

March 2014

dental**lab**products

INNOVATIONS ADVANCING PRODUCTIVITY, PROFICIENCY, AND PROFITABILITY

Vol. 39 No. 03

dlpmagazine.com

14 WAYS TO SOLVE INEFFICIENCY

Fighting the biggest time- and income-killers in your lab.

KAHNG HELPS A DENTAL- PHOBIC PATIENT

How a lab can help ease fears.

DENTAL FURNACES 360°

We round up some of the leading options.

7 WAYS TO HANDLE DIFFICULT EMPLOYEES

Managing difficult people doesn't have to ruin your working life. Take control by using these tips.

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MISS ANYTHING IN CHICAGO?

Check out all the DLP and DPR coverage from Lab Day, Chicago Midwinter and Cal-Lab at bit.ly/1jM8uU8.



BIOMET 3i

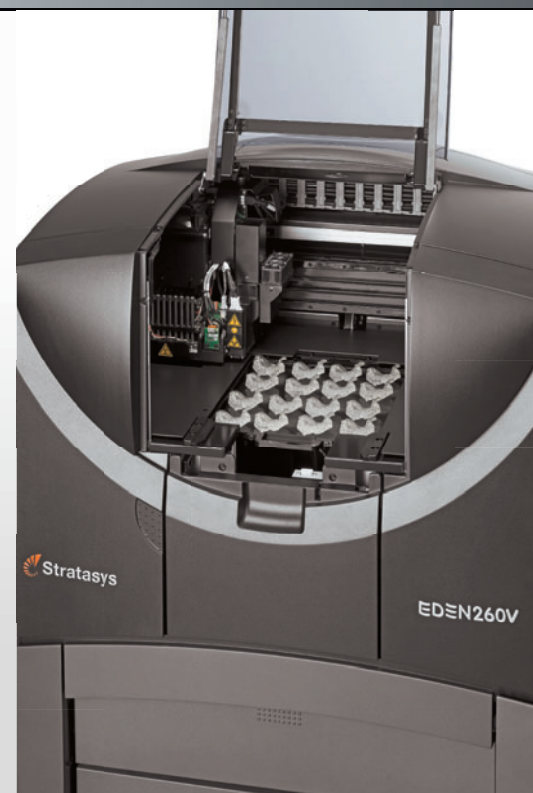
The 3i T3 Hex Implant provides esthetic results with three topographies.

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STRATASYS

Learn all about the advances offered by the new Objet Eden260V Dental Advantage 3D Printer.

More on p.3...



VIDENT

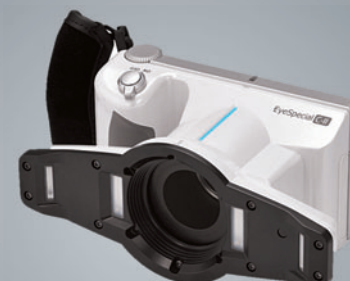
The VITA NP BOND can help ensure results for veneers bonded to metal frameworks.

More on p.3...

SHOFU

Discover how the Eye-Special II can aid you in your benchtop photography.

More on p.3...



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a The EyeSpecial C-II

The **EyeSpecial C-II** digital dental camera features 12 megapixels and eight shooting modes for faster, easier and more reproducible high-quality images. Also, the camera offers a 49mm close-up lens, one-touch operations, a lightweight body, and a large LCD touch-screen that allows for easy image scrolling and viewing, even with a gloved hand. Other features include anti-shake capabilities and the camera is said to be durable and scratch- and scuff-resistant.

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c VITA NP BOND

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800-828-3839 | vident.com

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3D PRINTER

d Objet Eden260V Dental Advantage

For labs seeking faster treatment and an enhanced profit model, the **Objet Eden260V Dental Advantage 3D Printer** produces surgical guides and dental models in-house directly from intraoral scanner output. The printer features a custom-tailored materials package and a build tray that is 20 to 40 percent larger than that of alternatives for the dental sector. This allows users to improve workflow and optimize productivity by printing more models in a single build.

Stratasys

800-801-6491 | stratasys.com

CIRCLE RS #5

COVER PRODUCTS are chosen because of their innovation or perceived impact on productivity and bench artistry.



RYAN HAMM
rhamm@advanstar.com

Killing the time-killers

If there's one thing that can really doom labs, it's

a lack of efficiency. Efficiency touches everything—it means you can get great results in less time, meaning the ability to take on more cases, meaning more income, less work and greater ability to grow your lab. In short, efficiency is a key to taking your lab from good to great.

With that in mind, we've turned to some of the leading voices in the lab industry to provide you with a list of 14 of the biggest efficiency problems labs face—along with the products and techniques those thought leaders have used to address those problems. No matter how efficient your lab is, we're certain you can find a tip on there that can help you

make your business run more smoothly, serve more people and get better results.

We're also excited to round-up some of the most innovative furnaces on the market. Dental furnaces are a long-time staple of the dental lab, but you might be surprised to find out how technologically advanced these mainstays have become in 2014.

And finally: As always, we're excited to feature Luke Kahng's excellent work in our pages. This month, Luke explains how labs can actually be an important part of treating the dental-phobic patient. It's an important reminder of what a critical part the laboratory can play in actual patient care. The art you create helps real people, not just the bottom line. **lab**

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Dental Lab Products provides dental laboratory owners and managers with unbiased, clear and concise insights into optimal uses and best applications of new products. Integrating original research, continuing education and international industry trends, we support laboratory decision-makers in their commitment to deliver optimum patient care through advancing their proficiency, productivity and profitability.

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Top 7

WAYS TO HANDLE DIFFICULT EMPLOYEES>>



- 01 Listen**
Before you jump to making a decision, set up a meeting with the employee just to listen to them. Are they being difficult because something is genuinely wrong? If so, seek to fix the problem first.
- 02 Ask yourself: Is it them? Or is it me?**
Sometimes, conflict can stem from personality differences. Seek to understand whether the issues with an employee stem from real problems or from personality clashes. If the latter, consider giving all staff (including yourself) the Myers-Briggs test and then set up a time to discuss your personalities and how best to communicate with one another.
- 03 Institute a system**
When dealing with a difficult person, chances are emotions are running high. Putting a disciplinary plan in place before emotions come into play will make the conflict smoother. Consider hiring a management consultant to put together a plan that will be fair and effective.
- 04 Don't back down**
If you have a good, fair system in place, stick to your guns.
- 05 Be professional**
No matter what happens or what kind of words are said (or emails sent), maintain your professionalism and don't get sucked into a petty grudge match.
- 06 Be kind, regardless of what happens**
You're the employer, in a position of power over the employee. Be kind and gracious, even if the employee isn't. It'll go a long way toward making your own leadership that much better.
- 07 If necessary, part well**
Sometimes, it's impossible to salvage a working relationship. If that happens, part as well as you can. Be charitable, and remember that you've done the right thing for yourself and for your business. ●

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PRODUCTS IN APPLICATION

Bench Mastery

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Examining where pressing can improve upon layering.

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Labs can be an important part of any patients' treatment plan—even patients who are terrified. Luke Kahng shows how he handled just such a situation.

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Bill Atkisson of Bella Vita Dental Designs explains how the Sirona inLab system can provide excellent results with a single workflow solution.

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Looking at how Amann Girrbach America is now offering a complete zirconia solution.



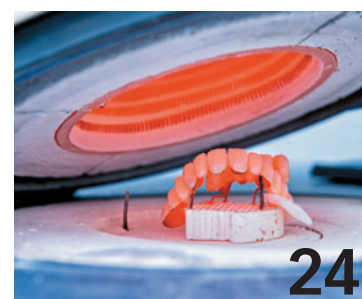
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How to fix these efficiency problems in your lab. *by Robert Elsenpeter*

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Unpacking an iPad app that can help you design the ideal smile.

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Looking at how Renfert's new extraction system can benefit your lab.

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What lab owners and technicians were searching for and savoring in February @ dipmagazine.com

3 most-read articles online

- 01** Go digital without breaking the bank with Sun Dental Labs' scanner rental program [VIDEO]
- 02** The plan to revolutionize your photo quality with the EyeSpecial C-II camera
- 03** 3Shape's Dental System™ 2014 includes a new user interface, optimized workflows and more

