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Shaping the Future of Our Industry - Together

By Danielle Wuensche FDLA President

s we embark on another year of innovation and growth within the dental laboratory industry, I find myself reflecting on the profound impact each one of us can have. Our role is not just about crafting smiles; it's about how these smiles transform the quality of life and enhance the well-being of patients. The transformational impact on just one patient has a ripple effect that can positively impact an exponential amount of people. With that said, I hope you feel proud about what you do. Our profession matters.

To make our mark on the profession, more importantly, to contribute to the well-being of those we serve, it is imperative that we embrace the spirit of giving back. Our commitment to advancing the industry should extend beyond our workbenches and into the collective consciousness of our association. By actively participating in initiatives that aim to educate our peers to enhance patient care, we can amplify our impact and foster a community dedicated to service and excellence.

I encourage each one of you to consider the profound difference you can make by volunteering to lead our association. Your skills, experiences. and insights are invaluable resources that can shape the direction of our industry. Leadership is not just a position; it is a commitment to steering the course toward progress and innovation. Together, we can ensure that our profession continues to evolve, pushing boundaries and setting new standards of excellence.

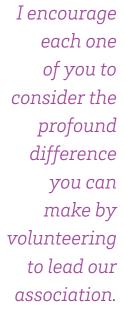


As we navigate the challenges and opportunities that lie ahead, let us be guided by the principle that our work is not only a profession, but a calling to serve. By actively contributing to the growth of our association, we are not only securing a brighter future for ourselves, but more importantly, we are advancing the wellbeing of those who rely on our expertise.

I am excited about the possibilities that lie ahead for us and our industry. Let us join hands, share our knowledge, and work collaboratively to shape the future of dental laboratories for the betterment of our patients and the enhancement of our professional community.

If any part of the message spoke to you and you have an interest in serving with the Florida Dental Laboratory Association in some capacity, please reach out to christina@fdla.net.

Wishing you all a year filled with inspiration,





FDLA Mission

Advancing the individual and collective success of Florida's dental laboratory professionals to enhance oral health care.

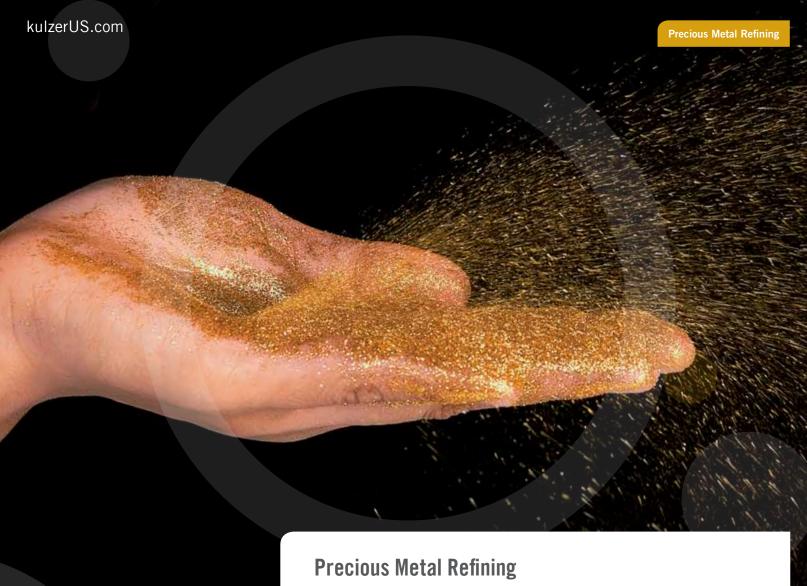
Values Statement

INTEGRITY - being honest and open in all that we do **LEADERSHIP** - being the guiding light in a changing

RECOGNITION - honoring those committed to our industry

SAFETY - promoting safe and quality driven manufacturing practices

INNOVATION THROUGH COLLABORATION - fostering an environment where creative and inspiring ideas are encouraged to enhance patient care



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I he keys to successful product manufacturing are found in the operational aspects of the process. After all, a dental laboratory specializes in one of the most challenging businesses imaginable. The custom nature of what we do requires extremely tight controls if the goal is volume production at a consistent and high-quality level.

