10 QUESTIONS: Ivoclar Vivadent's Whitney Falkowski on Programat Furnaces

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CLEAR ZIRCON SPRAY LINER Enamelite's spray liner said to enhance natural translucency of porcelain. More on p.4...

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FROM THE Editor



RYAN HAMM rhamm@advanstar.com

Mission Statement

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.

With your help, looking at the future

2014 finds the dental lab industry at several crossroads. Perhaps even more than other years, the next 12 months bring with them a spate of challenges and opportunities that

will define the lab world for years to come. As part of our mission here at *Dental Lab Products*, we want to do our best to help you figure out how to navigate all these changes and advances. So our feature story this month is about the trends you can expect to affect you in the coming year. You'll find out how politics, technology, workflow, workplace management and privacy laws will make a huge impact in 2014. But you'll also learn what kinds of questions you need to be asking and what changes you need to make. As always, our goal is to help every lab, large or small, flourish in a rapidly changing marketplace and be the best lab it can be.

We'd love to hear what you think about the year to come—for your lab, what do you see as the best opportunities and the biggest challenges? We're always eager to hear from labs—it helps us make sure we're meeting you where you are. We want to know what you care about, and provide you with tools and insightful articles that help you succeed.

So tell us how we're doing! Email me at rhamm@advanstar.com—I always love hearing from you, and you never know when your idea might appear in an upcoming issue of DLP! Regardless, we hope 2014 is a great year for each of you, and that we're able to play just a small part in success throughout the new year. [ab]



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Chris Lowthorp, CDT





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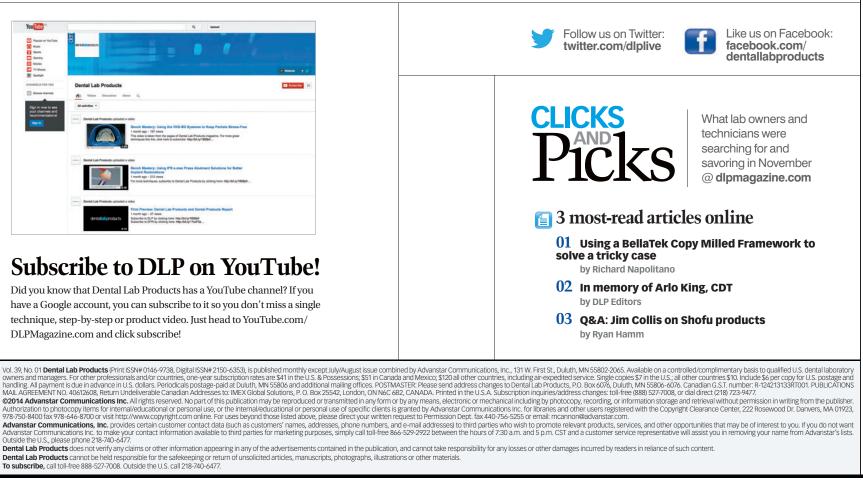
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OUICK BITES FOR PERSONAL DEVELOPMENT AND OVERALL LAB SUCCESS NEXT MONTH: 5 REASONS YOU SHOULD BE USING VIDEO TO COMMUNICATE

TOP 7 REASONS YOU NEED A WEBSITE>>



Your clients are on the Web

Think about how much you use the Web for research—especially when you're thinking of hiring someone to perform a service. Many dentists will turn to Google to look up information about labs they may be considering, even if your name came up via a colleague recommendation. If you don't have a Web presence, they may just move on to the next name on their list.

It's convenient. 02

01

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A website is open 24/7, and is an easy way for current and potential clients to find you when they have questions about the services you provide.

Websites save you and your clients time 03

If you use your website to list your services and keep it updated with industry-related articles, tips and even blog posts, it will serve as a great resource to your clients—a resource they can access any time rather than calling your lab every time they have a question. And when they do call, they'll be more educated about your lab and what you can offer.

It's a great marketing tool 04

You do great work in your lab, and a website is a great place to show that off. Use before and after photos. Ask happy clients to write testimonials. You can use your website to really get the word out about what your lab has to offer.

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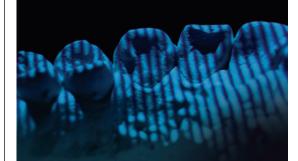
These days, just about every business, large and small, has a website. If you don't, even if a potential client might be interested in your services, that dentist may decide you're a little too out-of-touch and move on.

Your competitors have a website 06

Even if you don't have a Web presence yet, many of your competitors do-and if they don't now, they will soon. This puts you at a huge disadvantage if you're trying to attract new customers to your lab.

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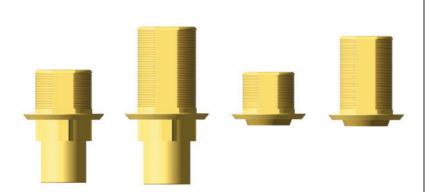
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The new **A.M.I.S.**" (High Esthetic) Bridge combines six IPS e.max^{*} anterior crowns with the strength of a patient-specific, digitally designed and precision-milled screw-retained all-zirconia framework, and is then finished with pink porcelain for a natural, customized final result. The A.M.I.S. bridge is indicated for case situations right up to 10 unit bridges. Compatible with a wide variety of implant platforms, the required AurumTek^{*} abutments, related screws and components for any supported implant system also are included. Based on the pictured example configuration of a 10-unit bridge with six implant abutments and six crowns, the ICSimplicity[®] Fixed Price would be an all-inclusive \$8,995.

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The **olloclip**" is an easily attachable lens for the iPhone that lets dental laboratories text dentists crisp, high-quality images of unclear margins or anything else that needs shown in high detail. Also, it features fisheye, wide-angle and macro lenses, plus it doesn't require a special case or adapter.

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The small, portable **MicroGlaze** furnace features fast heat up, digital temperature control and fast cool down, plus it has an algorithm that remembers what the user selects for the next firing. Temperature ranges from 50 to 1100°C (122 to 2012°F) at a rate of 20 to 120°C/minute (36 to 216°F/minute).

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benchMASTERY 600 KAHNG ON BRIDGE PREP



An ideal implant bridge

Luke S. Kahng, CDT

Preparation for an All-on-5 hybrid zirconia all-ceramic bridge.

Our case study patient involves a 50-year-old woman whose case required screw-retained implants to create the most functional and esthetically pleasing implant bridge. Often clinicians will ask about procedure for a case of this nature because they would like to better understand protocol.

In my experience, an open tray impression is preferred from the laboratory's side as the

results are much more accurate. After the lab receives the open tray impression, they will pour up the impression and fabricate a bite block to get a correct bite record. After the lab receives the bite block and set the teeth, they will then put in the temporary abutment with jig then light cure it by engaging Primotec gel. The case is then sent back to the clinician.

LABORATORY PROCEDURE

Fig. 1 shows the placement of the five implants in the patient's mouth prior to taking the impression with open tray (**fig. 2**).

O2 In the mouth, the jig was tried in to check for rocking (Fig. 3). During the tooth set-up, the denture teeth were tried in with the bite block (Fig 4). At this time, it was

OOO PREPARING AN ALL-CERAMIC IMPLANT BRIDGE



Fig. 1 Five surgically placed implants



Fig. 4 Denture teeth try-in with bite block



Fig. 7 Scan copied with white zirconia block



Fig. 2 Open tray impression taking



Fig. 5 Temporary scanned with CAD/CAM



Fig. 8 Grinding upper restorations before sintering



Fig. 3 Jig try-in

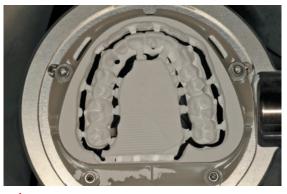


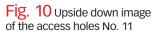
Fig. 6 Amann Girrbach Motion 2 Milling Machine



Fig. 9 Placed in A1 dyeing liquid









Figs. 11 & 12 Restoration placed on titanium base

Fig. 13 Internal staining before firing



Fig. 14 A1 color and pink enamel base color



Fig. 15 Second bake at 810°C



Fig. 16 After firing stage, before cool down



Fig. 17 Covering access holes for No. 11



Fig. 18 Mirrored arch view

noted that the No. 11 access hole was too far out facially, so it was trimmed down and another created. Because it was canted, the correction was made to the left. Central No. 9 had a good incisal edge but No. 8 was longer than the temporary. The size, horizontal and vertical lines, color and pink color were all checked and matched. This was good information to keep in mind for the final restorations.

During the wax try-in stage, the temporary was scanned to set the access holes for the five implants (Fig. 5). The entire design was finalized during this scanning with the Amann Girrbach Map 400 scanner (Fig. 6).