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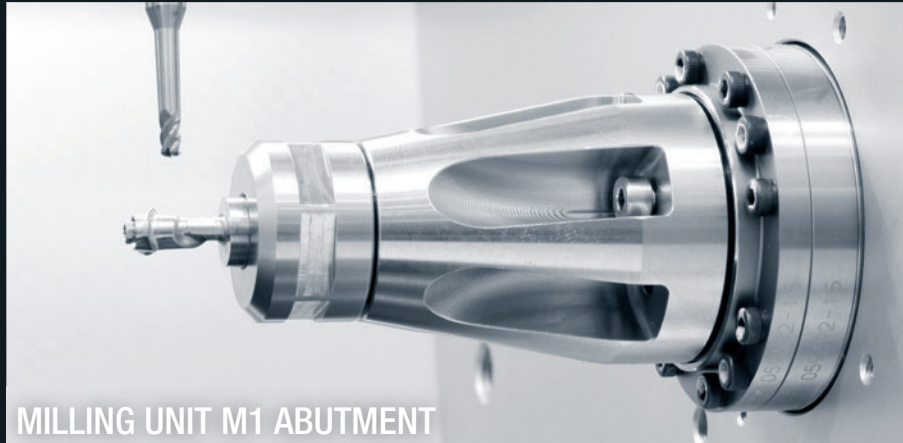
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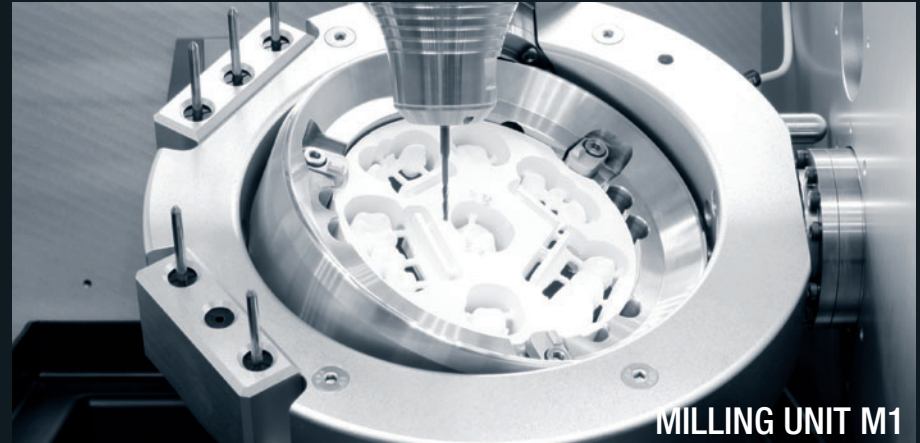
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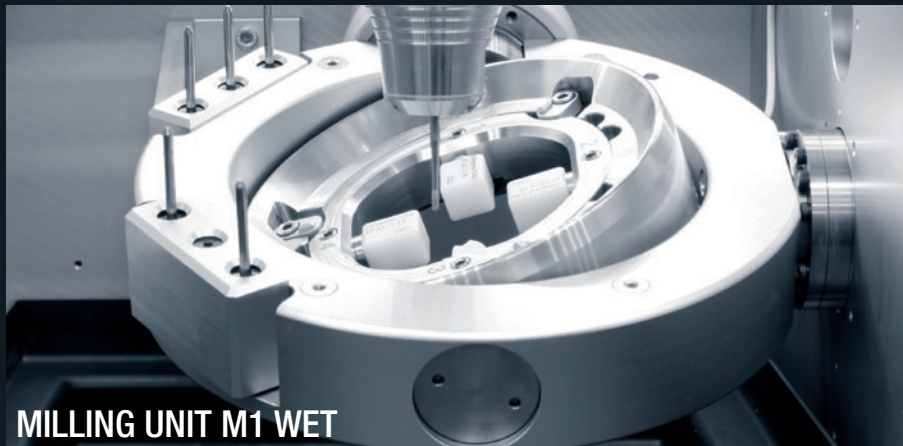
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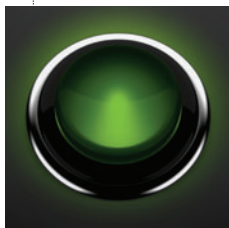
Enrico Steger, inventor of the full arch full contour zirconia Prettau® Bridge



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6



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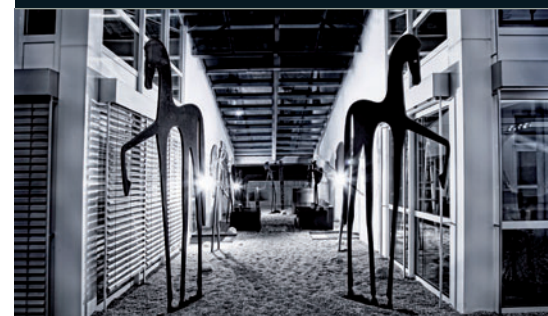


*“Overwhelming
and inspiring”*

Klaus Mütterthies, Participant May 2013



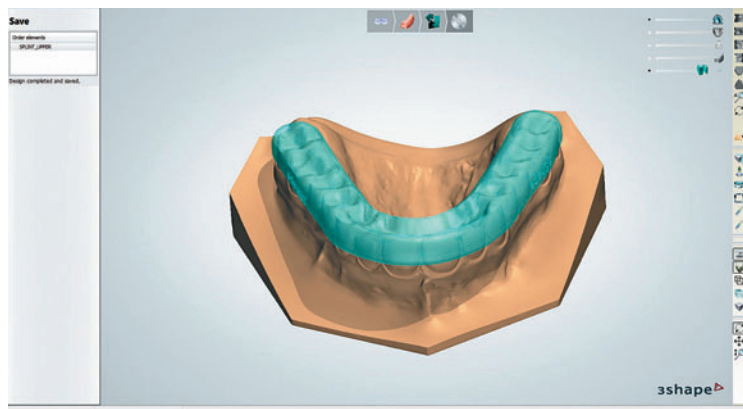
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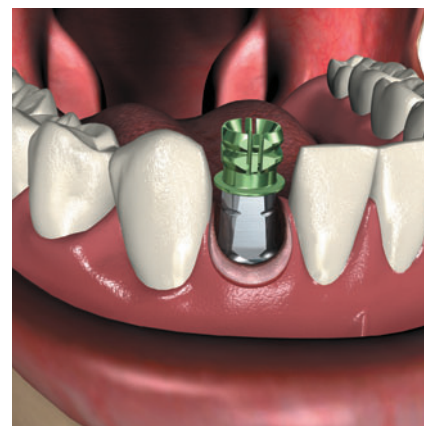
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CIRCLE RS #13



SunScanM 3D Model Scanner Rental

Sun Dental Labs now offers 3D model scanners to labs and doctors interested in entering the digital age of dental technology. The scanner rental program was developed out of a need for labs to increase productivity without having to invest thousands of dollars in equipment. At \$199 a month, labs can rent a **SunScanM 3-D** model scanner that comes equipped with a Dell PC, web cam and scanning software. The CAD/CAM department at Sun Dental Labs has worked to create a system that is user-friendly and cost effective for any dental professional. Labs that ship most of their cases can see an immediate savings in shipping costs by sending files digitally. Most cases submitted digitally can be started within a matter of hours, which can help improve turnaround time.

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To press, or not to press?

Why pressing can offer advantages over layering.



Jörg Müller

The first thing you hear of from some colleagues is usually: Why should I press when I'm much faster with the layering technique?

Answer: It is important to appreciate the system and not be influenced by the question of whether to press or layer. Putting design and esthetics to one side, results are better distinguished

through press technology, providing a more controllable, predictable planning. Wax-ups correspond exactly to pressed work.

INTRODUCTION

Regarding the question of pressing or not pressing, a few points should be appreciated. It's not enough to just analyze the time factor. You must also take other criteria into account. What's important is the system concept, and not to ask if you should press or layer.

PATIENT CONSULTATIONS

01 It always starts with an optimal design to each case, which is determined by a wax-up. This is the stage in dentistry where the technician can determine solutions for improved esthetics and function.

02 For anterior restorations, this wax-up is used for consultations together with the patient, to discuss the new look and represent to the patient what they can expect. Useful for the posterior region, the patient can be shown the problems in malocclusion which have negative influences; new occlusal functional correction is appreciated.

THE FRAMEWORK DESIGN

03 The framework design is a necessary requirement for restoration success and stability. To avoid chipping of the ceramic, whether a metal or Zirconium-dioxide framework, it is recommended to have an even ceramic layer covering. An anatomically reduced framework is optimal, which can be done manually in wax, after being transferred by using a wax injector.

04 In today's increasing digital dentistry, good CAD/CAM systems are capable of scanning wax-ups, and then mill the desired anatomically reduced zirconia framework. (Figs. 1-3)

05 Here is yet another important factor to bear in mind: An even, precise ceramic layer results in greater shade nuance depth!

BOND BETWEEN ZRO₂

06 Pressing procedures provide better heat conduction. Because of the poor thermal conductivity of zirconium dioxide, it is understood from a study at the University of Aachen that porosity occurs in pontic areas when firing a layered crown.

07 Layering technique firing processes are completed in about 15 to 17 minutes. During a pressing procedure, it is at least 60 to 90 minutes per frame to reach the final temperature, and at least 20 to 30 minutes for muffle cooling, which is much less invasive.



Figs. 1-3 These three cutback images exhibit sound porcelain support: A maximum anatomically reduced framework justifying ceramic color and stability. *Quintessence Zahntech* 2012, 38 (6): 735-736



Fig. 4 A perfect match, from wax-up ...



Fig. 5 ... to finished restoration.

WAX-UP THROUGH TO FINISH

08 As dental technicians, we are subject to natural variations which change the quality of our work. Everybody has good days and days when it does not work out really well. This can lead to significant variability in results. Likewise, there may be deviations in the shape of the work, such as when a technician creates the wax-up and then a few weeks later another technician manufactures the final restoration. All of these factors do not ensure quality in the sense of standards.

09 If a case has been planned and the treatment plan is presented to the patient, you should of course comply with what was promised by the wax-up and what the patient expects.

ADVANTAGE PRESSTECHNIK

10 Press technology costs relatively little time and material expense, and a very precise homogenous result can be achieved. Since the over-pressing framework is in line with the wax-up, the parameters result in the work corresponding with the planning, which is easily reproduced.

11 Gentle firing reduces the risk of porosity. Putting aside shape and esthetics determinations separately, will allow the working stages easier to control.

CONCLUSION

The press technique has proven to me over many years a guarantee for constant quality (Figs. 4-5). Cases can be prepared much easier and less stressful. This type of technique is simply more fun to work with—good humor for me provides a better lifestyle in the lab! **lab**

FURTHER READING

First Pelsler SF. "Fracture behavior of different root canal systems in vitro."

Diss Aachen Medical Faculty of the Rhenish-Westphalian Technical University of Aachen West, 2002.

ABOUT THE AUTHOR

Before receiving his degree as a master technician in 1993, Jörg Muller was trained in Jan Langner's Dental Laboratory in Schwäbisch-Gmünd, where he specialized in tooth morphology in function and esthetics. In 1993, Jörg opened his first dental laboratory in Düsseldorf while concurrently teaching courses for dental technicians in posterior wax-up, the function of the TMJ and ceramics. In 1999, Jörg moved to San Francisco and established a high-end laboratory in downtown San Francisco. While working closely with his dentists and patients, he developed the Aesthetic Press System. In 2005, Jörg founded Aesthetic-Press LLC and developed a system to standardize a workflow for consistent and reproducible high-end restorations for every technician to use on a day-to-day basis.

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Luke S. Kahng, CDT

Treating the Dental-Phobic Patient

Helping even the most fearful people attain ideal results.