It is well documented that consistency, or the lack thereof, is the primary reason that a dentist changes dental laboratories.

Over this issue of focus and the next, I will discuss two basic components necessary for consistent results, regardless of the mix of services in the laboratory's portfolio.

Building capacity through the hiring and development of inexperienced talent

The closures of formal accredited DLT programs over the last 30 years and the aging of the talent pool are leading to a severe shortage of qualified technicians. Dental laboratories need to develop methods to find, qualify, and train personnel to meet the specific technical standards of the laboratory.

At the very core is the development of work instructions for each procedure. This process will define the specific techniques that serve as the foundation for the laboratory's custom training program.

Customer service and retention

This area of discussion is often considered a sales and marketing topic. I consider it an operational function first and foremost. To accomplish high-quality results, every team member must understand that customer service is their responsibility. Satisfied laboratory clients receive a level of support and service that can only come about when a team works together on every level for the benefit of the ultimate customer, the patient.

Customer retention is measured in numerous ways and is the ultimate benchmark for how well the laboratory meets customer expectations. The problems that lead to customer loss are always visible with proper understanding of the signs within the manufacturing process.

We are transitioning from a hand-manufacturing era into the digital-assisted production realm. The information required of any technician remains rooted in the principles of sound function and esthetic acceptance, regardless of the methods utilized.

Part 1:

BUILDING CAPACITY THROUGH THE HIRING AND DEVELOPMENT OF INEXPERIENCED TALENT

Over the last 30 years, formal accredited DLT programs have been reduced to 13 compared to 53. Additionally, the aging of the talent pool is leading to a severe shortage of qualified technicians.

Chief among the many challenges to sustained growth of the contemporary laboratory is the ability to locate, qualify, and develop personnel to deliver the specific technical standards of the laboratory on a consistent basis.

LOCATING THE CANDIDATE(S)

Of course, our industry is aware of the potential found within the art community. Many of us search for pre-qualified talent through art department bulletin boards in local universities and community colleges. I have had significant success with this approach. One issue that can arise is trouble adapting to an established technical standard when typically, creativity overrules conformity. This can lead to inconsistent results, and we all know how our profession feels about that!

Another obvious pool is the dental assisting community. It is a great idea to be active in teaching and hosting students from local community college programs. Bringing classes into your facility is an excellent way to improve understanding of their crucial role in successful case delivery while improving their appreciation of the talent and technology involved in the laboratory. I've had positive experience with encouraging faculty to recruit from their classes. Introverted individuals may find the clinical setting of dental assisting not to their liking while the skills they possess may fit perfectly in the dental laboratory space.

On a digital note, community colleges and online programs are now routinely offering curriculum for training CAD and CAM operators. I've found that the right individual with formal training is a huge asset in the continued development and adaptation of evolving technologies.

There are many candidates out there that have no idea that this career exists, nor if they may be technically capable. Depending how many candidates you are looking for, referrals from good employees are a great way to find an individual. On a larger scale of four-to-six candidates, local ads in the



paper and online job search engines with the "earn while you learn" approach will gather groups up to 25 for an evening introductory session. Be clear about the wage range up front during registration as this saves a lot of time.

The evening session includes the completion of a standardized application for everyone, regardless of resume, and an introductory video discussing the profession. These generic videos are available through NADL but depending on resources, a custom video describing your laboratory history, philosophy and values is ideal. This is followed by a Q&A session. Finally, a simple math test has proven repeatedly to be the best indicator of poor candidates. The results are reviewed and qualified candidates are asked back for a formal interview and additional testing.

SCIENTIFIC EVALUATION

The use of aptitude testing is effective when evaluating prospective candidates. Industrial Psychology International's (www.metritech.com) materials produce very consistent results. The test batteries Dental Technician Starter Kit and Test Package found at their website are the only tools required.

A word of caution, I found that the CPF and NPF tests were inconsistent at measuring intellect, sometimes showing high scores that were misleading around comprehension and retention of instructional materials.

I qualified the results of successful scores in the Dexterity, Dimension and Blocks anecdotally by testing experienced technicians of known technical ability. The results were extremely consistent. Using this as a benchmark provides confidence in the candidate's aptitude for the required tasks but does not confirm the desire to succeed.

