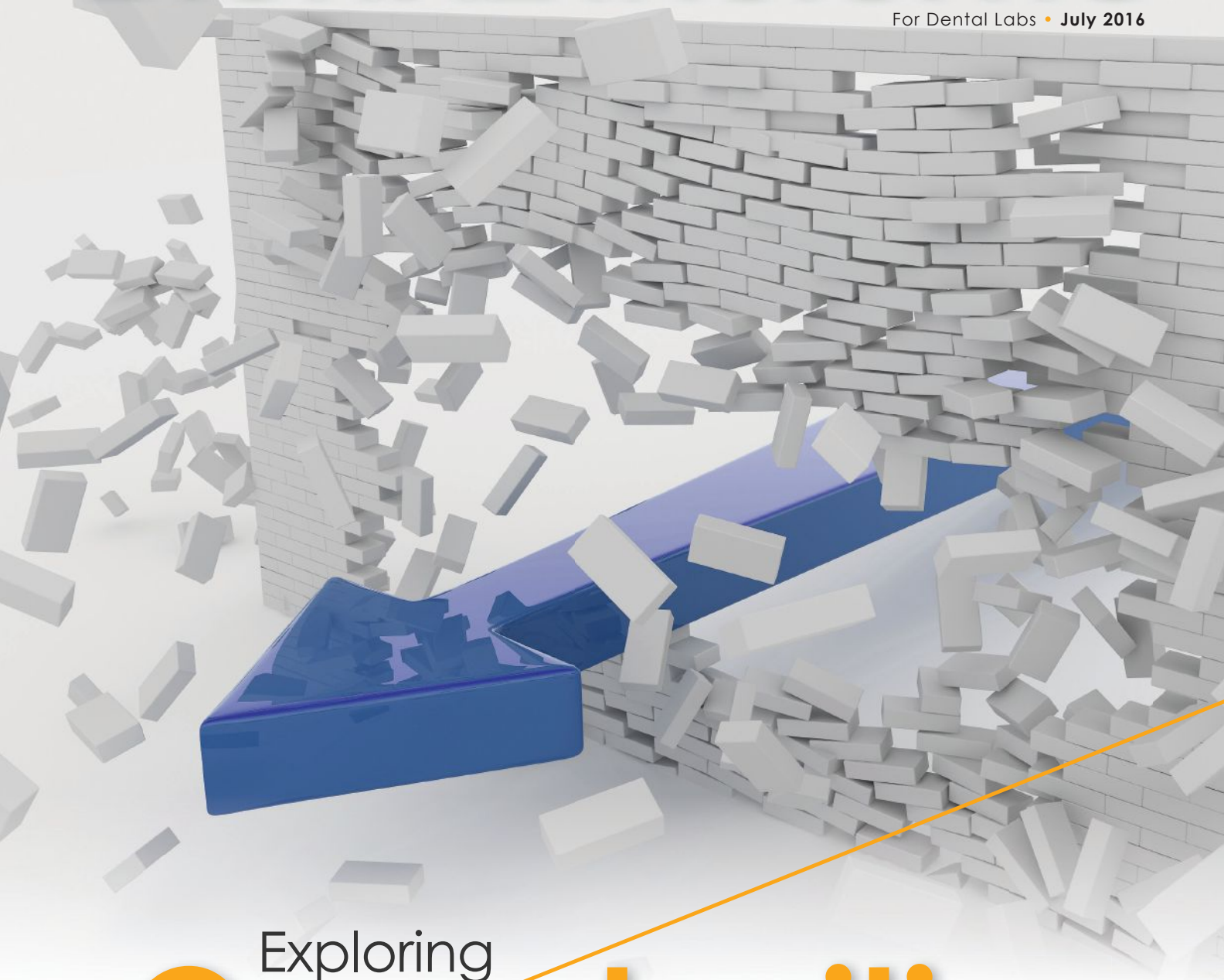
DIGITAL INSIGHTS

For Dental Labs • **July 2016**



Exploring Opportunities

Welcome to another issue of DIGITAL INSIGHTS…

Sometimes, boundaries are necessary. They are important for establishing guidelines and maintaining order, as well as providing direction if we don't know where to go next. However, too often these boundaries become crutches or cages, causing complacency and dissatisfaction. How will you ever know what is possible if you don't expand those boundaries?

I recently had the pleasure of watching a lecture by Dan Trommater, who uses the wonder of magic in his lectures to make you re-think what you think you know. After performing an amazing magic trick (how DID he get that $100 bill inside that lime?), Dan asked the audience to come up with their theories about how the trick worked. After deducing what we believed to be the only possible way, Dan said that he had done the same trick with 10 or 12 different methods. The lesson from this is that we are frequently bound by the assumption that there is only one correct way to do anything, which limits us from finding new possibilities.

In this issue of DIGITAL INSIGHTS, we focus on the way dental laboratories have removed those preconceived boundaries to explore opportunities. We will highlight various success stories of laboratories taking the leap, collaborating with others, and eliminating the limits they once placed on themselves. These laboratories have embraced the rapid growth and evolution of dental technology, from the ability to deliver same-day cases, to working with international doctors, to expanded material capabilities, the possibilities are endless.

Take inspiration from the laboratories included in these pages, and knowing that questioning your boundaries is the first step to breaking the mold and moving forward in a positive direction. I hope that this issue of DIGITAL INSIGHTS will encourage you to look outside the box and think of new ways for doing what you have always done. I also invite you to join me at SIROWORLD from August 11-13, where you can explore even more opportunities in the dental field, as well as learn about the very latest technologies in dentistry that will help you learn more about the opportunities that exist to you as a lab.