This case involves a 55-year-old male who presented extreme dental fear with resulting dental neglect. His last visit to a dental professional had been 25-plus years prior. Due to the intense anxiety experienced by the patient involving dental procedures, he severely neglected his dentition (Fig. 1). The patient was referred to me for evaluation of pain in the maxillary anterior area. Because of continued neglect due to fear

and avoidance, this treatment required extensive dental procedures.

CASE STUDY

Proper diagnostic workup consisted of a complete health history which revealed the patient to be in good health, with no medical conditions and taking no medications.

His dental neglect resulted in multiple teeth

being categorized as non-restorable. Again avoidance and fear precluded his commitment to his dental needs. (This was until acute pain occurred. See Fig. 1)

01 Full mouth X-rays were taken along with a standard intraoral and extraoral exam. A cancer screening was carried out with the results being negative. Periodontal charting

TREATING A VERY NERVOUS PATIENT



Fig. 1 Patient upon initial evaluation



Fig. 2 Caries control, core build ups and extraction



Fig. 3 Provisionalization



Fig. 4 GC Initial Porcelain



Fig. 5 Amann Girrbach copings (Various base shades available)



Fig. 6 Substructure (Notice interproximal design to maximize strength and minimize unsupported porcelain.)

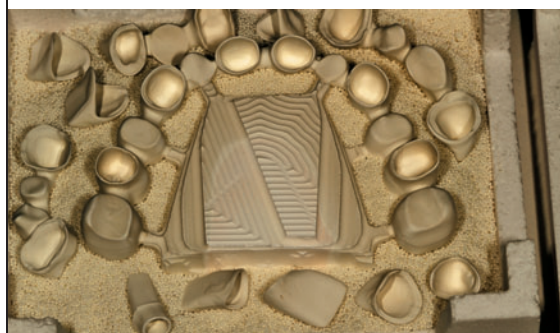


Fig. 7 Pre sintering



Fig. 8 Post sintering



Fig. 9 Substructure fit to die prior to layering of porcelain



Fig. 10 Completed prosthesis



Fig. 11 Patient prior to treatment



Fig. 12 Patient post treatment with beautiful "Hollywood Smile."

was performed and fortunately for the patient, he did not present any irreversible periodontal pathology.

Protocol of S.O.A.P. was followed:

S (Subjective)—Patient experiencing acute pain and knows that he is in need of extensive dentistry but is apprehensive.

O (Objective)—Standard procedure regarding prosthetic protocol was completed and treatment priority was outlined.

A (Appraisal)—Treatment sequence involved: taking care of his acute needs and performing extractions where indicated.

P (Procedure)—After consulting with his M.D., there was no contraindication regarding the use of conventional local anesthetic or any other medications that are used in prosthetic dentistry. Diagnostic models were fabricated, face bow transfer and S.O.P. (standard operative prosthetic) procedures were followed through.

02 A diagnostic wax-up was fabricated by LSK121 along with a provisional acrylic template and temporaries. Patient was pre-medicated to aid in relaxation due to his high level of trepidation concerning the lengthy procedure. Treatment was directed toward the maxillary anterior component (maxillary right second bicuspid to maxillary left cuspid). This area took priority to his other needs.

03 Procedures were followed to evaluate the teeth involved for this 8-unit prosthesis. Extraction of a non-restorable tooth ensued (Fig. 2). Provisionals (utilizing acrylic temporaries. See Fig. 3) were fabricated and placed. The relign material chosen was

non-exothermic, thus reducing any injury caused by heat with conventional acrylics.

04 Caries control was followed and appropriate core build ups were completed (Fig. 2). After a period of healing, standard operating prosthetic protocol was adhered to concerning impression techniques using custom trays. Other prosthetic protocols were completed which consisted of centric records and face bow transfers.

05 Custom shade was selected according to LSK121 Seasons of Life shade system, offering a multitude of options in color selection, texture and enamel characteristics. While discussing the color, the patient indicated that he desired a very bright, high-value "Hollywood smile." Post-operative instructions were given.

06 After the appropriate lab time and try-ins, a zirconium oxide CAD/CAM substructure (Figs. 5-9) with a porcelain overlay using GC Initial (Fig. 4) was fabricated at LSK121 (Fig. 10). After all of the parameters were established, occlusally, esthetically and marginally, bonding protocol was carried out.

07 It is important to note that once a crown or bridge has been tried in the mouth, it is contaminated with oral phosphates. To aid in the elimination of these phosphates, application of Ivoclar Vivadent's Ivoclean before the bonding procedures is recommended. It is known that zirconium oxide cannot be etched, therefore a metal primer was applied to the bridge, and bonding protocol was accomplished

using my preferred bonding product. It is important to use a glycerin gel after the initial light cure for 20 seconds in order to remove any excess bonding material. The glycerin is applied around the margins of all the abutments. This will allow the set to occur in absence of oxygen.

08 All oral hygiene instructions were given to the patient and any occlusal adjustments were rendered (these being minimal). Standard procedures in polishing of the adjusted surfaces were performed and the patient was given instructions to return in one week for a post-operative visit. This article is not designed to discuss the continued work that the patient needs, but only directed toward the protocol that was established from a priority standpoint. All other restorations and preventative measures were carried out after the above procedures were completed.

CONCLUSION

In closing, the complexity of this treatment was more psychological. In our profession we need to address both the physical, biomechanical procedures, as well as discussing and understanding the psychological aspect of treatment. This last statement was placed to have the reader understand it is not so much the procedures that were accomplished, but more important, the management of a patient with extreme psychological fears. This is in no means to infer that the patient will be completely relaxed for further dentistry, but that he was made aware that his fears were mostly unfounded. By commitment, it is understood and the patient realizes he overcame the initial obstacle of his apprehension (Figs. 11(before) & 12 (after)). **lab**

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Great detail work with one workflow

Completing a 7-unit lower anterior bridge using Sirona's inLab system to scan, design and mill

by Bill Atkission, owner, Bella Vita Dental Designs, Asheville, N.C.

Completing a 7-unit lower anterior bridge using CAD/CAM scanning equipment requires a variety of detailed steps. Fortunately, today's modern CAD/CAM systems, such as Sirona's inLab system, can help speed up and simplify scanning, designing and milling.

The inLab system can assist lab technicians in using their craft skills to the fullest. The complete system is comprised of a series of components that can be used individually or in combination, which helps save technicians save time, gain flexibility and safeguard the

future of their dental laboratories.

The inLab system is capable of completing all digitization tasks in the dental laboratory. It combines a very short, highly precise measurement, along with operating flexibility and a variety of functions.



Sirona inLab MC XL

Features include:

- Flexible integration with a variety of hardware, software and interface options
- Can be used with the Sirona Connect web portal to receive digital impressions directly from dental practices
- Sophisticated hardware, software, and a wide variety of premium materials

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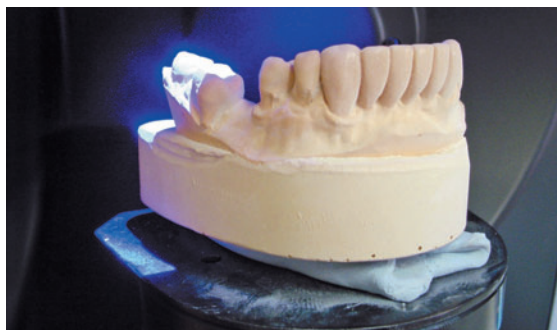


Fig. 1 The case model on the inEos X5 scanner's robotic arm.



Fig. 2 Individual dies are scanned for additional accuracy.

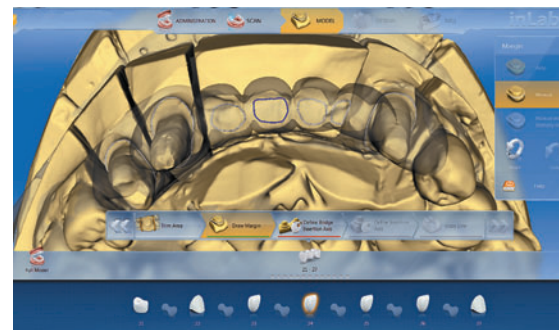


Fig. 3 Mark the margins.



Fig. 4 Each restoration area is outlined to be copied on the biocopy model.



Fig. 5 The design is stitched to the working model.

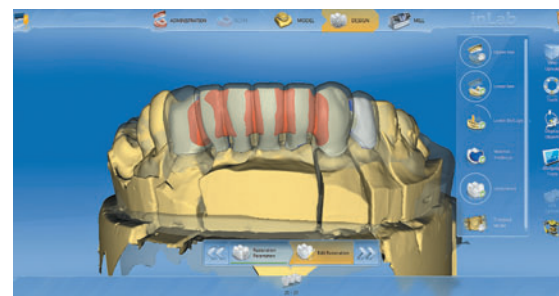


Fig. 6 The reduction of the bridge with the transparent biocopy model.

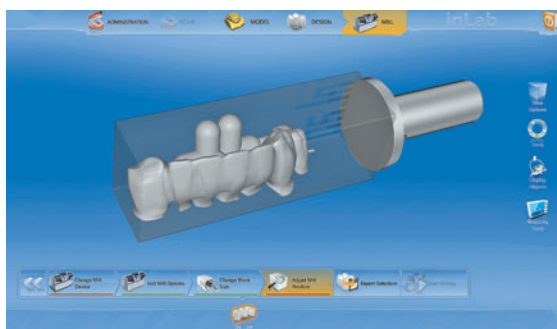


Fig. 7 Adjustment of the connectors.



Fig. 8 The framework after milling.



Fig. 9 Dip the framework into coloring solution.



Fig. 10 The sintered bridge with support bars cut off and ready to stack porcelain.



Fig. 11 The sintered bridge with support bars cut off.



Fig. 12 The finished 7-unit lower anterior bridge.



Fig. 13 Final restoration in patient's mouth

CASE PRESENTATION

The patient wanted to replace a lower partial involving the front four lower anterior teeth to a 7-unit fixed bridge.