DEVELOPING A CUSTOMIZED TRAINING PROGRAM

At the very core is the development of work instructions for each procedure. Processes will define the specific techniques that serve as the foundation for the laboratory's custom training program.

Work Instructions Development

Materials required:

- 1. Material Manufacturer's IFU (Instructions for Use)
- 2. Equipment Manufacturer's IFU including maintenance schedule

William Edwards Deming wrote that the best results one can expect from a team member come when the individual is empowered with meaningful input in the processes they are tasked with accomplishing. He was credited with influencing the Japanese automotive industry more than anyone not of Japanese descent.

Because of my early exposure to Deming, I learned that the most effective method when developing work instructions is NOT to pull them from management and expect compliance throughout the team.

An initial meeting with each sub-specialized production group (model prep, waxers, finishers, etc.) explaining the work instructions development process is crucial for success.

Ask each employee to write out in their own words the steps in their technique. Allow two days for the assignment to be completed. This provides management with an inside view of what is "actually" being done. It is common to find numerous errors at this stage as technicians are often influenced by other technicians, or they simply are trying to improve or expedite the result. Management can then compare the result with the manufacturer's instructions and any other technique parameters deemed correct for achieving the specific laboratory standard.

Any misunderstandings or incorrect procedures are then addressed in new or remedial training sessions that also serve as the team members' opportunity to contribute to the final

The ability to develop a team that is deeply cross-trained in the laboratory's specific procedures is invaluable.



technique. At the time of agreement, the work instruction is documented and placed in a central database. The accumulated instructions covering each production process become an integral part of the training curriculum for each new inexperienced team member going forward.

If you have the IT ability, it is ideal to make the data available on demand to any technician while at work for review or clarification.

THE DEVELOPMENT TRACKS

Formal training begins upon agreement to employment terms. PTC (ptcdental.com) materials for initial anatomy and terminology instruction are the best tools currently available.

It is a good idea to introduce every team member to SPA (Simplifying Posterior Anatomy) to establish a baseline of terminology and anatomy.

The OAP (Oral Anatomy and Physiology) course also serves as a baseline for the edentulous terminology and anatomy.

These programs are available online or as a hard copy. I prefer face-to-face training as I can assess the student's abilities more accurately. Be sure to include the clerical/data entry and customer service teams.

The next step for inexperienced talent is learning the science and use of gypsum materials, sub-specialized on fixed or removable segments. The strategy of team members developing knowledge of this ultra-critical area is to develop respect for the importance as well as to build in redundancy for maximum production effectiveness and flexibility.

There is a major problem in our industry where the "prep" room is considered. It is often "looked down on" as dirty work. It is important to build a culture that does not embrace that bias. You also want to avoid continuously moving team members onto the next step. There are people that are well-suited for this challenging area and should be encouraged to develop skill in this area as a career. It takes a tremendous amount of common sense to complete the myriad of tasks required of the space accurately, efficiently, and expeditiously. I call this "keeping all of the balls in the air"!

We will now break the development tracks into specializations.

FIXED PROSTHODONTICS

Scanning, uploading doctor's files, design, nesting, milling, printing, sintering and post-cure of resins.

Analog Model and Die Prep

PTC has excellent training materials for basic introductory instruction in all the areas that follow.

Ceramics: Opaque/all ceramic coping stain, posterior porcelain application, anterior porcelain application, contouring posterior ceramics, contouring anterior ceramics, color in dental ceramics (stain and glaze) and anterior anatomy

Metal Substructure/Full Cast Crown development: Waxing frameworks, waxing posterior full contour, metal fishing, polishing

CAD/CAM: Waxing full contour posterior and anterior, waxing frameworks scan, design (PTC 3Shape)

REMOVABLE PROSTHETICS

Scanning/uploading doctor's files, design, nesting, milling, printing, sintering and post-cure of resins.

Analog Models: articulation, duplication, investing and processing

Acrylic Full and Partial Dentures: Occlusion rims and custom trays, tooth set-up, anatomical waxing, finishing and polishing

Partial Dentures: Refractory development, investing, waxing cast frameworks/ flexible, finishing and polishing cast frameworks/flexible

ATTACHMENT AND IMPLANT **DENTISTRY**

These areas of advanced technology in the laboratory are the pinnacle of development and come with mastery of all techniques that precede them.