D4 The denture teeth were tried-in the patient's mouth to check for her opinion. She was happy with the results, so the scan was copied with a white zirconia block (Fig. 7).



Fig. 19 Porcelain crown to be cemented

05 It was mirrored exactly and then taken out and ground with a carbide burr 1 mm down. The restorations were fully contoured and the facial trimmed. The porcelain created esthetic and natural-looking restorations. The molars were sized correctly and only needed staining.

Next, I completely ground the upper restorations in this mirrored image before sintering. Proper grinding is more difficult to accomplish before sintering (Fig. 8).

D7 The image we see here was taken from an upside down angle flipped over 180° (**Fig 9**). This angle shows the access hole underneath the restoration. The zirconia I used is pre-shaded but I added liquid in A1 color.



Fig. 20 Mirrored image, final

OS Tooth No. 10 was a titanium-based restoration that I cut back with scissors to make sure the zirconia abutment would fit the patient's mouth properly.

O9 After cutting, I placed the restoration back on the titanium-based implant site (Fig 10). In Figures 11 and 12 the titanium base was fit to the zirconia frame base and screwed down to the model.

10 Before firing (Fig. 13), I internally stained the restorations to create a life-like appearance. Restoration No. 11's zirconia coping was created with two pieces to cover the access hole for esthetic purposes. The color-base used was A1 with enamel applied, and the build-up porcelain used was GC Initial GU pink with overlay enamel color (Fig. 14).

The second time bake was then activated at 810°C with a two-minute cooling cycle (Fig. 15). The next image demonstrates the after-firing stage, before cool down (Fig. 16).

12 Covering the access hole is another zirconia coping—made up of two pieces—for No.11, with build-up for tooth No. 11 as a continued process (Fig. 17). Next is a mirrored arch view shown before the zirconium base was placed (Fig. 18). The next mirrored image shows the finished access hole for No. 11, with a porcelain crown to be cemented in the patient's mouth to show the two-piece image (Fig. 19). Next we see the mirrored, final image (Fig. 20).

CONCLUSION

This case was created using the All-on-4 technique. A denture was fabricated, with zirconia fused to porcelain. The All-on-4 Hybrid bridge used all zirconia, but there are many available options for a technician to choose from. The decision depends on the implant company and the patient's particular situation. From the lab's standpoint, technicians must have knowledge and feel good about the results they think they will achieve with material choice. Bone density and overall health also have to be considered when we are discussing and planning for five implants. [ab]

DenchMASTERY OO ZALESKE ON PROCESSED BASEPLATES



Tom Zaleske

Making processed baseplates more efficient

Techniques to simplify the best way to create a platform for bite registration records and set denture teeth for try-ins.

Several authors over the years have written about the benefits of using processed baseplates as the surest way to present a stable, retentive platform on which to take bite registration records and set denture teeth on for try-in evaluation. Other benefits include providing the exact fit to be expected prior to the finish of the case, and providing a treatment tool to help clinicians illustrate the deficiency or success of treatment expectation to their patient.

The biggest disadvantage in offering these types of bases always has been in the time it

takes in the laboratory to fabricate them and the fee associated with that time.

Broken down into the key elements of fabrication, this article will provide a huge time-saving cure method and a product that will provide a more accurate end product.





Fig. 1 By boxing the master impression with Wonderfill and the Wonderformer, 15 minutes of additional time can be saved.

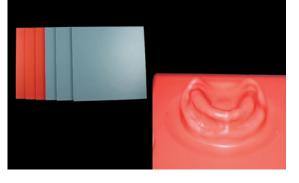


Fig. 2 Vacuum formable sheets of baseplate (pink) or tray (blue) offer an inexpensive and accurate way to control uniformity of thickness in the processed baseplate. I prefer to use the .100 thick pink, which provides a uniform 1.5 mm post formed thickness.



Fig. 3 Cutting material away from the model can be quickly achieved by using a standard stiff Robinson brush, using controlled speed and pressure. 8-10k rpm provides an even speed that cuts the material more than disintegrating the brush.



Fig. 4 By implementing microwave curing into processing baseplates, you not only save two hours of waiting time, but it also keeps you from tying up conventional curing baths with an ancillary procedure. For more on microwave curing using GC Naturecryl MC, they offer a one-hour webinar by this author, for CE Credit at bit.ly/J2rIYA



Fig. 5 Fabricating a mounting model with lab putty and a stone base ensures easy, accurate placement and removal from articulated mounting. Make sure to encompass the border roll and ridge form; place retention holes in putty while soft to provide putty to stone retention when you pour the base.

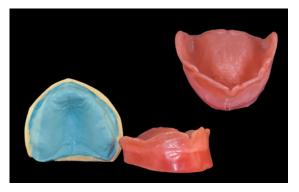


Fig. 6 All-season wax from Yates and Motloid ensures a distortion free record. Baseplates have post dam placed and are polished and finished at the border final, to ensure the truest evaluation of fit.

bench**MASTERY**



Fig. 7 Once approved, the try-in/processed base is filled with stone to invest. Never process on the lab putty mounting model.

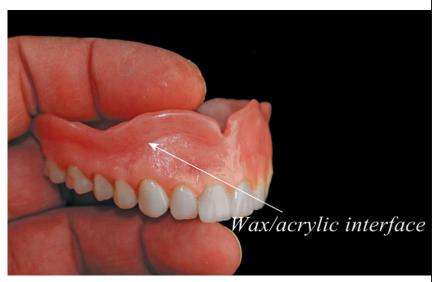


Fig. 8 When investing, cover acrylic up to the wax interface. This will allow flasks to separate easily and provide a non-flashing pack.



Fig. 9 Some of the benefits of Naturecryl MC.

Once the master impression has been boxed (Fig. 1), poured and stone has set, a replication of the baseplate must be formed over the model before investing. Using baseplate wax is the general recommendation for this task. The drawback in using this material is the uniformity in thickness, contour, speed and accuracy of adaption. When heated and hand-formed, wax tends to get thinner in areas that have pressed over surface elevations such as tuberosity's and palatine raphe. I recommend using vacuum formable polystyrene sheets (Fig. 2) sold as baseplate and tray material. The ability to heat and form over the model

provides a tight, uniformly thick adaption that covers the tissue-bearing surface and follows the contour of the palatal vault. Trimming is easily accomplished using a stiff Robinson brush, or hot knife (**Fig. 3**). Using the .100 gauge material provides a 1.5 mm thick base with no inconsistency of gauge.

O2 Once invested, we have to choose a way to cure that is time-effective and won't tie up our conventional curing equipment for any length of time. I have found that solution by using GC Naturecryl MC Microwave acrylic and FRP Flask (Fig. 4). I have been using this acrylic for other types of fabrications but have now found its three-minute cure feature to be an ideal recommendation for this application as well.

Being able to use conventional flasking technique, mold washout and pack pressing technique with this product eliminates any real learning curve. The ability to start finishing the baseplate in 48 minutes from onset of cure removed my usual two-and-a-half-to-three-hour wait for conventional resin and made this a more time effective service to offer. Naturecryl MC also matches Naturecryl Super Hi Impact resin in shade, so that when I do my secondary cure with teeth on the base, I am confident the shade blending will be identical.

Once the baseplate is cured, a "mounting model" is fabricated using PVS laboratory putty and a stone base (Fig. 5). This ensures the baseplate can be removed and placed at will with no concern of undercut. Fill just enough of the tissue bearing area with putty to encompass the border roll and ridge. Place retention undercuts into the putty while soft to lock the stone to be poured as a base to it.

Babricate a rim, using a firm, allseason wax such as Yates and Motloid (Fig. 6) to the base with sticky wax. All-season wax ensures a stable bite registration and consequent wax arrangement as it is resistant to warping or moving over a wide range of temperatures. I also have found it to have a natural pink pigment, and it has a nice carving and flaming property.

Once try-in is approved, always process off the putty model by filling the baseplate with stone to make a "processing" base (Figs. 7 and 8). I recommend a secondary curing temperature not to exceed 165° F, as boiling may relax and distort the pre-processed acrylic.