01 Using the inLab system's biocopy feature with anatomic connectors, a bridge is selected for the case.

02 Sirona's inCoris ZI material is selected for the zirconia framework material, and porcelain will be stacked using VITA VM9.

03 The case is ready to be scanned with the initial diagnostic waxup on Sirona's inEos X5 scanner's robotic arm (**Fig. 1**).

04 After scanning the waxup for biocopy and scanning the working model, the individual dies are scanned for more accuracy in finding the margins (**Fig. 2**).

05 The working model and the biocopy waxup are stitched together by the software. The transfer jig is used to aid in stitching two separate models that may not have enough common data to be stitched properly.

06 After scanning the opposing upper model, scan for the buccal bite.

07 After arrowing forward, set the model axis—a very important step to help assure proper insertion axis as well as more accurate design proposals.

08 Mark the margins (**Fig. 3**). When marking the pontic margins, use the biocopy of the waxup in the transparent mode to help in placing the margins in the best position for the proposed design.

09 Choose each restoration to copy by outlining the restoration area on the biocopy model (**Fig. 4**).

10 After outlining the biocopy, the design is stitched to the working model (**Fig. 5**). An orange peel look indicates a well-stitched biocopy.

11 Individually select each restoration and use the reduce function to reduce each restoration uniformly eight-tenths of a millimeter in order to leave adequate support to stack porcelain. The newly reduced bridge with the transparent biocopy model shows the reduction (**Fig. 6**).

12 Adjust the connectors to ensure the proper strength needed for a durable zirconia framework (**Fig. 7**). **Figure 8** shows the framework after milling.

13 Smooth the sprue and run a cleaning cycle in the porcelain oven to assure all milling liquid as well as other impurities are burned out to provide a clean framework. When cooled, dip the framework into the coloring solution for 15 minutes to achieve a nice base shading to stack porcelain against (**Fig. 9**).

14 Set the framework into the muffle of the porcelain oven to completely dry for about 20 minutes to assure it will not crack during sintering.

15 The support bars aren't cut-off, but are instead left on to stop the possibility of bridge framework warping during sintering. **Figure 10** shows the sintered bridge with support bars cut off and ready to stack porcelain.

17 Before stacking to full contour using VM9 porcelain from VITA, it is important to provide a slurry layer of porcelain to add in bonding (**Fig. 11**).

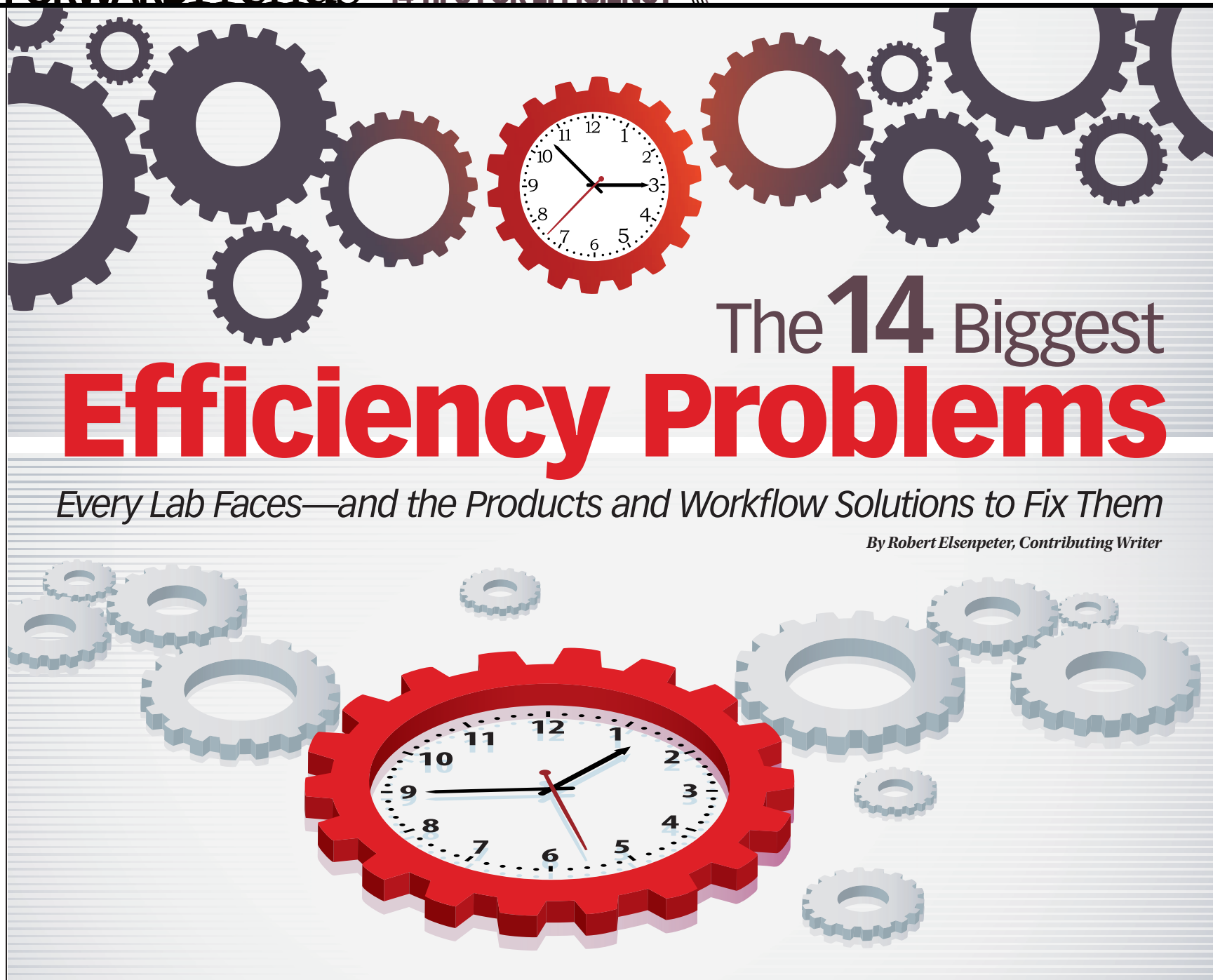
18 The finished 7-unit bridge is ready to seat (**Fig. 12**).

CONCLUSION

Equipped with a full gamut of CAD/CAM components, the inLab system saves time and simplifies the scanning, designing and milling process, resulting in exceptionally accurate and esthetically pleasing end results for complex cases such as a 7-unit lower anterior bridge. **lab**

ABOUT THE AUTHOR

Bill Atkission, owner of Bella Vita Dental Designs, Asheville, N.C., has been a crown and bridge technician for nearly 30 years. He attended the Dental Technology Institute in Orange, Calif., and then opened his first sole-proprietorship lab, Bill's Lab, in 1989. Throughout the years, Atkission has continued to expand his skills to maintain a dental lab with an emphasis on unmatched customer service and offering technology driven products.



The 14 Biggest Efficiency Problems

Every Lab Faces—and the Products and Workflow Solutions to Fix Them

By Robert Elsenpeter, Contributing Writer

The benefits of efficiency cannot be overstated. With efficiency comes speed, quality and cost savings. The result to your lab? Happy customers, a good reputation and more money.

Achieving efficiency in a dental lab comes through two sources: Products and processes. The following are some tips from dental laboratory leaders on how you can improve your lab's efficiency.

PROBLEM: Your work takes a long time to produce, and the end result isn't as consistent as you want.



SOLUTION: Invest in a CAD/CAM system.

Creating dental restorations is an art form. And when restorations are done by hand, there is a degree of variability from technician to technician. Using a CAD/CAM system affords uniformity to lab work, along with efficiency to get the great work done quickly every time.

"It's pretty amazing on the speed, how much time it saves, and the consistency," says Shaun Keating, President and CEO, Keating Dental Arts in Irvine, Calif. "You've got a mesiobuccal cusp, a distobuccal cusp and you've got 20 different ceramists. We have ceramists with a minimum of 10-15 years of experience, so they're all really talented and have a lot of experience, but they're all going to look a little different. We pick our own library of anatomy. They have the same oblique ridges, buccal cusps and everything else. It's just so consistent."


Like any system, there is a learning curve involved to produce the best work.

"For CAD, you have to have an understanding of design software," Keating says. "It takes a while to get it down. For CAM, it's understanding how the machine operates and how best to maintain it, as far as zirconia milling machines and wax printers. We're getting more and more computer guys who are helping us with our processes when it comes to CAM, and making sure that our programs are up and running and calibrated. You're definitely bringing in a different group of workers than just your standard technicians."

CAD/CAM has matured and is a prevalent tool for dental labs. Which system is best? It depends on who you ask.

"Any of the systems," says Shane Palm, of Palm Dental Solutions in Colorado Springs, Colo. "3Shape seems to be the top dog out there, and it's extremely user-friendly. Sirona's CEREC inLab is user-friendly as well."

PROBLEM: While your materials have a long and proven track record, they take a long time and require a lot of steps to get the results that you want.

 **SOLUTION:** Introduce monolithic materials into your lab's offerings.

The materials you use have an impact on efficiency. Monolithics are easy to use and result in a quality product—with far less effort than using traditional materials.

"I'm an old-school guy where you've got to wax it; you've got to sprue it; you've got to invest it; you've got to let it sit; you've got to burn it out," Keating explains. "With a monolithic product, I can get in, scan it, design it and send it over to the mill. It saves about 70 percent of the time from a regular PFM, and it just really helps."

And as appealing as monolithics are, manufacturers are finding new ways to make them even more attractive.

"We have a new multilayered zirconia disc that has a variation from the bottom of the disc to the top of the disc, just like you'd see in natural dentition," says Ryan Faufau, Director of CAD/CAM Resources at Custom Milling Center in Arvada, Colo. "We're designing it the same way with the CAD, and milling it a little bit differently, but overall the same philosophy applies. You get a better product at the end of it, because it has a transitioning color from the top to the bottom of that disc, so when the unit comes out of the sintering furnace, it looks natural from the beginning."