CONCLUSION

The approach discussed here has many benefits. Finding the right people that fit your culture is extremely important. The training and development process is ongoing and depending on the goals for growth and evolving technology and materials, it is never ending. The ability to develop a team that is deeply cross-trained in the laboratory's specific procedures is invaluable and results in consistent high-quality restorations. This minimizes much of the internal stress associated with constantly correcting the same errors. Our chosen profession is challenging enough without unintentionally "building in" additional frustration. Considering our client's educational level, it is crucial that we educate our team to at least a commensurate if not higher level in prosthodontics. When we serve as the go to technical information source, we are

ABOUT THE AUTHOR

David Avery, CDT, received his AAS degree in dental laboratory technology from Durham Technical College in Durham, North Carolina in 1976 and served as an executive team member at Drake Precision Dental Laboratory in Charlotte, N.C for 30 years ending in June, 2015. He actively teaches undergraduate and post-graduate dental students at several universities. Mr. Avery has published in numerous laboratory and clinical journals, serves on many editorial boards. He



has presented more than 700 scientific programs for local, regional and national professional clinical and laboratory organizations covering every aspect of dental laboratory technology and communication.

Beneficial Ownership INFORMATION REPORTING

n 2021, Congress enacted the Corporate Transparency Act. This law creates a beneficial ownership information (BOI) reporting requirement as part of the U.S. government's efforts to make it harder for bad actors to hide or benefit from their ill-gotten gains through shell companies or other opaque ownership structures.

Beginning on January 1, 2024, many companies in the United States will have to report information about their beneficial owners, i.e., the individuals who ultimately own or control the company. They will have to report the information to the Financial Crimes Enforcement Network (FinCEN). FinCEN is a bureau of the U.S. Department of the Treasury.

Be sure to review FinCEN's Small Entity Compliance Guide, which provides information to help small businesses comply with this reporting requirement.

(https://www.fincen.gov/sites/default/files/shared/BOI_Small_Compliance_Guide_FINAL_Sept_508C.pdf)

Who Has to Report?

Companies required to report are called reporting companies. Reporting companies may have to obtain information from their beneficial owners and report that information to FinCEN.

Your company may be a reporting company and need to report information about its beneficial owners if your company is:

- A corporation, a limited liability company (LLC), or was otherwise created in the United States by filing a document with a secretary of state or any similar office under the law of a state or Indian tribe; or
- 2. A foreign company and was registered to do business in any U.S. state or Indian tribe by such a filing.

Who Does Not Have to Report?

Twenty-three types of entities are exempt from the beneficial ownership information reporting requirements. These entities include publicly traded companies, nonprofits, and certain large operating companies.

FinCEN's Small Entity Compliance Guide provides information to help small businesses comply with this reporting requirement.

FinCEN's Small Entity Compliance Guide includes checklists for each of the 23 exemptions that may help determine whether your company qualifies for an exemption. Please review Chapter 2.1 of the Guide for more information.

How Do I Report?

Reporting companies will have to report beneficial ownership information electronically through FinCEN's website: www.fincen.gov/boi.

 The system will provide the filer with a confirmation of receipt once a completed report is filed with FinCEN.

When Do I Report?

Reports will be accepted starting on January 1, 2024.

- If your company was created or registered prior to January 1, 2024, you will have until January 1, 2025 to report BOL
- If your company is created or registered on or after January 1, 2024, you must report BOI within 30 days of notice of creation or registration.
- Any updates or corrections to beneficial ownership information that you previously filed with FinCEN must be submitted within 30 days.

You can find guidance materials and additional information by visiting www.fincen.gov/boi. Sign up for FinCEN updates to receive immediate email updates on Beneficial Ownership. •

Text taken from: https://www.fincen.gov/boi/quick-reference

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Taking on the Challenge WITH ATTENTION TO DETAIL

Rehabilitation of an anterior crown using state-of-the-art zirconia



Case presentation:

19-year-old patient presented at our practice requesting review of, and consultation on, an unattractive single-tooth restoration of tooth 9 (**Fig. 1**).