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Collaborate globally with international "CEREC-ing": Using the inLab® SW 15

By Frankie Acosta

When I first started working with our Sirona inLab® System five years ago, I would have never imagined where it would take me and my laboratory today. We now work closely with CEREC dentists from around the world through the Sirona Connect digital platform, planning the best treatment options and creating truly remarkable cases.

Same-day restorations have become a reality while working with "non-digital dentists," as well as with CEREC dentists designing and scanning cases at their offices using chairside systems and then sending them to my laboratory to mill, and this process has worked in reverse also. Our laboratory has designed cases, and then sent them back to CEREC doctors who were able to mill and finish the cases, all while working chairside.

Just recently, I've been given the chance to work simultaneously with a CEREC dentist on a full-mouth restorative case. The dentist started to design and mill a case from his office, sent me the file, and then I continued to complete the case. Our laboratory was then able to deliver the finished restorations to the dentist's office for an amazing, same-day full-mouth renewal.

Throughout the years, many cases have really surprised me and have made me fully realize just how far digital dentistry has evolved and continues to change our profession. More recently, I have dabbled with some (as I like to call it) "international CEREC-ing" as I've received more and more email inquiries from CEREC dentists around the world asking how we can work together. I turned down some of these requests solely because of not understanding the logistics of delivering cases to another country. In the past, I have attempted to deliver cases to Costa Rica, Mexico, and Argentina, yet had too many difficulties with transporting these cases in a reasonable amount of time and without damaging the restoration. For instance, one case I recently sent international actually made it to its destination fully intact, but took more than a month to get there.

Last month, I received a message from Dr. Daslav Ilic, a CEREC dentist located in Antofagasta, Chile. He had an issue where he wanted to copy a case chairside with his CEREC Omnicam. He sought to replace an existing bridge with full zirconia and pink porcelain, but wasn't able to locate a laboratory in his country that could process the scan. I told him to send me the scanned file so he could mill it with his own mill and then have a local laboratory add the pink porcelain. I'd like to share the case, but it is currently a work in progress. However, it opened the door for the following "international CERECing" opportunity.

SIRONA INLAB® SOFTWARE 15

This newest software is said to provide inLab users unprecedented freedom of design, materials and indications.

FEATURES:

- Allows dental technicians to process files from any digital impression service
- Includes new application modules such as implantology and removable frameworks
- Enables exportation to any mill

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CASE STUDY

Fortunately, a case I can share with you is another one I worked on with Dr. Ilic. He helped me to efficiently and safely navigate the delivery process to Chile and then sent me a case via Sirona Connect for a full zirconia six-unit biocopy that he scanned with his CEREC Omnicam. All the way from Chile, I was able to partner with Dr. Ilic on a fantastic model-less case that I was able to create and mill using the new inLab SW 15 and the inLab MC X5 wet/dry milling unit, respectively.

01 The dentist was presented with a patient who had a multitude of oral issues, including a collapsed bite, an underbite, and several rotting teeth. The goal was to create an esthetically pleasing six-unit anterior bridge that would drastically change the patient's appearance and lifestyle (Figure 1).

02 The dentist first created a four-unit anterior bridge chairside for the patient to establish an initial bite (Figure 2).

03 The dentist then added some crownwork to the posterior region to raise the bite. As you can see from the image, this instantly made a major improvement to the overall appearance of the mouth. With this particular alteration, the patient was now on his/her way to having a normal, functional bite and a more esthetically pleasing smile (Figure 3).

Fig. 1 The patient's original smile.

Fig. 2 Four-unit anterior bridge design.

Fig. 3 Crownwork in the posterior region.

Fig. 4 Provided mouthguard.

Fig. 5 Six-unit temporary bridge and mandibular partial.

Fig. 6 Maxilllary buccal view from final bridge from Connect case.

04 As a protective measure, the dentist provided the patient with a mouth guard to protect his temporary work while awaiting the completed and final restorations from our laboratory (Figure 4).

05 The dentist then fabricated temporary removable partials for the patient, and now the patient's new bite was 100 percent established and ready to be created and transformed into reality (Figure 5). The doctor was able to scan the case chairside using the CEREC Omnicam and then sent the scan to my laboratory digitally via the Sirona Connect network. With inLab's new Software 15 (SW 15), I can now utilize the amazing new biocopy function to perfectly design and replicate the temporary and then send the six-unit case to mill on the inLab MC X5 wet/dry milling unit.

06 Once I downloaded the scan, I was able to place the image in the full-model arch and align the model in the "set model axis" function, which also provides me with a virtual articulator view. I was able to perfectly align the teeth midline, as well as the entire case, according to the biocopy of the temporaries (Figure 9).

07 Now I am able to align the tooth numbers to the preps by using the "edit jaw line" function. This function maps out the tooth numbers to provide a clear outline of exactly where the teeth are to be placed for ideal fit and function (Figure 10).

08 Because we're using the MC X5 to mill, I now use the "define insertion axis" function to articulate precisely how each tooth number will be inserted within the parameters of the case (Figure 11).

09 Another unique feature of the new inLab SW 15 is the morphology tool. With this tool, I can choose from a list of tooth shapes, the biogenetic method that analyzes the patient's intact tooth surface as a basis for computing the occlusal morphology or the tooth database, which provides different dental databases of teeth from leading manufacturers, such as VITA (Figure 12).

Fig. 7 Occlusal view from provisional bridge, made chairside.

Fig. 8 Buccal view CO: Final bridge from Connect case.