PROBLEM: You take efforts to streamline processes, but sooner or later, complications mount until you're having problems again.

 **SOLUTION:** Instill in your employees the notion that efficiency is a mindset, and not something you do just once in a while.

For Chris Brown, Business Manager at Apex Dental Milling in Ann Arbor, Mich., efficiency goes beyond specific products or workflows. Efficiency is a larger concept that everyone at the lab should buy into.

"That is the secret. That is the key to success in my mind," Brown says. "It's not just a shingle that you hang on the wall and say, 'This is how we're going to do things.' It has to be ingrained in the culture of the organization to benefit from it, because there are opportunities in everything, in every process and every step in the entire operation."

"It's a theory; it's a concept," Brown continues. "It's not really, 'You always do this.' You've got to step back and look at what you're doing, and then question, 'Why are we doing this? Do we need to put this extra step in our process, or is this something that can be taken care of during this step, or in parallel to another process?'"

PROBLEM: Making dentures can be a hassle, especially when trying to manage finicky polymers.

 **SOLUTION:** Use a denture injection system.

Denture injection systems provide automated and controlled injection of polymers to create dentures. Denture injection systems automate the process and efficiently manage such variables as resin shrinkage.

Palm Dental Solutions' Palm likes Ivoclar's Ivobase denture injection system.

"Whether you're doing the old flasking and pressing, and then doing a quick cure or an overnight, eight-hour cure, it's just a lot quicker," Palm says. "The flasking time is the same amount of time as the conventional method, but it cures in about 35 minutes versus a couple of hours."

PROBLEM: It takes a long time to get models shipped from dentists, and the cost is taking its toll on your bottom line.

 **SOLUTION:** Use intraoral scanners.

A burgeoning move toward more efficient dental lab processes is the pursuit of an all-digital workflow. Regrettably, that workflow is not as prevalent as most labs would like—chiefly because it requires the buy-in of both the dentist and the lab. But when both those groups are onboard, a lot of time and money are saved.

"I speak with labs everyday, and a lot of their concerns are 'What can I do today to be able to work with the dentist?'" Faufau says. "As the dentist is getting an intraoral scanner, what can I do to be relevant and more efficient?" If I receive a scan file from one of these dentists, I can make a custom abutment. I can make a full-contour monolithic restoration on top of that abutment. I can send both pieces of the restoration back to the dentist with no model, and the doctor can place the abutment and the full-contour monolithic restoration in, and the patient is out the door. Utilizing technology for this process cuts the turnaround time down to half. There's less chair time; no impression taking; and the laboratory doesn't really have to make a model, so that eliminates a lot of the additional manual features that we would have to do to get the product out the door."

PROBLEM: You still do model work, but you also want to utilize automated manufacturing equipment to finalize your work.

 **SOLUTION:** Buy a 3D scanner—and learn how to use it.

While the all-digital workflow is a feather in the lab's cap, model work still prevails, but those models can still be put into a computerized process. Once the model is made, it must be scanned into the CAD/CAM system. 3D scanners are useful tools for dental labs that need to input the physical models into their digital workflow.

"We have several 3Shape scanners, and they're very fast, user friendly and very accurate for us," Keating says. "We also have great results using our Dental Wings scanners."

PROBLEM: Your workflow takes a long time, reducing profits and requiring more human-hours.

 **SOLUTION:** Invest in technology.

Overall, labs can realize a productivity boost by finding the places where technology can be used to their advantage. It can be deployed in any number of places, from designing restorations, to managing casework, to communicating with dentists.

"If you look at the amount of ads that we see in magazines—materials vs. technology—it's mostly technology," Faufau observes. "Twenty years ago, it was materials, so it's kind of weird to see this transition to automation."

Shaun Keating realized the benefits of technology as the cost of doing business became unmanageable.

"We do most everything two-days in/two-days out, and it was just killing me," Keating says. "I'm charging the doctor \$7 for one-way, and it's costing me \$15-\$18 for next day, depending on what kind of weight's in the box, and what kind of gas surcharge they're adding on. It was just getting so expensive, so we do things faster in the lab. Instead of a five-day turnaround, we'll get things done in three days, but I'll send it out two-days back. With digital files, they're sent to you and there's no shipping at all—just one-way back."

PROBLEM: There's a lot of technology out there, and you own some of it, but you're not sure you're using it to its full potential.



SOLUTION: Stay up-to-date with current software.

While "technology" is an umbrella term for many operations at the lab, software is necessary to make those processes possible.

"If it takes 15 minutes to wax a crown—a really, highly detailed wax pattern—you've got a designer who can do the same thing on a computer in four minutes," Brown says. "We are, therefore, three times more efficient and have a higher productivity because of the software we're using."

In many cases, the same basic materials are being used in dental labs, but what has changed is the way in which staff handles those materials.

"The technique is the same as it has been for the past 15 or 20 years, since we've been pressing, so that technique really hasn't changed much, even though it's a different material," Faufau says. "Today, if we're involving technology into what we're doing, software changes routinely. There are new updates. There are new things that a laboratory is going to have to change to do the same product."

But software isn't just limited to its use in CAD/CAM systems—it is also extensively used for back office duties, like billing and communication with a lab's dentists.

"A lab software program that I would recommend is Evident's lab management software," Palm says. "Evident's software has everything you could possibly want and more in management software. It has the ability to track a case from the time it enters the lab until it leaves, and everywhere in between. It also provides numerous reports that allow management to make important decisions for the lab. The added benefit is that all of it is cloud-based, so the information is available at any time. Another benefit of it being cloud-based is that it allows dentist clients to log into a portal to track and input their own cases, which frees up the lab staff's time to focus on other tasks."

PROBLEM: You have a lot of work that needs to be fired, but not a lot of oven space.



SOLUTION: Consider different types of ovens that have more room, or that manage heating and cooling efficiently.

In some cases, standard lab equipment can be improved upon for better efficiency. Case in point: the humble dental furnace [Editor's note: For more on dental furnaces, turn to page 24 for a "Dental Furnaces 360"]. Palm likes Ivoclar Vivadent's clamshell design ovens, because the form factor affords faster turnaround for multiple projects.

"The clamshell ovens are a lot more efficient, because when they open up, the heat dissipates a lot faster," Palm says. "When you move your firing tray over to the side, it's already ready and cooled down to the lower temperature range, so you can just put another firing tray in and press start. The other ovens with the muffle that raises up, the heat stays inside those for a long time, and you have to be creative, whether using the air hose to blow in there to cool it down so that you can start the cycle over."

While the clamshell design is unique in its capabilities due to its design, other ovens are capable for their own reasons.

"Our Nabertherm sintering oven holds 80 units at a time," Keating says. "They're fast and very accurate and dependable, and their service is second to none."

PROBLEM: You want to jump into the all-digital workflow world, but you're not sure if it is a good fit for your lab.



SOLUTION: Start a smooth transition with wax printers.

Some labs may not be ready to make the financial commitment involved in moving to a fully digital workflow. For those in the transitional stages, a wax printer is a practical stepping-stone.

Wax printers couple with open architecture scanners and software to be manipulated in the computer, and the printed output are quality wax-ups, ready for casting.

Keating recommends the EnvisionTec and 3DSystems' DP 3000 wax printers.

PROBLEM: You have problems with things like communicating with doctors' offices; ordering supplies; and initial case handling.



SOLUTION: Efficient processes should be at play in the administrative offices as well as on the lab floor.

Proper procedures must also exist in the lab's administrative offices, not just on the lab floor.

"The key is finding the perfect balance of administrative procedures to effectively run the lab," Palm says. "Generally, most labs start with basic procedures and because of a onetime event, new procedures are added. If different onetime events keep happening, the procedures become more and more complex. The best course of action is to be proactive and not reactive."

The duties for the support staff should be clearly defined and adhered to.

"The same people should answer the phones, schedule and invoice cases, assign daily work, order supplies, and so on," Palm says. "This assigns accountability to those individuals and creates continuity throughout the lab. A lack of procedures can lead to lost cases, missed due dates, not enough supplies on hand, diminished reputation, lost accounts, etc."

PROBLEM: You mill different types of materials, but you don't have a lot of money to invest in several different types of mills.



SOLUTION: Look for gear that allows you to multitask the different jobs in your shop.

There's an old saying: Use the right tool for the right job. And while that is a good way to get quality results, there is an efficiency boost that comes from multitasking—assuming, of course, the right tool can handle more than one job. But when a tool can be used for more than one job, it can be worth utilizing it for as many applications as possible.

"I may go and purchase a machine that is specifically set up to mill only one material, so I can only do one procedure on that one particular machine," Faufau says. "If I want to do another procedure, whether it's milling metal, or I'm milling e.max, I might need another machine for that. Or, I could purchase a machine that can do all of it and choose what material I send to it. We invest in large, industrial-type milling machines, so as a material changes, I can actually modify how a machine is set up. I can modify the technique, the strategy that we use to mill the product."

That versatility means one purchase at the beginning can help you end up with a variety of results you're able to produce.

PROBLEM: Doing the final work on your cases isn't as smooth as it could be.

SOLUTION: Buy different types of discs that perform well and give fewer headaches.

The final stop that a piece of work goes in its journey through the dental lab is finishing. Superior work can be delivered by utilizing quality finishing materials.

Palm says his preferred discs are Mizzy heatless stones.

"I like to use those for recontouring the sprue areas on metal," Palm says. "But I also use them to go ahead and metal-prep the entire crown. It's a little bit more aggressive, so if you have an area that's a little thick, you can reduce it quickly. You're saving time because you're not switching out one bur for another. Then, right next to that, I go to a little bit finer of a stone, and then I can smooth it up. I can metal prep my crown or bridge in just a matter of a couple of steps."

Ultra-Thin discs—regardless of brand—are another useful finishing tool.