The patient's dentition was not affected by caries and the panorama X-ray image that was taken showed four impacted wisdom teeth (Fig. 2) that were surgically removed at a later date.

During the initial consultation, the young patient explained that she had suffered a fall during which an incisor was fractured.

Her dentist at the time had carried out root canal treatment and restored the tooth prosthetically with a lithium disilicate crown.

The treatment outcome had been highly esthetic to begin with, however, this changed following incorporation, and the patient noticed that the anterior crown was becoming increasingly discolored (Figs. 3-4).





This may have been due to subsequent discoloration of the devitalized tooth. The extremely high translucency of the glass phase of a lithium disilicate restoration can cause the dark color of a remaining tooth to become visible, resulting in an unattractive grey effect.

As part of a detailed consultation and briefing, we explained to the patient the difficulties and challenges of a single-tooth crown in the esthetic zone when the smile line is high, and the gingiva is exposed.

In addition, we also discussed in detail the difficulty since a preparation carried out by a previous practitioner cannot be evaluated before removing the crown. Some details cannot be corrected and reduce the predictability of an optimum esthetic result. The aim of a new restoration is to improve the esthetic situation, however, only an approximation of a perfect copy of tooth 8 would be possible as the discolored root would always be a hindrance.

Despite the risks and uncertainties presented, the young patient wanted a new restoration of the tooth so that the best possible esthetics could be achieved. At the same time, her natural tooth color and individual tooth setup were not to be changed.

Clinical approach:

Following fabrication of a study model, a vacuum-formed matrix for the temporary restoration was fabricated for the upper jaw on the model. Under local anesthetic, the single-tooth restoration was gently removed along with the bonding material.

In the labial area and in three planes, it was possible to anatomically reduce and optimize the preparation that was uncovered.

When placing the circular preparation margin, the "biological width" had not been taken into consideration and the crown margin was significantly subgingival.

The gingiva was carefully pushed back with the aid of a retraction thread and the circular preparation clearly defined with a pronounced chamfer.











In the case of the long-term temporary that was fabricated in the practice, all esthetic and functional parameters were taken into consideration and the "outer shell" of the final crown was determined.

The temporary was then bonded using eugenol-free temporary cement (**Figs. 5-10**).

By contouring the margin of the temporary crown as precisely as possible, and through detailed instruction and motivation of the patient regarding oral hygiene at home, it was possible to eliminate irritation and achieve firm and healthy gingiva (Fig. 11).

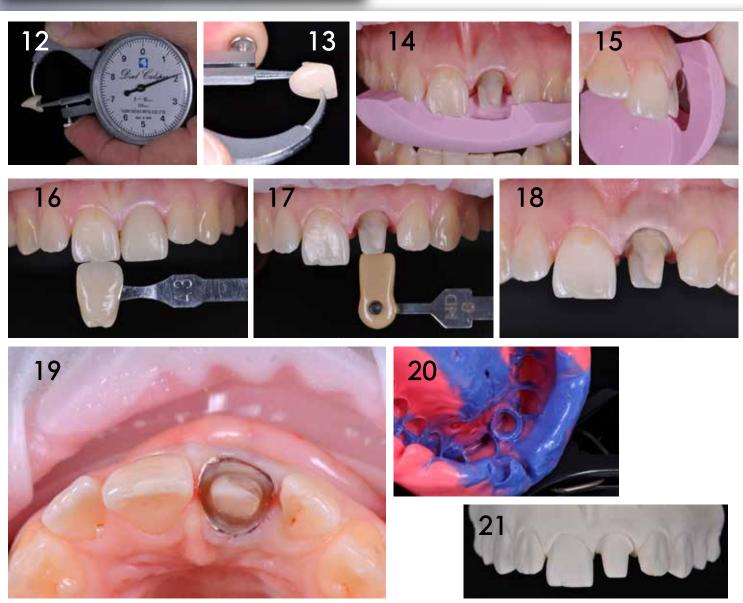


Before taking the final impression, the temporary crown was examined using callipers to be able to review material-specific substance removal and correct it where appropriate.

At the same time, silicone keys were used to visualize the anatomical reduction of tooth 9 and evaluate the labial reduction in three planes.