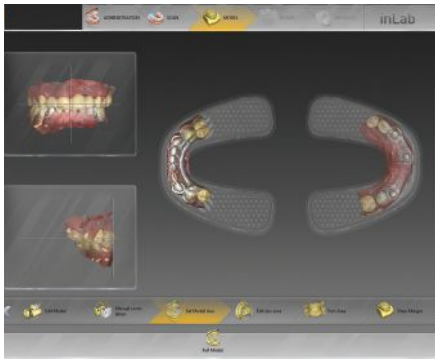

Fig. 9 "Set model axis" function.

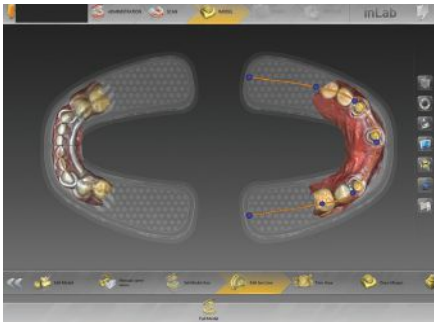

Fig. 10 "Edit jaw line" function.

Fig. 11 "Define insertion axis" function.

Fig. 12 Morphology too.

Fig. 13 Biojaw function.

Fig. 14 Case proposal.

Fig. 15 Finished case.

10 The biojaw function, located in the "positioning" tool, aligns and places all the teeth and I control each and every move for the most favorable positioning. The software will do whatever, wherever I place it, an unprecedented function where I can now actually guide the software (Figure 13).

We have the options of harmonic positioning, which will best position the teeth according to the surrounding area, or the linear option, which will align the teeth according to exactly where I navigate and place them.

11 Once everything is aligned, I can create a six-unit case in less than a minute. This is the proposal of the actual case. This is an important feature because once it's placed, the software automatically finishes it up but the user also has the option of making any necessary adjustments (Figure 14).

12 Now we have a display of the actual finished case. I can now simply export the file to the inLab MC X5 wet/dry milling unit, and it's ready for milling. The final product was milled with zirconia and then shipped back to Chile. Both patient and doctor were extremely pleased with the results (Figure 15).

CONCLUSION

After processing and completing this case, I realized my Sirona journey has taken me to levels in my industry that I would have never imagined. Sirona's inLab division has sent me all over the United States to work side by side with CEREC dentists from all walks of life. Now that Sirona has opened up the international door, I will now further explore to see how far it will take me and my laboratory.

TAKE THE QUIZ FOR 1 CE CREDIT

Earn 1 credit of Professional Development CE by taking the quiz for this article at **digitalinsightspub.com**.

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SIROWORLD 2016 THE ULTIMATE DENTAL MEETING

August 11-13, 2016 / Rosen Shingle Creek Resort / Orlando, Florida

Let SIROWORLD inspire you!

Hosted by Dentsply Sirona, **SIRO**WORLD: The Ultimate Dental Meeting is gearing up to be the most cutting-edge and revolutionary dental event of the year. From Aug. 11-13, thousands of forward-thinking dental professionals are expected to gather at the Rosen Shingle Creek Resort in Orlando, Florida, to attend this three-day educational, inspirational and entertaining meeting offering up to 18 CE credits.

SIROWORLD offers limitless educational value and combines groundbreaking general sessions, 11 track-specific and innovative breakout sessions, a state-of-the-art trade show and abundant networking opportunities.

In addition to industry-leading clinicians, technicians and marketing professionals leading various sessions, billionaire business mogul and entrepreneur Sir Richard Branson will engage **SIRO**WORLD attendees during general session on Thursday, Aug. 11, and Connie Podesta, a respected motivational speaker, comedienne, therapist and award-winning author, will speak during general session on Friday, Aug. 12, with her captivating yet unconventional speaking style.

Dentsply Sirona is elated to welcome powerhouse comedian, actor, writer and producer Jerry Seinfeld to the **SIRO**WORLD stage to provide comic relief during a private standup act for all attendees on Thursday evening. For **SIRO**WORLD's musical entertainment, a private concert by Grammy-nominated band OneRepublic on Friday evening is sure to enthrall all who attend.

To register visit **SIRO**WORLD.COM

LABORATORY BREAKOUT SESSIONS

Thursday, 2-3 pm
Digital Dentures - The Easy Way
Robert Kreyer, Mike Suris, Stephen Wagner

Thursday, 3:30-4:30 pm
Protocol for Planning and Producing Large Implant Cases Using inLab SW 15
Jay Black

Friday, 1:30-2:30 pm
Surgical Guides Using inLab with Sirona 3D Cone Beam
Chad Rogers

Friday, 3:30-4:30 pm
Digital Dentures - The Easy Way
Robert Kreyer, Mike Suris, Stephen Wagner

Saturday, 8:30-9:30 am
Leveraging Technology for Improved Doctor/Lab Communication on Same Day Cases
Frank Acosta & Daniel Vasquez

Saturday, 9:45-10:45 am
Tri-Dimensional Treatment Planning - Implant Case Solution
Javier Vasquez

Saturday, 11 am-12 pm
Highly Esthetic Full Contour Restorations Made Fast & Economical Using Preshaded Zirconia
Frank Acosta

Saturday, 2-3 pm
Introduction to the Next Generation of High Strength Glass Ceramics
Carlos Montaner

Saturday, 3:15-4:15 pm
Solving Today's Prosthetic Problems with Yesterday's Removable Solutions
Lars Bouma

Saturday, 4:30-5:30 pm
Managing Growth & Profits with inLab Partial Framework Software
Thomas Blanchette

The Dental Company

sirona.