"You can use them for despruing," Palm says. "I just do my contouring on that using an Ultra-Thin. It's a little more cost effective, and I definitely recommend wearing safety glasses when you're using the Ultra-Thins."

There is a difference between discs—and better quality discs not only deliver better results, but are the cause of fewer lab mishaps.

PROBLEM: Efficiency sounds good on paper, but if your lab is working faster, won't your quality go down?

SOLUTION: Efficiency and quality are not inversely related to each other. In fact, if you want to produce the best work, you must embrace efficiency.

One misconception is that with greater efficiency will necessarily come lesser quality. Not so.

"I think they go together," Brown observes. "If you have inefficient processes, there's opportunity for error, for misdirection. I think they have to go hand-in-hand. That may affect price, because of what you're doing in the process, but quality and efficiency are not mutually exclusive."

"It's the same thing on a football team," Keating illustrates. "You've got your linemen; you got your plaster guys. You've got your running backs; you've got your ceramists. You've got your quarterbacks; you've got your team managers. I just have the best people in each position, and the most experienced people in each thing. We do things efficiently."

Efficiency is a goal that every lab should strive for. Not only does it make happier customers, but it also has a positive effect on the lab's bottom line.

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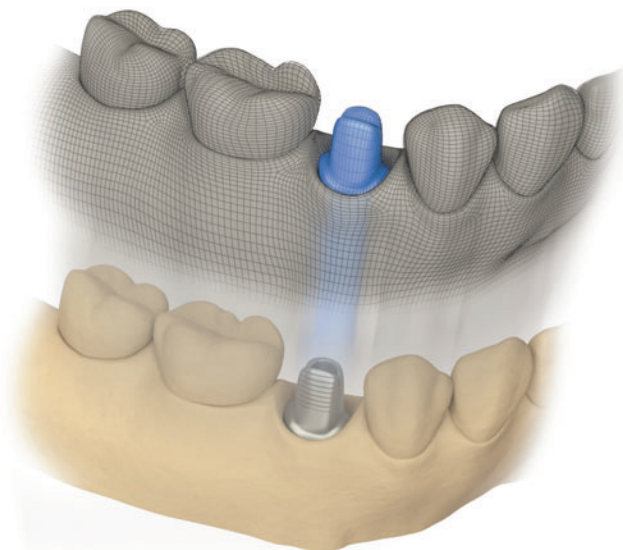
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Interested? Circle Product Card No. 19

A streamlined way to place an abutment

How the ATLANTIS™ Abutment Core File can make your digital workflow even more efficient.

by Ryan Hamm



In 2012, DENTSPLY Implants unveiled the ATLANTIS™ Abutment Core File solution, which provided a perfect digital edition of an ATLANTIS patient-specific Abutment to the lab designing the full case. A recent update has brought the ATLANTIS Abutment Core File solution to an even wider group of scanner users, as the system now works with 3Shape scanners and has undergone updates to fit comfortably in a fully digitized workflow. *Dental Lab Products* recently spoke with Sean Ferguson, Product Manager of ATLANTIS North America, to learn how the Core File can evolve workflows.

Can you give a brief overview of your position and responsibilities at DENTSPLY Implants?

Sean Ferguson: The responsibilities for the Product Manager of ATLANTIS™ are for the overall product marketing aspects of ATLANTIS™ solutions at DENTSPLY Implants, North America. This includes providing input on the development of products to the global marketing and R&D teams and leading local launch efforts and support of those products in concert with the global and local marketing plans.

How have you been involved with the creation of the ATLANTIS Abutment Core File?

This product has been in development for several years. My involvement has mostly been with the compatibility of ATLANTIS™ Abutment Core File for 3Shape. Marketing works closely with R&D to guide them to what the market wants and product specifications needed. It really is a team effort—our Operations and Global

Development teams for ATLANTIS™ are based out of the North American facility of DENTSPLY Implants in Waltham, Mass., which gives me access to some very talented people.

How will this technology benefit labs that have already adopted the ATLANTIS Abutment?

ATLANTIS™ Abutment Core File is a high precision digital file of an ATLANTIS™ Abutment, which can be used for designing a coping before receipt of the final abutment. This allows a laboratory to have a completely digital workflow while using intraoral scanning for ATLANTIS™ abutments with iTero or even guided surgery using SIMPLANT 16 software.

What were you hearing from the lab industry that led DENTSPLY Implants to develop this technology?

This product was in development before the market had a chance to ask for it. Our close laboratory partners have given us valuable feedback on how it benefits their process and what systems they are using to convert the ATLANTIS™ Core File into a hard product. We are constantly improving our products and process and their feedback is always welcome and extremely valuable.

How can labs be sure that the Core File exactly matches the specifics of the case they're working on?

The milling tolerances needed to mill an ATLANTIS™ patient-specific abutment to fit an implant with our specifications are extremely tight. We have fabricated more than 1 million abutments and have built a solid

reputation on our accuracy. The ATLANTIS™ Abutment Core File is the digital file used to mill the abutment. What few people know is the optimal precision and process sophistication that is used to fabricate each abutment.

What are the advantages of working with a Core File rather than the current method?

It allows a laboratory to start their fabrication process before the abutment actually arrives at their laboratory. The benefit of a digital file of the abutment is that it reduces turnaround time and creates a much greater level of accuracy.

How can this fit into a lab's implant workflow?

ATLANTIS™ Abutment Core File allows laboratories to reduce turnaround times and have greater accuracy of their overall product. This gives them a competitive advantage. **lab**

**ATLANTIS™ ABUTMENT CORE FILE
DENTSPLY IMPLANTS**

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SCAN:



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ATLANTIS abutments are backed by a comprehensive warranty program. For full warranty terms and conditions, visit www.dentsplyimplants.com.



Dental Furnaces 360°

A quick roundup of the world of furnaces.

Compiled by Ryan Hamm

Dental furnaces have been around for decades. They take a very old concept (heating porcelain finishes it) and bring it into the dental lab. Furnaces might not seem edgy or cutting edge—and yet, what other piece of lab equipment gets used by as many labs on a day-to-day basis?

That's why the companies featured in this roundup are pushing furnace technology forward. They've taken this ancient idea and skyrocketed it into the 21st century. These furnaces ensure great esthetics and dependable results every time the furnace is used.

And, of course, there are now more furnace types than ever. You've got sintering furnaces, press furnaces, regular burnout furnaces and everything in between. And obviously there are new furnaces released each year, pushing the industry forward even more.

We wanted to bring you a brief snapshot of the furnace market as it currently exists. Not everything is featured here, but we think these options will give you a great overview of what's available in a furnace in 2014. Don't limit your workflow to decades-old technology—find out how these furnaces can catapult your lab into a new beginning.

Amann Girrbach America

CERAMILL THERM AND CERAMILL ARGOTHERM

Amann Girrbach's Ceramill Therm is a high-performance furnace that provides precise temperature control, even heat distribution and four fully automatic modes (including one that is user-programmable) for the sintering of distortion-free zirconia frameworks. The company also offers the Ceramill Argotherm® furnace—developed specifically for use with its Ceramill Sintron® material. With this “wax-like” chrome cobalt, technicians can fabricate non-precious crowns and bridges using a Ceramill Motion 2 desktop mill, and then bring them to their final state in the Argotherm furnace, which features a patented removable flooding chamber that minimizes argon gas consumption.

877-960-4393 | AmannGirrbachAmerica.com

CIRCLE RS #23

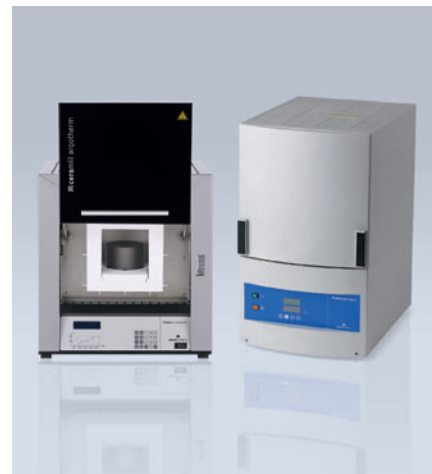


PHOTO: GÜRAY MUTLU / GETTY IMAGES



DENTSPLY Prosthetics

Multimat NTX and NTX^{PRESS}

Both the Multimat[®] NTX and the NTX^{PRESS} include programs for firing porcelain. The NTX^{PRESS} also presses all-ceramics, including lithium disilicates. These furnaces provide easy program customization, and reportedly offer excellent reliability for brilliant, consistent firing results. Multimat models are equipped with an even-heating coil, protected by a quartz glass tube, to ensure homogeneous heat distribution within the chamber. A vacuum pump is complimentary with each unit's purchase. The small footprint delivers a contemporary, premium furnace, well-suited for the lab environment. NTX and NTX^{PRESS} models are also equipped with a three-year manufacturer warranty.

800-243-1942 | prosthetics.dentsply.com

CIRCLE RS #24



Glidewell Direct

BruxZir[™] FastFire Furnace

The easy-to-operate BruxZir[™] FastFire Furnace is specially designed for the sintering of milled BruxZir[™] Solid Zirconia restorations and priced at \$7,900. The new oven features a digital microprocessing unit with built-in sintering programs and touch pad controls, designed to ensure that your BruxZir single-unit and bridge restorations are processed with utmost accuracy. This high-temperature muffle furnace, with a maximum temperature of 1700°C, uses four molybdenum disilicide heating elements for quick temperature ramp-up and four cooling fans for an enhanced cooling rate, making a shorter cycle time possible.