By implementing GC Naturecryl MC into the fabrication of what was once considered time consuming, it has allowed me to offer a better service to my clients, without compromising production schedules in the lab. lab

ABOUT THE AUTHOR

Tom Zaleske is the owner of Matrix Dental Laboratory in Crown Point, Ind., and has more than 25 years of experience in removable prosthodontics. He regularly lectures on providing high quality service to dentists and, most importantly, to their patients. He can be reached at **matrixdental@comcast.net**.

bench**MASTERY OOO STEP-BY-STEP ANAXFORM**

A one-stop system

Using the anaxFORM system to make ideal provisional restorations.

by Joshua Polansky, Niche Dental Studio, Cherry Hill, N.J.; and Jaro Urbanski, AIG Dental Lab, Mexico City

More often than not, technicians outsource provisional restorations because it can be difficult to make provisional restorations predictably and to make them profitable. But what if the matrix and flask used to fabricate the provisional could also be used to fabricate the final acrylic restoration? And what if the provisional prosthesis required little to no trimming or adjustments right out of the flask?

With the anaxFORM flasking system from anaxdent North America, that's exactly how it works. It's simple to transform the wax-up into an esthetic, long-term acrylic provisional. The final form wax-up is duplicated in tooth-color PMMA, then pink composite or acrylic is easily applied to the gingiva for a provisional that replicates esthetics, form and function. Plus, the precision anaxFORM flask eliminates time spent on adjustments to compensate for expansion and shrinkage.

Having control of the provisional means having control of the case. That control plus getting patient buy-in on esthetics and function during the provisional/ healing phase makes implementation of this technique a no-brainer for any technician, especially those dealing with large implant cases like the one detailed in the following technique.



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Fig. 1 The final-form wax-up.



Fig. 4 Applying the silicone separator to putty matrix. Fig. 5 Position the model in the flask.



FIg. 7 Lock the flask in place.



Fig. 2 Creating a split-case base





FIg. 8 Remove model and wax-up from matrix.





Fig. 6 Apply Matrix Form 60 putty to wax-up.



Fig. 9 Create sprue hole in most distal areas.



Fig. 10 Follow the instructions and carefully inject the acrylic into the sprue hole.



Fig. 13 Add internal stains (anaxblend colors S) to create a natural look.

Once the final-form wax-up is complete (Fig. 1), a split-cast base is created in the anaxFORM base former (Fig. 2) using a washer to engage the magnet in the base-former and the base of the flask. Now, the model will register precisely on the flask base.

O2 Remove the soft-tissue model (a soft-tisssue mask around the implant sites is recommended) and press anaxdent Matrix Form 60 silicone putty on the lingual side of the model, pushing the putty underneath the wax-up to capture detail on the intaglio surface (Fig. 3). Then press putty on to the vestibular side of the model, adhering it to the previously placed putty. Trim any undercuts on the buccal border, then apply Divorce silicone separator to the entire surface of the putty matrix (Fig. 4).

O3 Place the model in the flask and adjust the number of washers on the side rods to position the flask lid at the best height for the model, leaving around 5-7 mm clearance between the wax-up and the flask lid (Fig. 5). Remove the lid, leaving the model attached to the flask base and apply a thin layer of Matrix Form 60 putty to the entire surface of the wax-up (Fig. 6) and place the model in a dry pressure pot at 2 bar for four-to-five minutes, allowing the putty to capture all details on the wax-up.

To complete preparation of the matrix, fill the flask lid with Matrix



Fig. 11 Put flask in pressure pot at 2-3 bar. Do not submerge in hot water, just surround the flask.



Fig. 12 The exact match of wax-up.



Fig. 15 The final view of the provisional prosthesis, which can perform reliably for up to one year.

To inject the PMMA, hold the flask at a 45° angle to the counter, then insert the syringe tip into the lower sprue hole and inject the acrylic slowly with consistent pressure until the material exits the other sprue hole (Fig. 10). Then, lay the flask flat on the course and continue injecting the acrylic as you remove the syringe tip from the sprue hole, filling the reservoirs around both holes with acrylic.

OP Place the flask in a pressure pot at 2-3 bar with hot water a few millimeters from the top of the flask. The flask should be surrounded by hot water, but not submerged (Fig. 11), because if the acrylic in the reservoirs comes into contact with the hot water, the acrylic will begin to cure from the outside first. This would prevent excess acrylic from pulling down the sprue channels to compensate for material shrinkage as the acrylic cures. Curing time is 15 minutes.

10 Once fully cured, remove the acrylic duplicate from the flask by breaking the reservoir material off with a lab knife, allowing the duplicate to be easily removed from the putty matrix in the flask lid, revealing an exact duplicate of the wax-up with little to no flash (Fig. 12). Depending on the desired result for the provisional, a monolithic restoration can be sufficient.

11 New Outline PMMA is available in a full range of dentin and incisal shades. To enhance the esthetics of monolithic provisionals, mix dentin and incisal powders in a 70:30 dentin to incisal ratio rather than injecting a dentin shade only.

12 For a natural look, cut back the dentin duplicate, add internal stains (anaxblend colors S, anaxdent) (Fig. 13), inject or press the incisal layer in the flask, place the flask back into the pressure with hot water and allow to cure for 15 minutes.

Next, remove the duplicate and 15 cut back the gingival area to make room for pink composite or acrylic. In this case, pink composite was chosen (anaxgum, anaxdent). Apply a thin layer of light cure bonder (Bond LC, anaxdent) to the PMMA surface and cure for one minute to prepare the surface for bonding to the composite. Then, apply shade Light Pink to the root areas, Dark Pink interproximally and Orange Pink to blend the Light Pink and Dark Pink together (Fig. 14). When gingiva characterization is not as essential, Orange Pink is a very universal shade that, when applied to a white background as shown here, has a level of translucency that allows the shade to appear lighter where it is applied in a thinner layer (root areas) and darker where it is applied in a thicker layer. For ethnicities that require more violet or brown gingival shades, the composite is also available in Purple Pink and Brown Pink, plus it comes with a line of tinting paints that give the technician or dentist plenty of ability to customize the shade.

Finally, polish the restoration with a firm Robinson wheel, then soft Robinson, followed by a chamois or lambswool wheel. Steam and dry, then apply a thin layer of light cure glaze (Skin Glaze, anaxdent or Optiglaze, GC America). The resulting provisional prosthesis (Fig. 15) can perform reliably for up to one year.

CONCLUSION

The value of a predictably fabricated provisional prosthesis that truly represents the plan for the final restoration is irrefutable. With anaxdent's anaxFORM system and their modern PMMA and composite materials, technicians gain the control, predictability and profitability that traditional techniques and materials do not offer. Also, the anaxFORM system's low start-up cost (around \$2,500) and versatility (processes full dentures accurately too) make it a highly cost-effective investment.

benchMASTERY 000 STEP-BY-STEP ANAXFORM



Fig. 14 Apply pink composite (anaxgum) to gingival area to create excellent esthetics.

Form 70 silicone putty, then push the lid onto the flask base until you reach the vertical stop created by the washers. Screw down all three bolts to lock the flask lid in place (**Fig. 7**). Trim the excess putty flush with the flask lid, and any excess on the sides of the flask and allow to set for four to five minutes before removing the bolts and flask lid.

O5 Carefully remove the model and wax-up from the matrix in the flask lid (Fig. 8) and use the included hand-drills to create a sprue hole in the most distal area on both sides of the arch (Fig. 9). The trajectory must be such that the drill exits as close to the center of the flask opening as possible, so sprue access is simple during the injection process. Lastly, cut away putty around both sprue holes to create a reservoir for extra acrylic to fill during injection.

Next, the model is placed back onto the flask base with temporary abutments and reinforcement material of choice (fiber, wire, frame), and the flask lid with the putty matrix is put back in place with all three bolts screwed down completely. The assembly is now ready for injection.

OZ Mix long-term provisional PMMA (New Outline, anaxdent) powder and liquid in the appropriate dentin shade and pour the mixture into a tipped syringe. Allow the acrylic to polymerize until it reaches a honey-like consistency (60-90 seconds), and be sure to allow any air bubbles to escape.

FORWARDTrends

Lab Trends in 2014

A look at the opportunities and challenges that will affect labs in the year to come.

> By Robert Elsenpeter, Contributing Writer

A new year is often greeted with resolutions—resolutions to make a fundamental change, a resolution to just do something better, or resolutions to meet challenges in a whole new way. Whether you feel like your lab needs to make major resolutions as we head into 2014, there is a lot going on in the world of dental labs that you should pay attention to. Some of it you might be prepared for. Some of the changes present incredible opportunities. And some of these changes offer real challenges for every lab. These are the trends of 2014—resolve to meet them head on. Over the next 12 months, that kind of New Year's Resolution might make all the difference.

<u>III TRENDS</u> FORWARD Trends



PATIENT PROTECTION AND AFFORDABLE CARE ACT

While the Patient Protection and Affordable Care Act (referred to as the ACA or colloquially as Obamacare) is aimed primarily at medical health care, dental labs are not completely immune to its mandates—be it in the work they perform or in their role as employers.