Understanding Sirona's game-changing solutions for the digital world

Norbert Ulmer, Director of Laboratory CAD/CAM at Sirona, talks inLab, mergers and more.

By Ryan Hamm

Sirona has had a busy 18 months—between releasing software updates and debuting new products, they also merged with DENTSPLY to create Dentsply Sirona, one of the largest dental companies in the world.

We recently spoke to Norbert Ulmer, Director of Laboratory CAD/CAM at Sirona, about the company's big moves and unveilings, and what we can expect next.

Q: Sirona released several major products for laboratories in 2015. If you had to pick one, which one has you most excited?

A: inLab SW 15 is by far the most exciting and impactful product that we have introduced as it acts as the control center and communication hub for all other applications and components. inLab SW 15 is the gateway to the ever-growing Sirona Connect digital impression service, enabling not only the receipt of digital impression cases from Sirona dentists, but also streamlining communication with dentists via an integrated chat functionality as well as the capability to offer a design service for CEREC dentists. Furthermore, our dedicated iTero, 3Shape and exocad file imports, complemented by STL import, allow the laboratory to use Sirona inLab SW 15 for literally any case that comes through the door of their laboratory or digital impression portal. Powerful design features, such as the biogeneric jaw design mode, which generates the most patient specific anatomies, and the multi-unit screw-retained implant design mode, add easy-to-use techniques to the software that translate directly into new profit making opportunities.

Q: Sirona works with both dentists and laboratories—how do you see the laboratory-dentist workflow changing and adjusting?

A: During the past year we noticed a substantial increase in dentists adopting digital impression units in an effort to replace conventional impressions, enhance their service level, and increase patient satisfaction. Sirona pays tribute to this trend by continuously improving our Sirona Connect web service, along with adding software interfaces on the laboratory side (inLab SW 15) and on the dentist's side (Sirona Connect SW 4.4). As I just mentioned, recent introductions include a chat-functionality for enhanced communication between dentist and laboratory as well as a design service functionality that enables a CEREC dentist to send their scans of cases to a dental technician through Sirona Connect for expert designing and then have the finished design sent back to the dentist for milling. We are always motivated to improve speed, turnaround and efficiency. For additional convenience, laboratories can download the Sirona Connect App from the Apple App Store and then receive, review, and accept Sirona Connect cases directly from their smartphone, even on the go, such as while they are out of the laboratory making deliveries.

Q: How is Sirona helping laboratories walk through those changes?

A: Sirona offers a wide range of basic and advanced training courses that are continuously being offered in North Carolina, Florida, Indiana, California, and Oklahoma. Most of these courses are free-of-charge to Sirona inLab laboratories, who can send as many of their technicians as they like, as often as they please. You can always find the most current course schedule at inLabevents.com. Furthermore we are offering regular webinars, on-site trainings at major tradeshows such as the LMT Lab Days as well as in-depth training, business and networking opportunities at our annual inLab Summits and SIROWORLD events. Last but not least, we partner closely with inLabOnDemand.com, an education center with facilities at the East Coast and West Coast that offers live trainings as well as internet based video tutorials about all aspects of inLab software or hardware. Also, all new inLab users receive a free one-year membership with inLabOnDemand.com in order to gain access to their comprehensive educational video tutorials.

Q: The big news coming out of the dental industry was Sirona's merger with DENTSPLY. Could you give a little background about that?

A: Sirona and DENTSPLY are, in my opinion, a perfect match for each other. Both companies are coming from a position of strength in their respective market segments which has led to this merger of equals. DENTSPLY, the market leader in dental consumables and Sirona, the market leader in dental technology and equipment, creates the world's largest and most diversified manufacturer of professional dental products and technologies.

"Investing into digital means investing into a relationship that accompanies the transition of an entire business from analog to digital. It goes well beyond the life-cycle of any individual product."

Q: What are you most excited about in terms of the merger?

A: Dentsply Sirona will have approximately 15,000 employees, of which over 600 experienced scientists and engineers will foster the development of better, safer, and faster dental care. This, in conjunction with an annual investment of approximately $150 million in R&D will create the largest R&D platform in the industry. I am particularly excited about the synergies that will be obtained by combining DENTSPLY's consumables platform with Sirona's technology and equipment. Our new company will offer more innovative products and integrated solutions than any other dental organization in the industry.

Q: Sirona had a big year in 2015. What's on the docket for 2016?

A: Over the past couple of years, we introduced some major new products both on the hardware as well as on the software side. inEos X5 is still the only robotic scanner on the market. inLab MC XL is still the fastest glass-ceramic mill complemented by inLab MC X5as the only 5-axis seamless dry/wet mill on the market. And inLab SW 15 is the software that brings everything together. Integration and synergies will continue to drive Dentsply Sirona with our combined technology and material expertise through the expanding digital evolution. We are already integrating treatment planning software with inLab SW 15 for the design and fabrication of surgical guides. We also have continued integration of SICAT Function into inLab SW 15 that already allows for the import of dynamic functional data in combination with cone-beam and intra-oral CEREC data to replicate patient specific dynamics inside inLab SW 15. Last but not least, of course we will continue to further enhance the previously mentioned integration between inLab software and in-office digital impression systems.

Q: Is there anything else you'd like to add?