888-303-3975 | Glidewelldirect.com | mail@glidewelldirect.com

CIRCLE RS #25



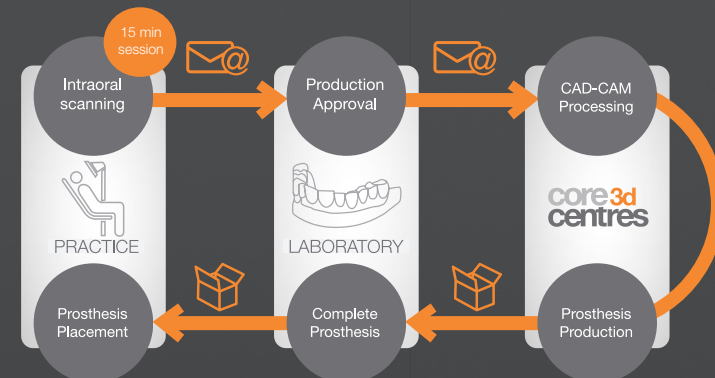
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Ivoclar Vivadent

The Programat® P510

The Programat® P510 furnace has a number of features, including the integrated Automatic Infrared Monitoring (AIM™) system. The infrared camera measures the temperature at the surface of the restoration in the firing chamber and automatically controls the pre-drying and closing parameters. The AIM technology offers multiple benefits: it heightens the quality of the firing results and increases process reliability. The Programat P510 is operated by means of a 7-inch color touchscreen and a proven membrane-sealed keypad. Apart from a wide range of Ivoclar Vivadent programs, which are tailored to IPS e.max®, IPS d.SIGN®, IPS InLine® and the IPS Empress® systems, an additional 500 individual programs are supplied. Software updates can be downloaded via a wireless network (WLAN), if available, or with a USB flash drive.

800-533-6825 | ivoclarvivadent.us

CIRCLE RS #26



KDF

KDF 007EX Burnout Furnace

The KDF 007EX Burnout Furnace is manufactured in Japan. It has the fastest temperature rise, taking only 11 minutes to reach 700°C (1292°F) and 14 minutes to reach 800°C (1472°F). The KDF 007EX reportedly provides high-quality burnout with a sufficiently wide chamber that is capable of loading 35 pieces of one-and-a-quarter-inch diameter ring. Its programmable system and quick heat function are designed to make your tasks easier. Finally, the optional Platinum Catalyst Cleaner will make your laboratory environment cleaner.

310-320-6633 | kdfus.com

CIRCLE RS #27

Dental Laboratory Promos

Porcelain Instruments

A comprehensive line of porcelain instruments and blades. Comfortable, ergonomic handles that feature easy to change blades and color coded for easy identification. Handles are made of lightweight aluminum, and blades are made of Chrome Steel available in Standard or Ultra-Thin thicknesses. Over 25 years of proven quality and precision.

001-111 Set of 4 Instruments
001-010 Replacement Handle

Replacement Blades

Standard Blades

.010 thickness for firm feel.

001-001 Standard Gingival, Black

001-002 Standard Incisal, White

001-003 Standard Probe, Red

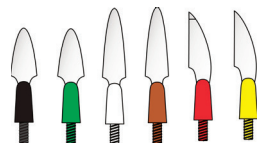
Ultra-Thin Blades

.005 thickness for lighter, flexible feel.

001-005 Ultra-Thin Gingival, Green

001-006 Ultra-Thin Incisal, Brown

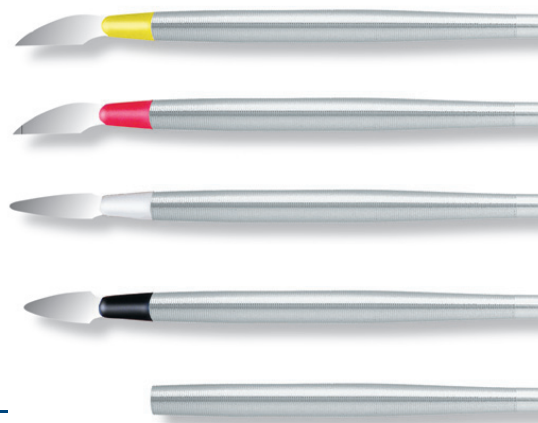
001-007 Ultra-Thin Knife, Yellow



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Shenpaz

SINTRA Plus

The SINTRA Plus furnace is a fully programmable zirconia sintering furnace, featuring the capability to program cycles with up to 10 steps. The SINTRA Plus features a full color, three-and-a-half inch digital display, along with a fast cycling time to boost lab efficiency. The furnace's heating elements reach a max temperature of 1800°C (2912°F) and the SINTRA Plus features an automatic electrical recovery along with automatic degassing. The SINTRA Plus comes with a one-year warranty.

+972 (0)3 5620428 | Shenpaz.com
CIRCLE RS #28

Vident, a VITA Company

The VITA ZYRCOMAT 6000 MS

The fully automated VITA ZYRCOMAT 6000 MS sintering furnace is capable of sintering up to 25 units as well as 9-unit bridges in 80 minutes using VITA materials. The furnace has been rigorously tested and proven to provide stress-free, gentle cooling to 400°C for white and industrially pre-colored VITA YZ materials. Conventional firing processes are also pre-programmed and the ZYRCOMAT can handle high-temperature sintering for all dental framework materials. The ZYRCOMAT features two extendable trays, a ventilation system for long-lasting protection and a two-year warranty.

800-828-3839 | Vident.com
CIRCLE RS #29



Zirkonzahn USA Inc.

Zirkonofen 700

ZIRKONZAHN's Zirkonofen 700 sintering furnace offers high-end technology with esthetic design. It is equipped with three MoSi2 heating elements, which allows the furnace to reach a maximum heating temperature of up to 1700°C (3092°F). The bigger combustion chamber (8 x 10 x 10 cm) makes it possible to sinter approximately 80 units in a single sintering process. With 10 preset sinter programs and memory for up to 2,000 programs, the Zirkonofen 700 sintering furnace is designed to be optimally prepared for the latest developments in zirconia technology.

800-989-8931 | zirkonzahn.com
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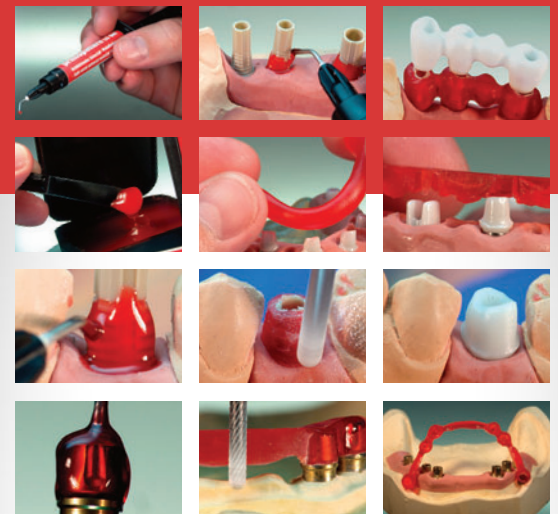
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- Complemented by Ceramill Liquids, available in 16 VITA Classic shades
- Fully adaptable to most milling machines

Amann Girrbach America

AmannGirrbachAmerica.com
877-960-4393

CIRCLE RS #31

SCAN:



A complete zirconia solution

Not all zirconia is created equal.

by Alex Wunsche, CDT

Each zirconia case can present unique needs and requirements, and there is no single zirconia that is most efficient, effective and economical for every indication. Recognizing this, Amann Girrbach has expanded their line of zirconia products to allow technicians to tailor their material selection to the specific needs of the clinician and patient, and to their own lab's preferred workflow.

Ceramill Zi is a traditional zirconia that is well suited to framework fabrication, while Ceramill Zolid provides

a stable, non-veneered translucent material that is designed for full-contour, monolithic restorations. Now the Zolid system has been expanded with three pre-shaded blanks and a wide range of shading liquids, including the 16 VITA Classic shades. These new enhancements deliver improved color depth and shade stability, while also saving laboratories time and money.

Like other Ceramill materials, Ceramill Zi and Ceramill Zolid are fully adaptable to most 98 mm milling machines. **lab**



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| MARCH 6 Ft. Collins, CO | MARCH 11 Fresno, CA |
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For more information, contact an Amann Girrbach America representative today at **877.960.4393**, or email us at info@amanngirrbachamerica.com.



Features

- Used to select anterior teeth in composite, porcelain or resin teeth
- Helps to choose corresponding lower anterior and posterior teeth
- Shows anterior tooth selection appropriately arranged with the gingiva
- Data can be emailed directly to the laboratory
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- Available for the iPad and iPhone
- How-to video available at toothscout.com

Ivoclar Vivadent

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800-533-6825

CIRCLE RS #33

SCAN:



Design a smile from your iPad

Using the Candulor ToothScout to ensure ideal tooth mold selection.

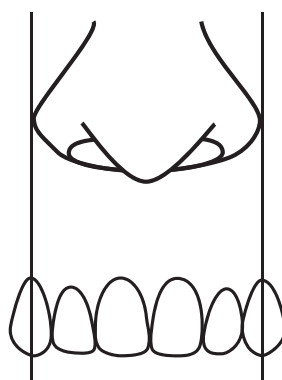
compiled by Ryan Hamm. Information provided by Ivoclar Vivadent.

The ToothScout iPad app is a tool for dentists and dental technicians to help in selecting the suitable tooth mold for natural-looking dentures tailored to suit the individual patient. The ToothScout shows users a selection of matching tooth molds based on the width of the alinasal measurement of the patient creating a truly personalized smile.

The harmony between face and teeth is the decisive factor for a natural looking smile. This harmony is a measur-

able dimension and can be found in the proportions of the width of the alinasal and the positioning of the canines.

To get the full potential out of the ToothScout app, measure the width of the alinasal of the patient, in millimeters, using a caliper. Then, move the mm gauge on the App sideways until the red line and display corresponds to the alinasal width measurement. **lab**



Measuring the width of the alinasal of the patient.



The app can also be used on iPhones.

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*MMA - Methyl Methacrylate



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Features

- Automatic re-adjustment ensures constant suction power: if a second user is switched on or off, the motor output is automatically increased or decreased
- A modular construction enables a tool-free motor exchange in only two minutes
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- Three-level suction setting guarantees precise adjustment to different materials
- Targeted, noise-reducing measures: the operating noise is only 51-59 dB (A)
- Possibility of easy, precise calibration of the automatic switch-on of the two suction channels individually—even critical micromotors are clearly detected
- The finely adjustable filter level detection enables optimal adaptation to different extraction materials, thus extending the service life of the dust bag
- Effective health protection by the two-stage filter system (Class “M” filter material according to DIN EN 60335-2-69/A1 with 99.9% separation efficiency)
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Renfert

renfert.com
630-762-1803

CIRCLE RS #35

SCAN:



A better extraction system

The Silent TS2 combines space-saving dimensions with the power of flexibility.