"Dental is not a large portion of the ACA," says Eric Thorn, in-house counsel for the National Association of Dental Laboratories (NADL).

The ACA is a 2,409-page document that contains a number of tools meant to keep the ACA from adding to the U.S. deficit. The Medical Device Excise Tax is one such tool. The tax is estimated to bring in \$29 billion, and is meant to reduce the costs of the ACA.

Congress is considering repealing the tax, which is a controversial component of the law. If it is not repealed and goes into effect this month, manufacturers including dental labs—will pay a 2.3 percent tax on the fabrication and import of certain medical devices, including some (but not all) dental devices.

"The big question is whether there will be a medical device tax or will it be repealed," says Lisa DeMoss, the director of the Masters of Law Program in Insurance at Cooley Law School.

The Medical Device Excise Tax is a source of political friction. Supporters look to the tax to help pay for the ACA; opponents say the tax will so severely cut into profits that workers will face layoffs.

While, at first glance, a tax of 2.3 percent on the sale price may not sound like much of a burden, when you look at the 2.3 percent tax in relation to labs' already thin profit margins, the impact is substantial. If the profit margin is 10 percent or less, the 2.3 percent tax can easily eat up 25 percent or more of a lab's profits, Thorn says.

For instance, if a lab manufactures a \$100 device that brings in a \$7 profit, a 2.3 percent tax would eat up \$2.30 of the \$7—more than 30 percent of what the lab makes.

"I don't know many individuals or businesses that can absorb such a pay cut," Thorn observes. Individual labs will have to decide how to deal with that tax—either cut into their profits or pass it along to the dentist and ultimately the patient.

The Medical Device Excise Tax may not apply to everything a lab produces. The tax only applies to items that have to be listed with the FDA. Some things do need to be listed—sleep apnea devices and imported devices, for instance. But other, common items may not need to be listed. A domestic dental laboratory that makes dental devices that are not required to be listed with the FDA will not be directly subject to the tax.

However, many of the materials that are used to make dental restorations such as alloys or ceramics—are regulated as devices that are required to be listed with the FDA, and are subject to the tax. The cost of the tax on these materials is typically passed on to the lab either directly or as a price increase, Thorn says.

The other impact that the ACA is likely to have on labs doesn't come from additional taxation, but rather on their roles as businesses. Businesses of different sizes face different governmental mandates, as well as opportunities.

"And that's where all the controversy comes with the discussion of the Affordable Care Act," DeMoss says.

Many businesses that have more than 50 employees already offer health insurance options, so those businesses won't be impacted, unless they don't offer the appropriate level of coverage required by the act.

Under the ACA:

• Labs with 50 or more full-time employees must offer health insurance coverage to their full-time employees and their eligible dependents or face a penalty.

• Labs with 50 or fewer full-time equivalent employees can use the Small Business Health Options Program (SHOP) to offer coverage to their employees.

• Labs with 25 or fewer full-time equivalent employees with annual wages of less than \$50,000 per year who cover at least 50 percent of the health care premiums at the employee-only coverage rate are eligible for a tax credit.

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ELECTRONIC HEALTH RECORDS

While technology is a tremendous boon to dental labs, it also can bring headaches. Technology has aided in the design and production of complex dental restoration cases, but we also live in an age where technology poses a threat to patient privacy. While labs should want to ensure patient privacy, governmental legislation—like the Health Insurance Portability and Accountability Act (HIPAA)—demand it.

Mary Borg-Bartlett, President of SafeLink Consulting, notes that it's the information transfer between offices like a dentist's office and a lab—where extra care is needed.

"Dental laboratory owners must identify the laws that pertain to patient/client privacy and find out how the laws apply to their business," Borg-Bartlett says. "The most common application of HIPAA is in the dental practice when they process insurance claims, and share Protected Health Information (PHI) with referring dentists and physicians. All of us have been asked to sign the Notice

For information from the Small Business Administration on the ACA, visit: SBA.gov/healthcare of Privacy Practices in health care facilities and the same applies in a dental office. Since the most recent March update to HIPAA, dental laboratories are being asked again to sign a Business Associate Agreement with the dental practice. It still depends on the information being transmitted between the dental practice and the dental lab as to whether or not a Business Associate arrangement exists between the two. In most cases, it doesn't."

In some instances, labs also aren't so sure that patient privacy laws even apply to them.

"Typically, what I hear from labs is, 'If I get a picture of a tooth, how is that violating anyone's rights?'" says Rohit Joshi, CEO of Brightsquid Dental Link in Calgary. "And I would say that that's true, if it's a disembodied tooth. But the fact is that that tooth usually comes with a patient name, or comes with a full-face patient picture. So unless that doctor is using some sort of an obscure identifier, there is, in fact, a real concern for the type of information that's in the hands of the lab."

While current laws exist to protect patient privacy, are they enough? The answer seems to be "yes." But labs still need to be cautious.

"The primary exposure or concern is disclosure of information through social media such as Facebook and the other chat sites," Borg-Bartlett observes. "Employers need to have strict policies regarding confidentiality of information and casual discussion of patient information by their workforce members."

Labs can be sure they're doing enough to protect patient privacy by following some simple steps. "Ensure that all of the data that's at the lab or that is in transmission is encrypted," Joshi advises. "What encryption means is that information has been put through some sort of a complex mathematical formula, so that if someone who is the unintended recipient of that information were to get access to it, they couldn't actually crack the code. They wouldn't be able to find out that patient's name. They wouldn't be able to read the patient's name or see the picture of the patient. That's probably the first and most important element for HIPAA compliance. There are lots of ways to achieve privacy of this information."

And while no one wants to think that lab employees would knowingly violate patient privacy guidelines, some rules need to be extended to ensure confidentiality.

"Dental lab owners should have all the workforce members sign a confidentiality agreement and even a nondisclosure to protect the names of the dental clients as well," Borg-Bartlett adds. "The lab's policies should also cover non-use of the cameras on cell phones while at work."

"Everybody who does come in contact with that data at the lab has to be logged into some sort of a system," Joshi says. "One of the tenets of HIPAA is that only the people who need access to that data have access to that data. So, for example, if a lab has front desk staff that doesn't have any need to access that information, they actually shouldn't have a login to the system where that information is held."

"Understand how the privacy rules apply to your business, and follow through with systems that will protect patient and dental client information," Borg-Bartlett emphasizes.

OUTSOURCING

There are a number of reasons that a lab may opt to outsource work—whether it be too much work and not enough hands, or wanting to offer new services.

"We've seen design services like fullcontour.com that are often used when a customer has a certain volume of work and they hit a peak, or maybe they lost a designer, and they can outsource to help with their design needs on an overflow basis," says Rob Nazzal, CEO of Custom Automated Prosthetics in Stoneham, Mass.

"Laboratories outsource work to us for milling services," says Daniel Allemeier, Core3dcentres USA Territory Sales and Marketing Manager. "The normal digital workflow in some labs is that they would receive a model from the dentist. If the lab is digital, they can scan that model; design a crown or abutments, or something for implants; and then export that file to us to have it milled either in zirconia or titanium or cobalt chrome or some other material."

Labs might want to offer a new service, but rather than commit the time and resources to an uncertain venture, it makes sense to outsource the work first before bringing it in-house.

"When you achieve a certain volume, there's a breakeven point where it would make sense to bring that inhouse, but when you're just testing the waters, that's one of the key benefits of outsourcing," Nazzal says.

Some work is simply too cost-prohibitive to bring inhouse, so outsourcing is the only viable way to deliver it. "There's a movement in doing printed precious metals, and that's something on the horizon and just coming on the market now," Nazzal continues. "Those types of machines and the ability to fill the machines with those materials are just something that's not really attainable by most laboratories today."

While outsourcing is largely a positive move for labs, it isn't without its challenges. "Unfortunately, in our industry, there is a drive to the bottom on pricing, specifically with the zirconia work," Allemeier notes. "Everybody's trying to find the bottom. But everybody can't be at the bottom for price. The challenges that come to us have to do with overall manufacturing expecta-*Outsourcing continued on page 22*

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Outsourcing continued from page 20 tions and what can be done."

Nazzal adds: "You're putting your product in the hands of someone else, so you have to have a really tight communication with the people that you're outsourcing to, ensuring that they understand what your preferences are, what your needs are so that they can act on your behalf for that case. It can be a challenge if the communication is not there."

Dr. Barry Franzen, a prosthodontist in Milwaukee, Wisc., uses outsourcing as part of his practice, and it has reinvigorated his own energy and changed the relationship with his labs.