A: Sirona has thrived in the past and will continue to thrive as Dentsply Sirona by focusing on innovation that is relevant to our customers. Our innovation has been the root of your success, and your success has been the root of ours. Sirona CAD/CAM has been around for over thirty years and inLab specifically has existed for over fifteen years. There is a vast group of laboratories that have been with Sirona inLab from the very beginning because they recognized at a very early stage that investing into digital is not like investing into yet another casting machine or porcelain press. They have recognized that investing into digital means investing into a relationship that accompanies the transition of an entire business from analog to digital. It goes well beyond the life-cycle of any individual product and Sirona has proven the fact that it has the vision, the will and the capability to accompany this transition. And as we at Sirona are not exempt from reinventing ourselves in order to continue to drive and leverage the opportunities that present themselves, Sirona will continue as Dentsply Sirona to deliver the innovation and business opportunities that our laboratories are used to and expect from us.

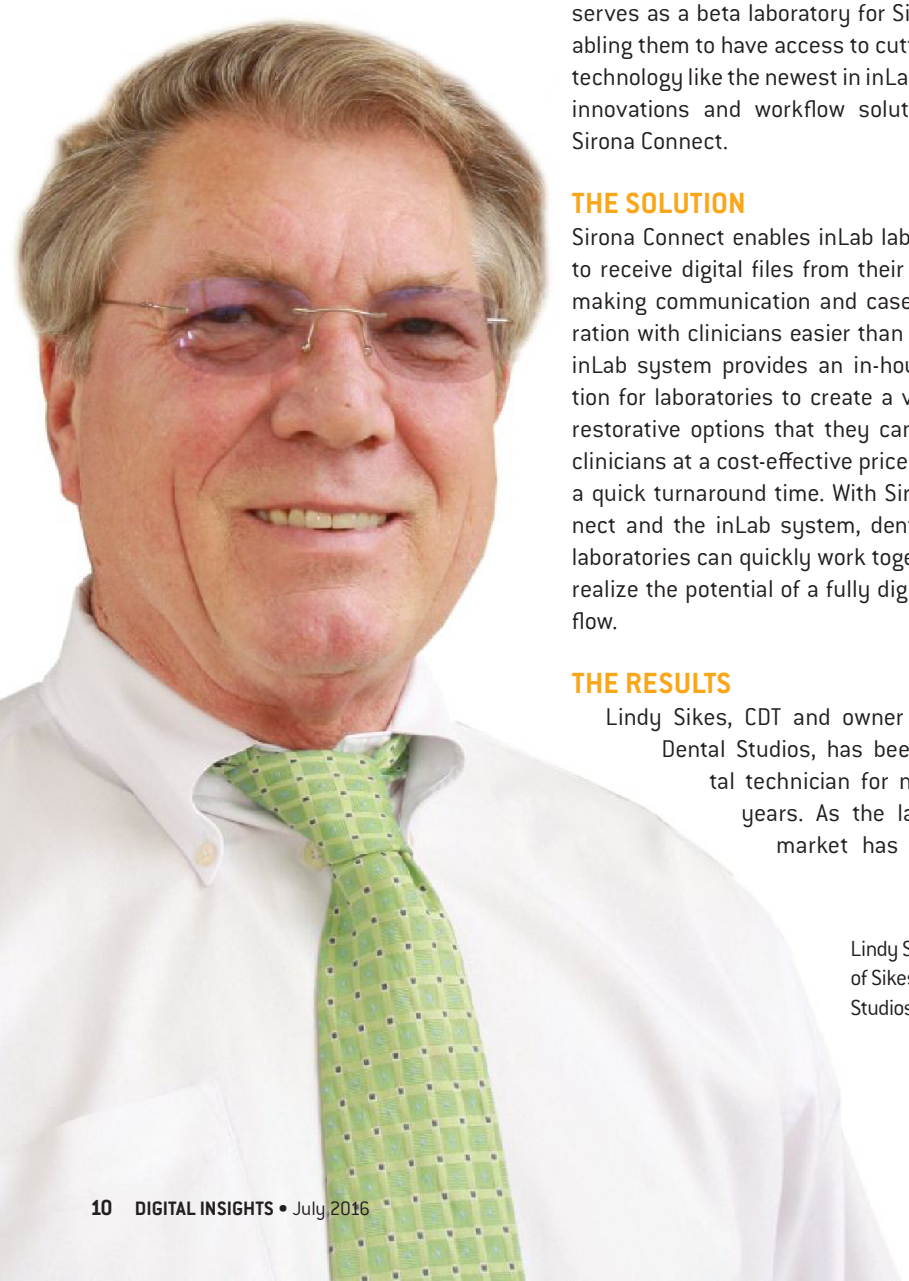
Increasing Esthetics and ROI with Sirona Connect and inLab

Lindy Sikes, CDT of Sikes Dental Studios, describes how going digital with Sirona has revolutionized his workflow.

BY RYAN HAMM

THE LAB

Sikes Dental Studios is a full-service laboratory in Charlotte, N.C. specializing in highly esthetic results for a variety of clients who request a variety of solutions. The laboratory is small, with seven full-time technicians, an office manager, and a delivery person on staff. Sikes Dental Studios serves as a beta laboratory for Sirona, enabling them to have access to cutting edge technology like the newest in inLab system innovations and workflow solutions like Sirona Connect.



Lindy Sikes, CDT of Sikes Dental Studios

THE SOLUTION

Sirona Connect enables inLab laboratories to receive digital files from their dentists, making communication and case collaboration with clinicians easier than ever. The inLab system provides an in-house solution for laboratories to create a variety of restorative options that they can offer to clinicians at a cost-effective price and with a quick turnaround time. With Sirona Connect and the inLab system, dentists and laboratories can quickly work together and realize the potential of a fully digital workflow.