The target shade of the restoration and the shade of the remaining tooth were defined before taking the impression for the dental laboratory and documented with photos.

Once the preparation margin had been exposed using retraction thread and PTFE tape, a conventional impression was taken using an individual tray and polyether material (Figs. 12-21).



Material selection:

The material for the final crown was selected in consultation with the dental technician. This took place following fabrication of the working models and evaluation of the space available, the shade of the remaining tooth, and the defined target shade.

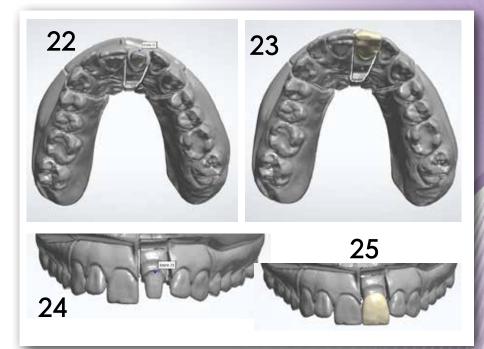
Due to the discolored and devitalized tooth, and to avoid a "grey mask," a material with less translucency than lithium disilicate was used. A state-of-the-art zirconia material with highly esthetic properties was selected.

IPS e.max ZirCAD Prime was the material of choice when the decision was taken on the appropriate material.

This material combines two zirconia components: high-strength 3Y-TZP zirconia (1200 MPa flexural strength) in the dentin area, and a more translucent 5Y-TZP zirconia (650 MPa flexural strength) in the incisal area.

The smooth progression of shade and translucency in the material discs is a further guarantee of highly esthetic prosthetic restorations.

In terms of shade accuracy, lightness, and clinical appearance, single-tooth and bridge restorations fabricated using IPS e.max ZirCAD Prime easily stand up to comparison with lithium disilicate restorations.

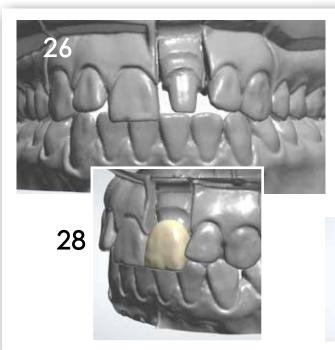


Analog impressions and digital fabrication with hand-crafted esthetics:

The finalized plaster models were scanned, and the crown mold of the natural tooth (8) mirrored virtually on the remaining tooth (9). As a result of using this digital option, the fabrication of a wax-up was no longer required (Figs. 22-25) and (Figs. 26-28).

Following the digital design of the anterior crown, the construction was milled fully anatomically from the zirconia disc (Figs. 29-30).

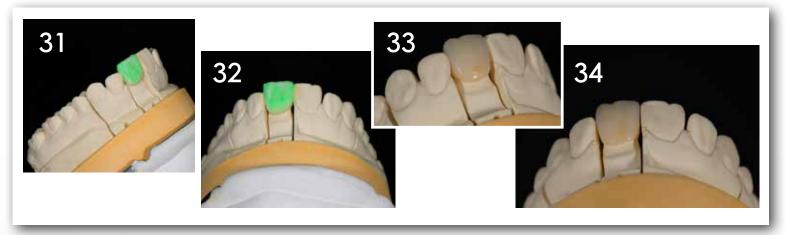
















Generally, details were finished, and the labial surface reduced minimally for micro-veneering in the pre-sintered, chalky and soft state.

Once processed and modified in this way, the framework was sintered at 1530 degrees. This caused its volume to shrink by approximately 25 percent, resulting in the actual high-strength zirconia framework.

To achieve a treatment outcome that was as natural as possible, a minimum labial cut-back was added followed by individual layering using IPS e.max Ceram veneering ceramic (microveneering) (Figs. 31-34).

So that the discolored remaining tooth was no longer visible under the new zirconia crown, a zirconia opaquer liquid was applied to the inside of the pre-sintered framework.

Thanks to material penetration, this liquid does not create additional bulk, and gives the zirconia framework an opaque, non-transparent appearance from the inside at the required loca-

Adhesive bonding using Speedcem Plus:

The inside of the restoration was delivered pretreated by the dental laboratory.