"I have created somewhat of a unique workflow model for myself with the purchase of my 3Shape lab scanner and outsourcing the milling procedures to a third party, namely Core3D," Dr. Franzen says. "They have been instrumental in training and with pointers along the way, as each case seems to have a nuance in and of itself—even if it looked much like the last case."

Overall, outsourcing to a milling center has been a positive move for Dr. Franzen.

"Eight months after the purchase of the scanner and committing to outsourcing, I can say the move has been the perfect fit for me," Dr. Franzen says "Financially, the scanner has already paid for itself in lab cost savings. The support from my outsourcing [partner] has been no less than phenomenal. Their guidance has been spectacular and the quality and turn-around time is unbelievably fast. But the biggest advantage I see in this process is the 're-energization' of my own motivation in the office." Eight months after the purchase of the scanner and committing to outsourcing, I can say the move has been the perfect fit for me.

Dr. Barry Franzen, Prosthodontist

CHAIRSIDE

Chairside restorations are a trend gaining popularity in dentists' offices. And while that ability is a convenience for patients, is it a threat to labs?

It doesn't have to be. Lee Culp, Chief Technology Officer at MicroDental Laboratories in Dublin, Calif., has experience both in developing and working with chairside. He was a consultant with CEREC for seven years and vice president in charge of strategy and technology for E4D, both of which are prevalent in-office milling systems.

> "Most of the dentists do what they can do and do what they can do in an hour," Culp says. "Maybe they're going to send

The American Dental Association has provided a HIPAA hotline for dentists to call to hear information that explains how certain entities (like dental laboratories) are exempt from signing a business associate agreement. **The hotline number is 312-440-2899, ext. 3.**

it to the lab; maybe they're going to do a direct composite; but there's still a lot of work out there in the dental office that doesn't come to the laboratory, because dentists do a lot of direct composites. So if they can use any of these technologies to do a better restoration than they could have direct, then that's what they're doing."

While dentists may opt to perform some chairside work, they aren't, by and large, performing complex cases, Culp says. Plus, chairside is certainly appealing for the patients and dentists and, by extension, dental labs. "If you're a patient, you don't have to take time off and go to the office twice and the dentist can restore your tooth in one visit, then as a caregiver to patients—even obliquely as a laboratory—you can't disagree that that's a good service," Culp says.

But while chairside is an attractive way to solve patents' dental needs, not every dentist wants to take on the additional role of mini dental lab.

"At the same time, there are things that they might not want to do, and then they can take that same chairside data and send it to me," Culp notes. "I can take that data and upload it and create restorations and send it back to them. So there's actually quite a few workflows. Data can come to me; we can design and send it back to the dentist. Data can come to me; we can keep the data and finish the restoration. But there are a lot of workflows that still allow dentists and technicians to work together, even though a dentist has chosen to make his own restorations when he thinks it's the right procedure to do."

Cost also might be an issue for dentists. The price for a chairside system—comprised of an intraoral scanner, design software, and milling machine—is around \$120,000.

For dentists who want to perform some level of chairside service, they needn't buy all three components—an intraoral scanner can be used on its own and then the data sent to a lab to have the work finalized.

"Even if a doctor buys CEREC or E4D, that doesn't mean he's never going to use a lab again," Culp says. "It just means he's going to use them in different ways."

Eddie Corrales, CDT, has found a unique way to deliver chairside services—he started CADSmiles, based in San Diego, and travels from dental office to dental office providing on-site, chairside services. His business model offers predictability and convenience both for the patients and the doctors. Patients can take care of their dental needs in one visit; and doctors can offer the service without having to become masters of the system.

Some doctors learn from Corrales, but most rely on him and his skills.

"One or two of them learn from what I do, but the others reuse me," Corrales says. He visits about 100 dental offices a year, staying on-site for a day or two. He consults with the patient and then uses the dentist's CEREC system to design and engineer the case. The whole process takes only a few hours. It's a new workflow that wouldn't have been possible before the advent of chairside technology.

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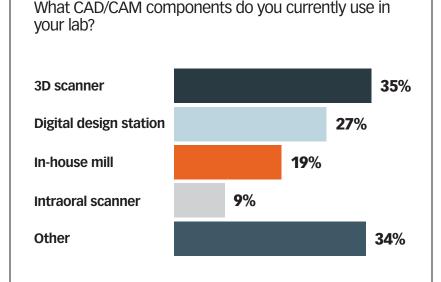


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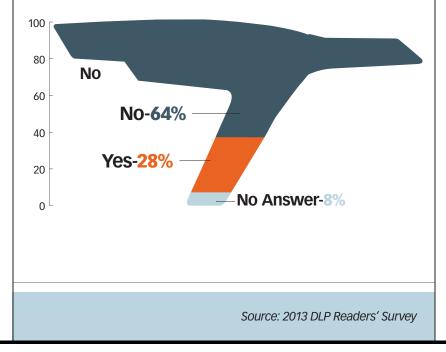
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FORWARDTrends WITHENDS

BY THE NUMBERS: HOW YOU USE TECH IN YOUR LAB



Does your dentist use an intraoral scanner?



5

INTRAORAL SCANNING: TECHNOLOGY FROM START TO FINISH

Technology is a major element in every industry, and is becoming increasingly so in dental labs. Labs took a major technological leap with the introduction of dental CAD/CAM systems, and the capabilities continue to grow.

Labs use different components of CAD/CAM in their practices. According to a 2013 Dental Lab Products Readers' Survey (in which 278 labs responded), the following technologies are used:

3D Scanner ▶35% Digital Design Station ▶27% In-House Mill▶19% Intraoral Scanner ▶9% Other ▶34%

And while only nine percent of surveyed labs report that they use intraoral scanners (the survey further reported that 28 percent of respondents' client dentists also used the scanners) it seems to be a technology poised for growth. Intraoral scanning allows dentists and labs to use an entirely digital workflow the dentist can start work with an intraoral scanner and then transmit that data to the lab where the work is completed.

"Today, specially developed scan workflows using the intraoral scanner deliver digital impressions that are optimally matched to dedicated CAD workflows and the intended clinical results," says Tais Clausen, CTO and Co-founder of 3Shape, maker of the TRIOS° digital impression system. "Communication tools ensure easy and convenient deliv-

Working with digital impressions in CAD software ... gives labs new business opportunities.

► Tais Clausen, CTO and co-founder of 3Shape

ery of digital impressions to the lab, following close cooperation about the case. There are already many dentists and labs achieving full digital crowns starting with a TRIOS° intraoral scan."

But while the technology is impressive, it's not yet perfect.

"Labs must make sure they choose the right digital tools, including software and hardware equipment, and choose them according to their needs and business models," Clausen says. "The production of their models has to prove high in accuracy, so they should test potential equipment for model making before choosing the machine."

Besides the ability to provide a fully digital workflow, intraoral scanning offers other benefits. "The lab can start working on the design right away and, if needed, create a model in parallel, or omit the model completely if producing model-free crowns," Clausen notes. "In this way, working with digital impressions in CAD software such as Dental System[®] gives labs new business opportunities and cements business relationships with their dentists."

Clausen says other benefits of intraoral scanning include:

• Reduction in the turnaround time of the restoration, especially if it follows a full digital workflow.

• The lab can be virtually anywhere and service dentists in any location.

• With digital impressions, modelfree is an option and the model-free workflow can reduce costs—for the lab, dentist and, eventually, the patient.

Intraoral scanning does come with its own set of challenges, however.

"The lab has to select the right CAD/ CAM system because supporting and setting up the system might prove difficult for inexperienced users," Clausen says. "Therefore, user friendly systems that are easy to setup are an advantage. Especially when speaking of software for designing lab models for output on model making machines." [ab]

"As the laboratory industry continues to change,

GC America keeps up with innovative new materials, especially with the GC Initial ceramic line. GC Initial is easier to use and ensures our restorations have the highest aesthetics in the industry. I highly recommend that all of my colleagues use GC Initial." - Luke S. Kahng, CDT

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REACHING NEW HEIGHTS IN DENTAL AESTHETICS



Interested? Circle Product Card No. 21

CAD/CAM MATERIALS360



CAD/CAN Naterials 360°

A round-up of some of the best and most innovative material products on the market.

Compiled by Ryan Hamm

According to our latest reader survey, about 75 percent of you have at least one piece of CAD/CAM technology. Whether you have a mill or a scanner or something else, it's easy to forget about the stuff that's the "blank canvas" for the whole thing. In short, it's easy to overlook how critical the material is.