THE RESULTS

Lindy Sikes, CDT and owner of Sikes Dental Studios, has been a dental technician for nearly 40 years. As the laboratory market has gone increasingly digital, he found himself at a crossroads. "Being a third-generation CDT, I grew up watching my grandfather and father run the dental laboratory, and I gradually developed a real interest in it," Sikes explains. "My connection to Sirona began about 10 years ago. Using an old inLab LED cam, I began seeing the advantages of digital technology. At that particular time, we were sending our zirconia patterns to be processed by an outside source. As we kept working, we noticed our out-sourced work was vastly increasing, to about $4,000 a month. Realizing that purchasing my own system would only cost me $2,000, I bought one and produced everything in-house." Becoming an inLab laboratory with full access to Sirona Connect has helped him take that workflow to the next level. Using Sirona Connect's capability to manage cases and communicate with his clinician clients, Sikes is able to complete work with a faster turnaround time and with less communication breakdowns that can so often make restorative cases tricky. "Probably in 97 percent of my business, I use Sirona Connect in one step or another for digital impression-taking," Sikes says. "Using Sirona Connect has changed my entire business model. Crowns that once took two weeks to turn around now can be completed in just three-to-five days, along with an overall reduction in costs.

"Sikes Dental Studios is a small laboratory, but we manage the volume of a 15-laboratory territory because of our digital capabilities," he continues. "Using digital technology makes us much quicker. We can accept more cases with fewer technicians,

complete cases faster and actually reduce our overall costs."

Sikes Dental Studios generally uses Sirona Connect to produce restorations taken from Sirona intraoral scanners and then work with the dentist's instructions to design the solution and then send it to Sirona's central production service, infiniDent, to produce the final restoration. "About 25 percent of our work comes in digitally through Sirona Connect," Sikes notes. "Of that 25 percent, at least 75 percent of those cases require a model to work on. We take the digital file that the doctor sends us and then we send it to infiniDent to print the model. infiniDent can produce full-contour crowns or bridge frameworks with a wide range of materials including ceramic, wax or metal.

"We also use Sirona Connect to design gold crowns and porcelain-fused-to-metal copings. Before digital technology, we had to hand-wax copings at a cost of between $5 - $20 each. Now that cost is $3.95 per coping. It requires less of the technician's time handling the product and the accuracy is far greater than what can be done by hand. It saves on cost and we produce a more consistent product."

Of course, the cost savings provided to Sikes Dental Studio by Sirona Connect isn't just because of a reduction in coping prices. Sirona Connect also improves turnaround time, which has a dramatic effect on Sikes' bottom line. "The benefit to producing a crown faster is that it saves the doctor anywhere between $60 and $80 per minute," Sikes explains. "Five years ago, it would usually take a week to get a crown processed. In two weeks, the patient had a temporary made out of plastic with the permanent crown delivered in three weeks. The plastic began to break down and the spaces naturally began to close. The microns of closure require grinding the permanent crown down to fit properly. That equates to an additional 10-30 minutes, and in some cases up to an hour, to place the crown at the doctor's office.

"We use Sirona Connect to design gold crowns and porcelain-fused-to-metal copings. Before digital technology, we had to hand-wax copings at a cost of between $5 - $20 each. Now that cost is $3.95 per coping. It requires less of the technician's time handling the product and the accuracy is far greater. "

"It's not because the laboratory is bad, but because of the production time involved in producing a quality product," Sikes goes on. "If the case can be finished quicker, there's less time for the temporary to break or start wearing down. Using digital impression-taking, we can actually deliver a crown in a day and chairside time is minimal." That time savings for the laboratory can then be passed to the doctor and then to the patient, ensuring a rapid workflow that is both better for the budget and better for the final customer: the patient.

Sikes firmly believes any laboratory ought to take the leap into a fully digital workflow and should begin to invest in technologies that will help them receive intraoral files easily from clinicians, along with providing a way to rapidly produce restorations (either in-house or with a partner like Sirona). "Any laboratory that accepts digital cases is positioned well for the future," he says. "For those laboratory technicians who don't have digital capabilities right now, it's hard for them to understand that integrating a digital platform would expand their capabilities and open a whole new communication platform between dentists' offices and clients. We've milled more than 2,000 inLab units and will continue to mill many more using Sirona Connect and the inLab System."

A view from the bench: The new CELTRA DUO

MILAN JOVANOVIC, RDT

Clinical and technical dentistry have gone through a period of significant change as the profession gears itself towards satisfying the needs of customers in the digital age. Advancements in materials, products and technology over the past 20 years have resulted in improved treatment planning and shorter healing times. However, it is well documented that the single biggest factor in delivering long term success is the skill of the clinician or the dental technician.

Furthermore, competition amongst dental professionals is high; therefore, to stay ahead, it is imperative that training and education is up to date to enable the dental professional to provide better service for their patients or clients.

Developing skills and techniques enables us to provide treatments using the latest technology and adds to the quality care provided as well as the whole patient experience.

Restorative dentistry continues to be transformed due to a variety of reasons

ABOUT THE AUTHOR:

Milan Jovanovic, RDT, is a graduate of George Brown (2007) and acquired his RDT license in 2011. He has worked his way up in a few dental labs developing his skills in all aspects of dental technology from a foundation of model work to fixed implant prosthetics using CAD/CAM Technology. Milan started managing Diamond Dental Studio in 2012 and got heavily involved in CAD/CAM Technology and is currently using 3Shape and Sirona CAD/CAM systems. He is also very familiar with the Itero and 3Shape Trios intra oral scanners and their workflow. Milan is constantly learning by attending conferences and seminars in order to stay current within the dental technology field.

which range from the introduction of new materials, more advanced clinical techniques and educated patients with more demanding expectations.