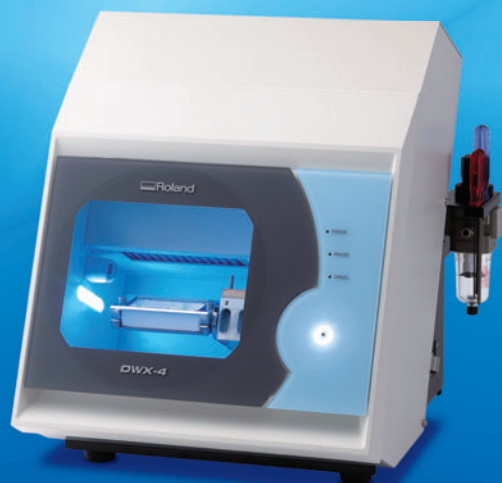
compiled by Ryan Hamm. Information provided by Renfert.

The new Silent TS2 is designed to improve the efficiency of your lab. Save space and investment costs and at the same time utilize the advantages of the Silent TS and the intelligent control of the two workstation extraction.

The Silent TS2 switches on at the pre-set suction level and opens the respective valve as soon as one of the two possible users, e.g. a handpiece, is activated. If a second user is started, the second valve opens

and the motor output is automatically regulated to a higher level, so that the suction power set previously is the same at both suction channels. If one of the two users is switched off, the Silent TS2 has an individually adjustable run-on time after which the respective valve closes the suction channel. The motor output is automatically lowered to the set suction power. **lab**

Freedom to Choose



DWX-4 Compact Dental Mill
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3M ESPE Lava™ Ultimate Restorative



Wax, PMMA and zirconia



Mill multiple jobs unattended

Roland dental mills combine precision and ease of use with multiple material choices to deliver the right solution for your lab.

Whether your dental lab is just getting into digital dentistry, currently outsourcing, or looking to increase production, Roland has a solution that's right for you.

The DWX-4 compact dental mill is perfect for milling single crowns and bridges on demand. Affordably priced, the DWX-4 makes it an easy choice to get into digital milling, or add to your current offering. The DWX-50 5-axis milling machine combines exceptional performance with advanced features like a 5-station automatic tool changer. Both devices include a diagnostic notification system, integrated air blower and dust collection system for easy to use operation.

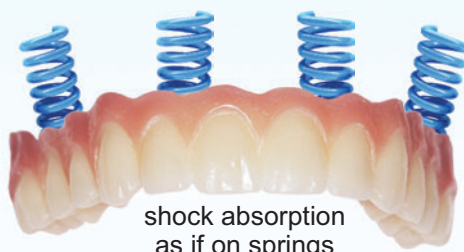
Built on open architecture, Roland DWX dental mills work with industry standard materials, software and hardware, so you can always choose what's best for your business. Now that's freedom.

To learn more and watch what DWX customers have to say, visit www.rolanddga.com/dwx.

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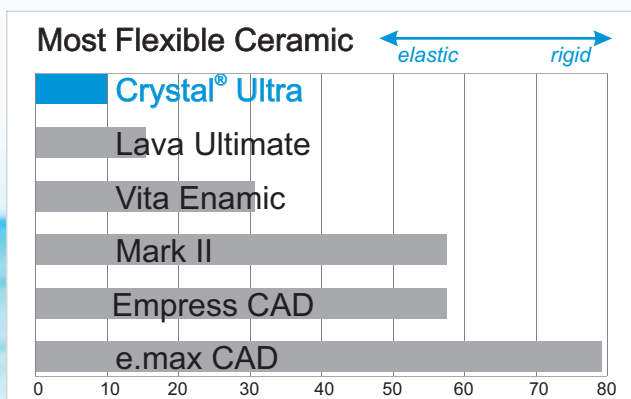
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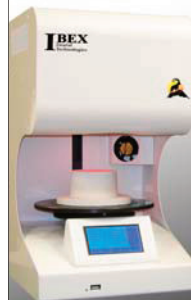


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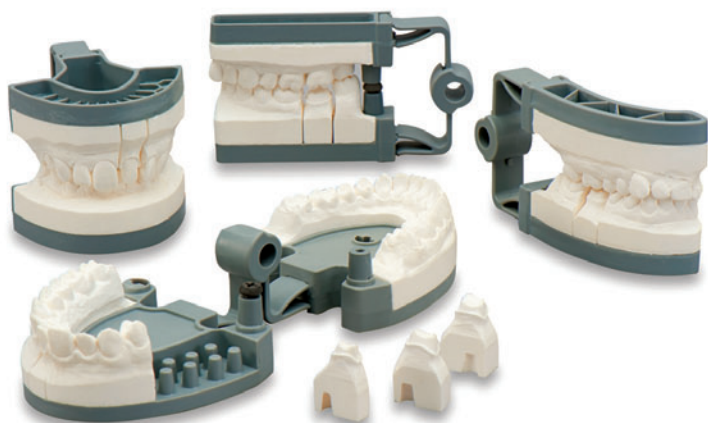
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Q+A

Marilyn Luchetti
CEO & CO-FOUNDER
OF TCS

01. You are the co-founder of TCS, which was established in 2000. How have you seen the dental industry change during that time?

There are two huge changes worth mentioning. First, and by far the biggest change I have seen is how technology has exploded in the dental industry, from digital X-rays becoming standard practice to CAD/CAM and milling in-house becoming more accessible to laboratories and doctors, to now seeing the growth in popularity of digital impressions. Secondly, offshore outsourcing took off and has gained momentum throughout these years.

02. How has TCS changed during that time?

My brother, Alex Posca, and I opened TCS in 2000. Last year, he moved on to other dental ventures and I became sole owner of TCS. It took time for TCS to prove credibility, but ultimately, this is a small industry, and as word got around about our first-rate products and our proven reliability, trust started to grow and our company followed. We now export to more than 60 countries. We have training facilities in New York and Southern California, and we also initiated a Network of TCS Laboratories so we can refer dentists to a qualified processing laboratory. As dentists learn more about TCS and the benefits of flexible partials, we felt the need to ensure we are referring them to qualified laboratories.

03. How have some of these changes helped TCS better meet the needs of the lab market?

Our training courses are designed for technicians that are new to flexibles as well as technicians that want to master a particular technique. For example, we get many crown and bridge technicians who want to start offering tcs® flexible partials. Our Advanced courses get into complex cases, repairs and getting a glossy shine on the partial.

04. You recently released a new hydraulic injector. Where does that fit among other product offerings from TCS?

Our new hydraulic injector is 100 percent made in the USA, in our facility. This unit is used to replace the manual press to inject tcs® flexible partials. There are literally thousands of laboratories that have old manual presses and are ready to swap them out for something new and easy to use. This unit simply plugs into a 110V outlet—there is no need for air connections, which makes it ideal for laboratories that use small compressors. All the same furnace accessories used with manual presses can be used with this unit. We are offering a \$200 rebate for used manual presses (most brands accepted) with the purchase of this unit from an authorized distributor.

05. In your opinion, what makes your injector and materials stand out from other options labs might have?

Our products are manufactured in the USA from the highest quality materials and under a strict quality management system. Our key material, tcs® Unbreakable for removable flexible partials, has a unique formulation that offers the ideal degree of flexibility and provides a stable, retentive and esthetic appliance that is virtually undetectable in the mouth. All of our equipment is easy to use and maintain, and we stand behind every item we sell. But it is not only our products; the team at TCS puts the customer first, always.

06. What reactions have you heard from labs, dentists and patients who have used TCS products?

From laboratories, we have heard they find our equipment, products, training and customer service outstanding, and most importantly that they feel they can rely on us. As millions of TCS partial dentures have been fabricated, we hear all kinds of wonderful reviews from dentists, and patients have said they feel very confident with their partials. Additionally, our Dental Appliance Cleaner from our TCS Fresh line also gets rave reviews.

07. After a partial is complete, how do you ensure the patient continues to be satisfied with their partial made with TCS products?

Actually, this goes back to our training programs and our network of TCS Laboratories. We offer the raw materials and equipment to fabricate removable flexible partials; however, it is the dentist's professional recommendations and the technician's expertise and workmanship that will ultimately deliver a successful case to the patient. We take pride in providing products of the highest quality; our goal is to get that same high quality to the final product so that the patient can reap the benefits of a properly constructed removable partial denture.

We offer a variety of patient education brochures so patients can be informed about the TCS option. We include a Patient Care Guide, a sample of tcs® Dental Appliance Cleaner and a tcs® Cool Mint Wipe with each cartridge so the laboratory can forward it to the doctor and patient with the completed partial denture.

08. How do you make sure labs are properly trained to work with your material to get those great results?

Our hands-on courses are CE Accredited and are held in small groups of no more than eight technicians. The instructor, Elvis Rosado, is one of the original technicians that worked in a production laboratory fabricating thermoplastic partials. He literally introduced the concept of flexible partials to the military and has taught thousands of technicians that art of a properly fabricated flexible partial. He is also available to answer technical questions at (731) GO-TO-TCS.

09. How do you see the partials market changing over the next few years?

I see a definite move towards higher technology—[it's] easier to design and fabricate with more precision through digital technology. As implants gain popularity, I also see a growth in the use of flexible partials as an esthetic and comfortable interim prosthesis during the implant treatment.

10. How will TCS continue to meet labs' changing needs in the future?

We have our noses to the grindstone to help improve and simplify laboratory procedures.

A successful company must continuously create new products and improve processes; we are a proactive team at TCS Inc. We will move forward with technology to continue to be an integral part of the industry.

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