That's why we wanted to put this round-up article together. We hope it provides an overview of some of the great products out there that are available for the important work you do. Here are few questions to consider as you're reading and thinking about what you need in your lab:

- What end product are you hoping to make? That will impact the decision you make when you initially decide what material to use.
- What factor is most important to you? Esthetics? Price? Translucency? Flexibility of result? The answers to these questions may change what material you pick.
- What don't you know about the material? Some-

times it's easy to be nervous about pulling the trigger because all of the information isn't there—but that's where these phone numbers and websites come in. Don't be afraid to contact a company directly and ask what you need to. In the end, it will help you better serve your customers, which is what everyone wants.

We hope this overview of materials helps you in your lab. With so many great options, 2014 could be the best year yet for CAD/CAM work!

CAD/CAM MATERIALS



Amann Girrbach America CERAMILL SINTRON®

Amann Girrbach's Ceramill Sintron®, developed in collaboration with Fraunhofer IFAM Dresden, is a soft chrome cobalt that gives dental laboratories the ability to dry mill non-precious metal restorations in-house, eliminating the need for conventional nonprecious metal casting processes for crowns and bridges. Until now, this was nearly impossible because of the hardness of the CrCo material. Sintron's "wax-like" texture is easily milled with both the Ceramill 5-axis and 4-axis Motion 2 mills and helps minimize wear and tear on tools. And because Sintron is dry milled, cooling is unnecessary. The CrCo blanks can then be sintered using the Ceramill Argotherm® sintering furnace, specifically developed for this indication.

800-851-3719 AmannGirrbachAmerica.com info@amanngirrbachamerica.com CIRCLE RS NO. 22

You Get More with the BruxZir[™] System





\$175^{*} per 12 mm disc

BruxZir shaded milling blanks provide improved shade consistency, while increasing efficiency and lowering production costs. These pre-shaded blanks come in four base shades that can be stained to match all 16 VITA[®] Classical shades. Available for most milling systems in 12, 15, 20, & 25 mm thicknesses.



- #1 prescribed solid zirconia restoration
- National brand marketing recognition
- BruxZir crowns that can be milled in 11 minutes

\$**28,989***

Includes complete CAM solution (CAM-PC, nesting software and tool-path generator), installation and training



Weight: 100 lb. Dimensions: 15.7"W x 15.2"D x 16.2"H

Whisper-quiet, highspeed Jäger highfrequency spindle (60,000 rpm) ensures a precise and reliable milling result.



For more information 877-708-7902 www.glidewelldirect.com



Mill has automatic tool length detection and an automatic 6-tool changer.



Integrated fixing device fits round universal blanks with diameter of 98 mm and thickness of 12 mm, 15 mm, 20 mm or 25 mm.



CAD/CAM MATERIALS



ARGENZ[™]

ArgenZ^{**} Transitionally Shaded Esthetic Milled Zirconia is designed to offer labs extremely accurate, life-like restorations with the highest translucency for beautiful esthetics. ArgenZ is available in 16 classic VITA shades and three bleached shades in full-contour crowns, fullcontour bridges, frameworks, and copings from single unit to full roundhouse. Labs upload .STL design files from any open architecture scanner to argendigital.com by 3 p.m. PST and receive 1-8 unit cases in two business days, 9-14 units in three business days.



800-255-5524 argendigital.com **CIRCLE RS NO. 23**



Aurident **DELTA ZIRCONIA**

Aurident offers Delta Zirconia, an economical yttria-stabilized zirconia for CAD/CAM processing of full-contour crowns, copings, implants, veneers and bridges. Delta Zirconia uses nano-particles in a proprietary process to produce a uniform and consistent microstructure. Discs and blocks are available in a 1200 MPa highly translucent form or a 1400 MPa high strength form in the most popular sizes. Sintered restorations are compatible with all zirconia porcelains.

800-422-7373 aurident.com **CIRCLE RS NO. 24**

DENTSPLY Prosthetics CERCON HT

Cercon ht full contour zirconia from DENTSPLY is now available in 98 mm disks to fit most milling machines. The new size is designed with the same fast, strong and translucent restorations that technicians have come to trust for esthetic, posterior full-contour restorations, but is more versatile for production demands. With 12 years of clinical history and seven million dental units placed worldwide, Cercon[®] Zirconia provides confidence in material performance.

800-243-1942 prosthetics.dentsply.com **CIRCLE RS NO. 25**





Custom Automated Prosthetics CUSTOM TITANIUM ABUTMENTS

CAP has established a warranty that now provides surgeons with the comfort of knowing their implant is covered in the unlikely event of a failure. CAP also has developed a comprehensive video review process so labs can review all design criteria before manufacturing begins. CAP's warranty is similar to warranties offered by implant manufacturers. In addition, CAP is now milling precision titanium custom abutments at an incredibly competitive price.

877-977-7889 cap-us.com/abutmentwarranty **CIRCLE RS NO. 26**



DENTSPLY Implants ATLANTIS ABUTMENT CORE

Available for 3M ESPE Lava, 3Shape and Dental Wings, ATLANTIS[™] Abutment Core File is a digital representation of the outer surface of an ATLANTIS" patient-specific, cement-retained abutment that enables the design of the coping and final restoration even before receiving the physical abutment ordered. The digital solution allows you to save valuable time and helps to ensure accuracy of the coping fit by eliminating the need to scan the abutment and cast. Available for single- and multiple-unit cases, ATLANTIS Abutment Core File also allows you to achieve higher precision of digital files compared to scanned abutments, which results in increased efficiency and predictable outcomes.

800-531-3481 dentsplyimplants.com **CIRCLE RS NO. 27**

envisionTEC

E-DENTSTONE

EnvisionTEC's E-Denstone Material was developed for dental model manufacturing. The peach color provides an attractive choice for modeling that is similar in look and feel to common die stones used in labs. This is reportedly the only 3D printed material that allows you to easily die trim, margin mark with a red pencil and hand wax to the die without concerns for layer lines. E-Denstone is also tough enough to repeatedly remove and replace the die, check occlusion and move through excursions without any loss of fit or causing excessive wear on the contact surfaces.

313-436-4300 envisiontec.com northamerica@envisiontec.com CIRCLE RS NO. 28





Glidewell Laboratories **BRUXZIR**

BruxZir^{**} Shaded Milling Blanks are pre-shaded milling blanks designed for the production of authentic BruxZir^{**} Solid Zirconia restorations. Dental laboratories can now produce authentic BruxZir crowns & bridges with increased efficiency and lowered costs because they no longer have to invest in coloring liquids or the labor required for the coloring process. Compared to zirconia restorations that have undergone the dipping technique, BruxZir^{**} Shaded restorations reportedly exhibit greater shade consistency, translucency and esthetics. BruxZir Shaded Milling Blanks can be used in many popular milling systems, including Glidewell Laboratories' BruxZir^{**} Milling System.

800-854-7256 glidewelldental.com CIRCLE RS NO. 29

Ivoclar Vivadent IPS E.MAX CAD

IPS e.max CAD blocks are comprised of lithium disilicate glass, which combines beautiful esthetics with exceptional strength in one material. Available in six different translucencies, IPS e.max CAD blocks can be used to replicate or improve nearly any clinical situation. The blocks are designed for maximum milling efficiency and can be finished in either a cut-back and layer technique or monolithic stain and glaze. IPS e.max CAD is indicated for anterior and posterior crowns, veneers, inlays, onlays and three-unit anterior bridges. Available through Patterson Dental, Schein Dental and Zahn Dental.

800-533-6825 ivoclarvivadent.us CIRCLE RS NO. 30





Jensen Dental

LAVA[™] PLUS HIGH TRANSLUCENCY ZIRCONIA FROM 3M[™] ESPE[™]

A comprehensive new zirconia system, based on special chemistry and processing for highly esthetic restorations. Reported features include:

- Excellent esthetics for all zirconia monolithic and layered restorations
- Lava[™] quality and esthetics, said to be the most translucent zirconia among leading brands when shaded
- Proven performance with predictable and precise shading
- Trusted brand with industry-leading 15-year warranty

800-243-2000 jensendental.com CIRCLE RS NO. 31

Luxisse

LUXISSE DENTAL ZIRCONIA

Luxisse Dental Zirconia discs and blocks are all isostatically pressed, machined, and presintered in the Scottsville, N.Y. manufacturing facility. The blanks are 100 percent Tosoh powder and are configured to fit all commercial open architecture milling systems. The company offers standard translucent material for cores, high translucent for full-contour, and pre-shaded blanks. Ask about the new blanks for the Roland DWX-4 mill.