As an individual committed to Continuing Education, I am very aware of the technological impacts on our industry and therefore constantly learning by attending conferences and seminars to stay current and to be able to provide my dentist's clients with the best possible solutions.

Two interesting restorative products of the last few years have been IPS e.max and Celtra Duo.

e.max was launched in 2005. In scientific terms IPS e.max is a lithium disilicate glass ceramic that has been optimized for translucency, durability and strength for use in full anatomical dental restorations.

Celtra Duo is basically zirconia reinforced lithium silicate… The same furnaces that are utilized to process traditional C&B porcelain are also used to process this material.

More recently Dentsply released its new dental CAD/CAM material for CEREC: Celtra Duo.

Celtra Duo is basically zirconia reinforced with lithium silicate. It has exceptional chemical properties as a result of which a unique microstructure is provided, which makes speed, high strength and state-of-the-art esthetics through its opalescence achievable.

In my humble opinion, CELTRA's biggest advantage is that it can be diamond polished after milling. Milled restorations have a flexural strength of 210 MPa after polishing, whereas the flexural strength of fired restorations is 370 MPa. The secret of CELTRA Duo lies within its special DNA, similar to triple-stranded DNA; unique properties are embodied by CELTRA, which are a part of its functional lithium silicate microstructure reinforced with zirconia. As a result of this, CELTRA Duo yields properties, such as aesthetics – in-depth.

Fluorescence and opalescence are facilitated and translucency is visibly improved because of the increased glass matrix.

The translucency as well as the strength CELTRA Duo provides to a dental restoration is all because of its fine microstructure. The lithium silicate glass matrix automatically dissolves the zirconia within it; as a result flexural strength is increased, while at the same time, the esthetics of the restoration are possible.

Easy and rapid processing of the zirco-

Fig. 1a Bucco-Occlusal view: The Celtra crown exhibits a more life-like depth and color. The restoration looks like it was layered with porcelain when in fact it was stain and glazed.

Fig. 1b Bucco-Occlusal view: The e.max crown exhibits less life-like depth and color compared to Celtra. The restoration looks acceptable, but the esthetics are not as life-like as a porcelain layered.

Fig. 2a Buccal View: Celtra exhibits more life-like depth and color.

Fig. 2b Buccal View: e.max produces acceptable esthetics but has less depth of color and realism compared to Celtra.

Fig. 3a Lingual View: The Celtra restorations exhibit high level of realism through depth of color and translucency.

Fig. 3b Lingual View: The e.max restorations exhibit an acceptable level of realism and good translucency but are slightly flatter in color.

Fig. 4a Occlusal View: The Celtra restorations exhibit high level of realism through variation of color and translucency on the occlusal surface.

Fig. 4b Occlusal View: The e.max restorations exhibit an acceptable level of realism and translucency but are somewhat deficient in occlusal color variation.

Fig. 5a Patient's Mouth: The Celtra restorations blend well with the patient's existing teeth and provide good translucency and color match.

Fig. 5b Patient's Mouth: The e.max restorations blend acceptably with the patient's existing teeth but are a bit duller in color variation and translucency.

nia-reinforced lithium silicate material is made possible because the glass ceramic crystals have an ultrafine microstructure. This helps to finish and polish it in its crystallized, final tooth-colored state.

Strength—The glass matrix is reinforced, without getting clouded, by the 10% dissolved zirconia, which gives it extremely high flexural strength qualities. Even though CELTRA Duo is an innovative and state-of-the-art technology, the same furnaces that are utilized to process traditional C&B porcelain are also used to process this material. Even the CAM units are the same as those utilized for the milling of all ceramics, mainly the Sirona inLab MC XL.

CELTRA Duo is also a time-saver, since both the inlay and the onlay restorations, single unit-crown, for both anterior and posterior, are properly shaded, without any additional crystallization step needed. If desired, it is also possible to customize the restorations utilizing the CELTRA Stain and Glaze System. The system can also be used with a majority of the Ceramco porcelain systems, and lithium and zirconia disilicate structures.

In conclusion I can state that both materials are great for most restorations but in addition to the time saving experienced during the post milling, Celtra also had a small esthetic edge over e.max for monolithic restorations.

Celtra Duo compared with e.max® using inLab SW 15

Scanning—Case scanned via 3Shape D1000 scanner and transferred to Sirona inLab Software 15 for milling

Milling—Both restorations milled using inLab MCXL

Milling Time—Milling both restorations took approximately the same time (12-15 min per crown)

Trimming—Both materials exhibited same hardness and working characteristics while adjusting

Post Milling—e.max needs to be crystallized; this process takes 45-60 min
—Celtra can be worked on right away

Stain and Glaze— Celtra CAD comes with universal stain & glazes similar to Ivoclar universal stains & glaze while e.max CAD has its own specific "crystal stains and glaze"

Finished products—Both restorations are aesthetically pleasing but the realistic look of the Celtra Duo is evident.

Upcoming Calendar

AUGUST

AUGUST 5:
inLab on Tour Los Angeles, Costa Mesa, CA

AUGUST 11:
inLab on Tour Albuquerque, Albuquerque, NM

AUGUST 11-13:
SIROWORLD, Orlando, FL

AUGUST 19:
inLab on Tour Irving, Irving, TX

AUGUST 25-26:
inLab New User Course, Merrillville, IN

AUGUST 25-27:
DTG Symposium, Provo, UT

AUGUST 26:
inLab on Tour Memphis, Memphis, TN

SEPTEMBER

SEPTEMBER 15-16:
inLab New User Course, Charlotte, NC

SEPTEMBER 17:
Lab Day East, Atlantic City, NJ

SEPTEMBER 23-24:
MDLA Northland Exhibition, Welch, MN

OCTOBER

OCTOBER 13-14:
New User Course, Santa Clara, CA

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A Spotlight on Nakoma Dental Laboratory

BY ERICA DIMANNA

Nakoma Dental Studio, in Madison, WI, was founded in 1971 by William Brimmer and his two partners. His daughter, Jamie, began working for him as a dental technician when she graduated from high school in 1994. Jamie got married in 2001 to Tim Heintz, who was a welder, and the industry at that time was very unstable. Eventually, Tim was ready for a career change. He began working at Nakoma as a sales rep in 2008. As William was preparing to retire, 5 years later, and the laboratory was growing, he offered Nakoma to Jamie and Tim. The Heintzes bought the lab in 2013, changed the name to Nakoma Dental Laboratory, and moved the laboratory to Lodi, WI.

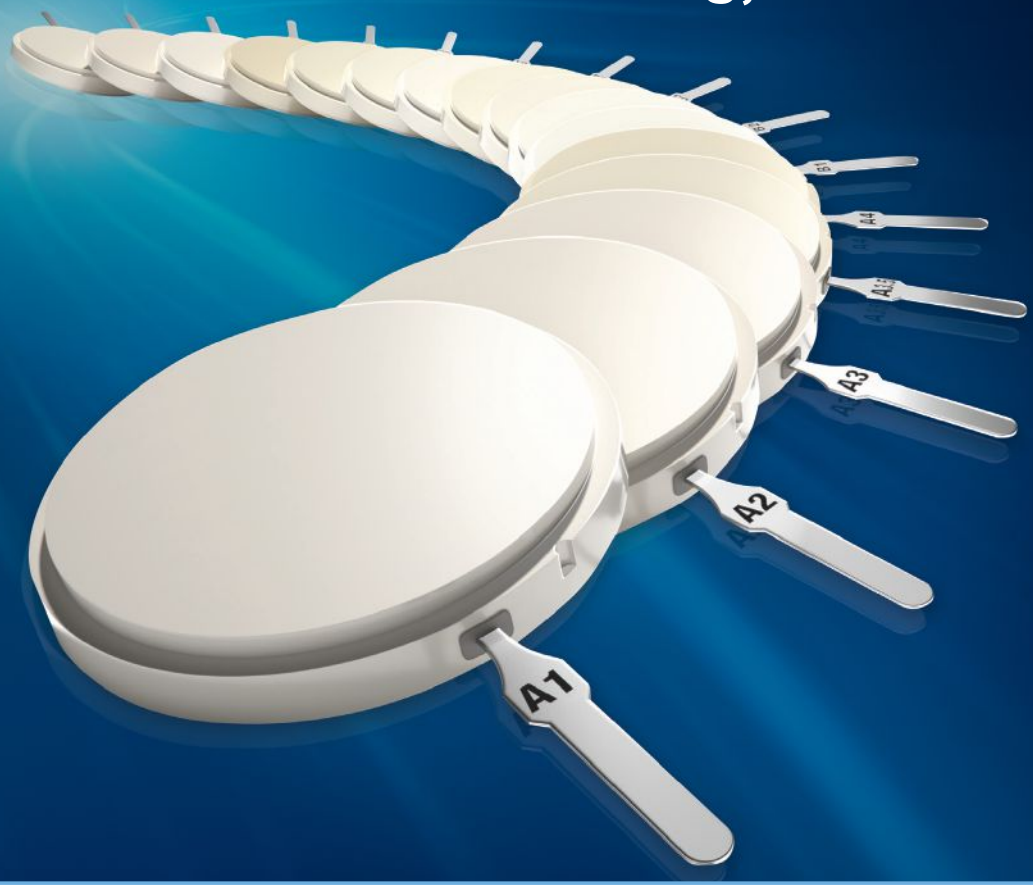
At the time Jamie and Tim took over the laboratory, they knew they wanted to grow the business using more advanced technology. William had bought an inLab® MCXL in 2010, and because it had been working well for them, Jamie and Tim wanted to explore what other options inLab had to offer. In the summer of 2013, Jamie attended an inLab Summit in Savannah, GA. After spending some time learning from her peers, she decided to buy an inEos X5 scanner and inFire Superspeed sintering furnace. The addition of those two pieces of equipment drastically improved the speed at which the laboratory could operate.

Since Jamie had such a great experience at the inLab Summit in Savannah, a year later, both Jamie and Tim attended another inLab Summit in Charlotte, NC. Because of the growth they were experiencing in zirconia restorations, they were getting to a point where they needed a dry mill. Once Jamie and Tim heard several success stories by talking with fellow lab owners, they purchased an inLab MCX5. The laboratory went from producing 80% PFM cases to 80% zirconia and e.max cases. The inLab MCX5 was a big eye-opener for the Heintzes, and their business skyrocketed.

With all of the success Nakoma had seen after attending the inLab Summits, they went to another in Dallas in 2015. At this Summit, they spent time learning about Sirona Connect and bought two Omnicams. They eventually bought one more and have placed them all with local doctors. Because of the rapid growth they are seeing, Jamie and Tim are considering expanding their Omnicam program in the near future.

Currently, Nakoma is focusing on digital impressions. They are working with dentists by providing in-office training on how to send cases digitally. By doing this, Nakoma is aiming to build relationships and expand their opportunities. Nakoma Dental Laboratory has a bright future and they can't wait to see what's to come.

True color technology.



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