585-889-2700 luxissedental.com CIRCLE RS NO. 32





Nobel Biocare

NOBELPROCERA™ IMPLANT BAR OVERDENTURES

NobelProcera Implant Bar Overdenture solutions enable labs to provide fixed and removable bars with precision fit for a variety of implant systems and for all indications, from basic to advanced options. Technicians can leverage advanced 3D software to design implant bars quickly and easily. Each bar is then milled from a solid monobloc in biocompatible titanium at Nobel Biocare's production facility in just a few days, increasing lab efficiency and reducing in-house costs. The highly polished bars are delivered ready to use with all clinical screws and attachments backed by a five-year product warranty.

800-322-5001 nobelbiocare.com/nobelprocera CIRCLE RS NO. 33

Sirona Dental, Inc. INCORS™ TZI

Sirona's inCoris[™] TZI full-contour translucent zirconia blocks are indicated for full-contour crowns, bridges and screw-retained implant crowns. Made of solid zirconia with no porcelain overlay, the blocks are said to be virtually chip-proof and well suited for patients when PFM with metal occlusal or full-cast restorations are not an option. The zirconia restorations have a flexural strength of 950 MPa (+/- 50) and because the material has a monolithic composition the zirconia blocks are extremely durable. Restorations require minimum shoulder preparation and provide a perfect marginal fit. Moreover, inCoris TZI reportedly provides a more esthetically pleasing tooth-colored option for cases such as those with limited interocclusal space.

855-INLAB4U inLab.com CIRCLE RS NO. 34





Straumann

STRAUMANN® CARES® ZERION HT

CARES[®] zerion[®] HT is a translucent zirconium dioxide ceramic for full-contour crown and bridge restorations up to three units. It is available in four shades for high-end esthetics and requires minimal processing, saving time for the laboratory technician and reducing the risk of fissures. The simplified processing steps and precise manufacturing are designed to ensure predictable prosthetic outcomes. CARES zerion HT is available for labs with a Straumann[®] CARES[®] CS2 or CARES Prosthetics App for Dental Wings[®] or 3M[™] Lava[™] ST Scanner Customers.

800-448-8168 straumann.com feedback.nam@straumann.com CIRCLE RS NO. 35

Talladium

LUMINESSE (SZ)

Luminesse (SZ) shaded zirconia is designed to save you time, money and to give you the confidence of providing consistent shades every time. Talladium's yttria-stabilized zirconia is manufactured using the highest quality of blended ingredients to provide excellent translucency. All discs are cold isostatically pressed, giving customers the confidence of milling with the finest of detail. Luminesse (SZ) shaded zirconia will be available in 16 Vita shades and 100/98 mm discs.

800-221-6449 talladium.com CIRCLE RS NO. 36





Vident IN-CERAM[®] YZ

VITA In-Ceram YZ DISC Color and YZ DISC HT (High Translucent) are available in precolored, monochromatic shades. The VITA YZ Disc Color uses a controlled coloring process, producing a uniform quality of shades and eliminating the need for timeconsuming and mistake-prone manual coloring. Three shade variations are available: light, medium and intense. Additional coloring with VITA Coloring Liquid can be used for more subtle shade variations. Both products can be processed in all open CAD/CAM systems that can accept discs with a diameter of 98 mm and heights of 14 mm and 18 mm.

800-828-3839 vident.com CIRCLE RS NO. 37

Whip Mix VERICORE®

Made with strength, beauty and stability, Vericore[®] milling discs are advanced milling materials that are designed to satisfy you, your dentists and, most importantly, the patient. From highly translucent zirconia for monolithic full-contour restorations or substructures, to PMMA burnout materials to wax, Whip Mix offers a wide variety of materials and sizes for multiple applications. All Vericore[®] discs offer a diameter of 98 mm and are available with and without collars in a variety of sizes from 10 mm to 25 mm.

800-626-5651 whipmix.com CIRCLE RS NO. 38





Zahn Dental ZIRLUX[®] UNIVERSAL ALL-CERAMIC SYSTEM

The Zirlux[®] Universal system is a complete all-ceramic system designed to offer dental technicians an efficient and versatile method for producing translucent full-contour monolithic zirconia, traditional layered zirconia, or pressed to zirconia restorations. Zirlux[®] is a high strength, highly esthetic alternative to metal that offers patients strength without compromising esthetics. Join Zahn Dental's Zirlux[®] Certification program and become a partner of the company's comprehensive marketing plan that spans the laboratory and dental divisions.

800-496-9500 zirlux.com CIRCLE RS NO. 39



REAL TIME ROI >>>>

Giving a great system more control

How Lab Designed Encode is changing the Encode Impression System from BIOMET *3i*.

by Ryan Hamm



BIOMET 3I

800-342-5454 | biomet3i.com CIRCLE RS NO. 41





THE LAB

Artifex Dental Laboratories Inc. is a crown and bridge lab located in Alexandria, Va. The lab, which has 11 employees, specializes in implant work, working with multiple implant systems. Because of that focus and a reputation for excellence, they have about 200 clients, some of whom use Artifex

Tony Prestipino

for one or two very specific or demanding cases per year. Artifex is owned by Tony Prestipino, a CDT and 27-year dental lab industry veteran. Prestipino's role at the lab includes implants, wax-ups, casting, finishing, scan designs, CAD/CAM and case design.

THE PRODUCT

BIOMET *3i*'s Lab Designed Encode is a new workflow for their well-respected Encode Impression System. Now, labs can take advantage of the Encode Impression System—which allows a healing cap to stay on while a clinician takes an impression rather than requiring an impression coping—while controlling the design of the final BellaTek abutment that is milled at BIOMET *3i*. The abutment is milled according to the exact specifications of the lab, enabling a new level of individualized control.

THE RESULTS

To really find out how Lab Designed Encode works, *DLP* spoke with Prestipino, a long-time user of the Encode Impression system. "We're the biggest Encode lab in the country," Prestipino explains. "We probably do about 100 Encodes a month. We've been working with Lab Designed Encode since about May of 2013, and it's been going great."

While being quick to point out the Encode Impression system always worked very well for his lab and satisfied his clients' desire for quality abutment work ("The technicians down there have known me so many years, they usually get it right [without a lot of back and forth]!"], he said the new Lab Designed Encode workflow has really benefitted his lab. "I now have full control over the design," Prestipino says. "With the old way, the computer technician down at 3i used to design my abutments according to my prescription. I would get an email from them with designed images of my abutment. I would send an email back saying 'change this, change this, change that.' And they would change it and send it back to me. Going back and forth like that takes time. That's much improved when I do the design myself. There's no back and forth.

"It also gives me the control of what I want to do, and it gives me the ability to tell my clients that I designed these myself," Prestipino continues. "They have that comfort knowing that."

Of course, all of that time savings adds up. It also goes hand-in-hand with another factor most labs are looking for: cost savings. "On average, I probably save two days in a case," Prestipino estimates. "I probably save \$40 a unit. I love it—and my bookkeeper loves it!"

Overall, Prestipino likes the Lab Designed Encode component because it makes an already great system work even better. He says the Encode Impression System that accompanies BellaTek abutments makes it much easier for doctors to take an impression because they don't need to unscrew the healing abutment, which saves time and money. And adding an improvement to control like Lab Designed Encode? That's icing on the cake. "I'm an implant lab," Prestipino says. "I work with all kinds of implants. It's not very often a company comes out and can save a guy time and money, while preserving quality. And that's the one thing about Encode-even though I'm a believer in all implants. What BIOMET 3i has done is they've come out with something that saves the consumer time and money and accuracy. Kudos to them." lab



Winter Lab Promos Dental Laboratory Product Promos January 2014

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INSIDELOOK

Combining results with trust

MicroDental's Lee Culp explains why Zenostar provides a number of advantages that might be difficult to quantify.

by Ryan Hamm



When you put a disk (or a puck) into a milling machine, what does that piece of material represent? Do you see the raw material, ready to be turned into something amazing? Do you see a lump of porcelain? Do you see the finished product, waiting for you after the milling cycle?

Lee Culp

Or do you see a disk that symbolizes an entire, all-encompassing system that makes it possible to get excellent results every time you mill?

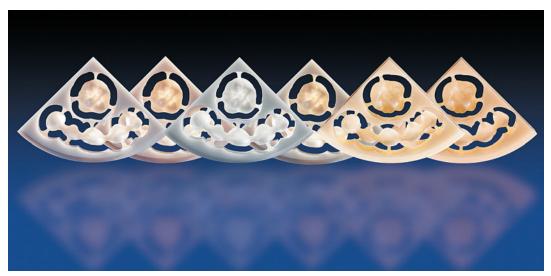
For Lee Culp, Chief Technology Officer at Micro-Dental, the latter reason is why he chose Zenostar as MicroDental North Carolina's zirconia of choice. "We chose it because it was a full system," Culp remembers. "A lot of times, you'll have a zirconia manufacturer who makes pucks who really doesn't have ancillary products to support it—stains, glazes, colors and so on. We went with Zenostar and Wieland because it was a *system*."

Culp's employer, MicroDental, is a collection of labs that comprises the third-largest lab group in North America. With that kind of size, it was important to find that level of completeness when it came to a zirconia system.

But as Culp—who also has been an employee and consultant for Ivoclar Vivadent—notes, he feels the Zenostar system offers advantages for labs of any size, because it also offers support.

"[Zenostar] is one of the only complete systems around zirconia," Culp says. "Whether I'm a small lab or a lab like ours, it's incredibly important for us to be able to go to a company with questions. It wasn't just the zirconia—you've got to look beyond the one product to the system and the company."

Zenostar was originally designed and engineered



Zenostar Zr Translucent pure, light, medium, intense, sun and sun chroma; each shown here as a quarter blank with a full-contour molar crown and a five-unit bridge framework (photo/caption: Ivoclar Vivadent)

by Wieland Dental, "a long-standing, well-respected German company," Culp says. They developed the Zenostar system and then, several years later, were purchased by Ivoclar Viadent.

"There are a lot of zirconias," Culp says. "It is kind of a 'me too market' out there. Zenostar is unique [because of] the background and reputation of Wieland, and of Ivoclar Vivadent. If Ivoclar thought it was good enough, then it must be."

As CTO of a major lab group, Culp is uniquely positioned to see the advantages of a system like Zenostar's. There are obvious factors like the translucency and the millability.

But even for a tech guy like Culp, the thing that made Zenostar such a strong choice wasn't necessarily just the design or scientific makeup (though those factors were there). So what was the standout feature offered by Zenostar? "Trust," Culp says, emphatically. "A lot of zirconia on the market comes from a few places, and then is just re-labeled. With Ivoclar and Wieland, I know they make it; I know they put it through severe scientific study; I know they put it through clinical studies. I know that I'm getting it from the company that made it and tested it, scientifically."

ESTHETICS MATTER

Of course, that trust would be misplaced if the results weren't there. But Culp says Zenostar's esthetics and chemical composition are top-notch.

"Zenostar is also very translucent," he says. "As an objective, it was the top translucent zirconia we tested when we were picking in the beginning. We tested everything. We tested, we sintered—we tested translucency and esthetics, and it just happened to be

INSIDELOOK



Zenostar clinical results



Wieland who backed it up.

"The translucency and their internal [green-stage] coloring system is excellent," Culp continues. "I've had excellent reports from labs who are friends of mine or our labs [at MicroDental]."

And that, of course, makes for happy clients, including those clients served by MicroDental.

"Because of the translucency and the coloring, we've been getting great results," Culp says. "Our product that we call Zeus, which is made using Zenostar, is our fastest-growing product. Our full-contour zirconia restoration is our fastest growing restoration. Full-contour restorations are getting very popular."

So when it comes to that disc or puck in your mill, begin to discover what it can mean beyond an unformed lump of material. In Culp's words: "Look beyond the disc." When labs start looking for a material option, they need to consider plenty of factors, but they also need to consider if the material is part of a system and the company standing behind the product. For Micro-Dental, that's what has made Zenostar the best choice.

"Obviously, look at the disc-strength, science, test-

ing, translucency," Culp says. "It all needs to be solid. But go beyond the product—training, support, education, beyond just the disc. People look for the cheapest disc (or the cheapest this or cheapest that), and you get exactly what you pay for. There's nothing there if you're looking to get better or looking for more.

"When you put Wieland together with Ivoclar Vivadent, you know this is just the start and new and better materials are going to come out," Culp says. "Ivoclar Vivadent has the R&D to look at the products in the future that might be more translucent and even stronger. They're not just going to sit on their laurels and just keep selling the puck." [ab]

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Keep up with cases, any time, anywhere

The tablet Workflow App lets you access your DentaLab for QuickBooks on the go.

Compiled by Ryan Hamm

Dental Lab Workflow (for DentaLab QuickBooks) is a Web-based app that is specifically designed for use with tablets such as the Androids and Apple iPads in conjunction with DentaLab for QuickBooks, but can also be used on the desktop. It will track workflow in the lab for a variety of purposes in a convenient, inexpensive way. You can choose to have it used by all or selected technicians; and to have it track workflow all the time or

app.

just occasionally. With a simple touch, you can indicate when a case item is started, paused or finished. The system will tally the time in minutes each item takes to complete and will record the technician, date and time. You also can simply view the workflow. Dental Lab Workflow also includes additional options for those with manager-level authorization. lab

The Master Schedule that lists out upcoming projects.

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 Access calendar schedules, showing scheduled and completed units with easy link to the specific

Conduct case searches by doctor, patient, pan

Mainstreet Systems & Software Inc.

· Find scheduled cases by work center

or sent by the dental office

Mainstreet-systems.com

Features

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RS No. 44

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TENQUESTIONS

Whitney Falkowski Associate marketing Manager, all-ceramics and furnaces, IVOCLAR VIVADENT

You've recently updated your line of Programat furnaces. What drove that decision?

We truly pride ourselves on being an innovative company. We strive to move the dental industry forward with cutting-edge technology that creates efficiencies for dental laboratories. We saw an opportunity to bring infrared technology, a never-before-seen improvement, to the dental market.

2. So how did infrared capability impact the Programat line?

We were able to bring the infrared system and all of its advantages to the Programat line, at a minimal cost to our customers. Firing ceramic has never been easier or more precise prior to this breakthrough innovation.

How has the furnace market changed since lvoclar Vivadent initially released the first products in the Programat line?

Overall, the industry has looked for ways of making things more efficient for the dental laboratory. Today's furnaces are more power conservative, smaller and work better than their previous iterations all while bringing a higher level of production capabilities.

O4. What qualities of the Programat P310 and the P510 are you most proud of?

We are most proud of not only the innovative technology that has been brought to the Programat furnace line, but the quality and longevity of our furnaces. We have furnaces that are 15+ years old still operating in the marketplace, which is a true testament of the quality of lvoclar Vivadent products.

05. What are the biggest differences between the P310 and the P510?

The biggest difference between the P310 and P510 furnace models are the calibration technique and the infrared technology. The P310 is the most economical unit in the portfolio and has many of the same features of the P510, but a more simplistic version. The P510 offers a new, state-of-the-art Automatic Infrared Monitoring (AIMTM) system that measures the temperature at the surface of the restoration and adjusts the pre-drying and closing time accordingly. This technology ensures process reliability and firing quality, thus eliminating cracks in the ceramic.

06. Why might a lab choose one furnace over the other?

A lab looking for a furnace at a lower price point would be very satisfied with the P310 model. It has the same great quality and performance without some of the more advanced technologies. O7. How does the Programat line fit into a workflow of a large lab? Small lab?

The Programat line of furnaces was designed for every type of laboratory. Whether you are a one-person operation or a large production laboratory, there is a furnace that will suit your needs. The new P510 furnace, for example, has different operating modes that allow users to adjust the furnace according to their needs. In standard mode, all functionality is available. In protected mode, all programs can be selected and started, but not changed. In production mode, only one program can be accessed, and open/close and start/stop are the only options that can be selected. These features allow for a quick and easy operation, minimizing the risk for error.

O8. How can labs who have made the leap into digital incorporate a Programat furnace into their digital mindset?

Labs who are investing in digital still need a reliable furnace for staining and glazing. With the enhanced process reliability and firing quality, Programat is the right choice for labs looking to deliver a quality restoration with confidence.

How do you expect furnaces to advance in the next decade?

Over the next 10 years, I would expect a furnace that can do it all—fire, press and sinter. With the all-ceramic market growing at such a rapid pace, from an efficiency standpoint, having one furnace that could do it all would truly revolutionize the industry.

10. What can you tell us about lvoclar Vivadent's furnace plans heading into 2014?

Ivoclar Vivadent will continue furnace innovations in 2014 and beyond. Our goal is to advance dental technology to make laboratories more efficient and productive. Part of how we do this is by offering free software updates to keep existing furnaces current to today's materials and techniques. A new software update will be coming in April for the P300 and P500 models, adding a speed crystallization program for IPS e.max CAD.

"Firing ceramic has never been easier or more precise."

– Whitney Falkowski

PHOTO CREDIT: IVOCLAR VIVADENT

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