The temporary was removed and the remaining tooth cleaned using a fluoride-free polishing paste (Proxyt) and a polishing brush (Fig. 37).

During try-in of the completed restoration, different parameters were evaluated such as the fit, proximal and occlusal contact areas, functional movements, and the surface texture and reflection of light. A try-in paste allowed final verification of the shade effect of the singletooth crown (Fig. 38).

To clean the surface of the remaining tooth and to increase its size, it was blasted using aluminum oxide powder (Fig. 39) and the preparation









margins exposed using retraction thread and twisted PTFE tape (Figs. 40-42).

This approach prevents subgingival penetration of the bonding material.

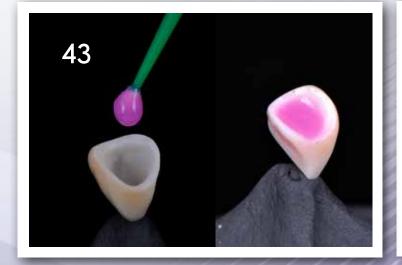
After try-in, the inside of the restoration was thoroughly rinsed with water and coated for 20 seconds with Ivoclean – a universal cleaning paste – to clean the bonding surface following contamination with saliva (**Fig. 43**).

After cleaning, the bonding surface of the restoration was dried, and the self-adhesive composite cement Speedcem

Plus applied. After the restoration was placed in situ, light-curing was carried out in selected areas to bond the crown to the labial surface (**Fig. 44**).

This allowed the excess cement to be removed while still malleable without the risk of slippage, and after the liquid strip gel was applied, enabled optional light curing to be carried out from all sides (Fig. 45).

At the end of the bonding protocol, the retraction thread was removed (**Fig. 46**), the bonding joint precisely inspected, and any residual composite cement removed from it (**Fig. 47**).















For quicker regeneration of the slightly traumatized gingiva, a CHX varnish (Cervitec Plus) was applied using a microbrush (Fig. 48).

Summary:

During treatments with fixed restorations in the esthetically demanding upper anterior area, dentists and dental technicians are faced with the complicated challenge of deciding which material should be used to achieve a treatment outcome that is as natural as possible.

In the case of all-ceramic restorations, a distinction is made between two groups of materials: glass ceramics and zirconia ceramics.

Prior to the introduction of highly esthetic zirconia ceramics for the various applications, a clear distinction had to be made between their respective application areas.

Thanks to the high strength and the outstanding esthetics offered by the innovative IPS e.max ZirCAD Prime zirconia ceramic, this material can be used universally for all areas of application – from single-tooth crowns through to 14-unit bridges – and with all processing techniques (staining, cutback, veneering, and infiltration techniques).

The continued further development of all-ceramic restoration materials increases the predictability of the required esthetic treatment outcome. This gives confidence and reduces stress both in the dental laboratory and the dental practice, meeting the prerequisites for happy and satisfied patients (**Fig. 49**).

Making people smile ;-)!! •

About the Author

Dr. Knut Hufschmidt studied dentistry at the University of Freiburg, Germany, and obtained his dental license in 1992. After earning his doctorate two years later, he worked as an assistant dentist at a private dental practice in Kenzingen, Germany, for two years. Between 1995 and 1998, he trained as an oral surgeon at the University of Münster and the Clinic of



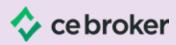
Wels-Grieskirchen, Germany. Subsequently, he opened his own dental practice, which specializes in esthetic dentistry, implantology and full-mouth rehabilitation. Since 2003, he has been frequently invited to hold lectures on the topic of implantology. Additionally, Dr. Hufschmidt has held various lectures about composite resin and all-ceramic restorations in the past three years.

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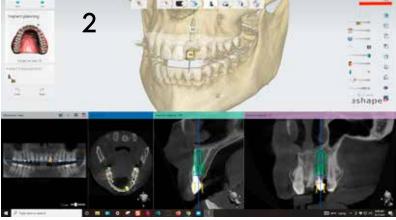
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By Rick Sonntag, RDT

USING TECHNOLOGY FOR Predictable Immediate Implant Dentistry: CASE STUDY

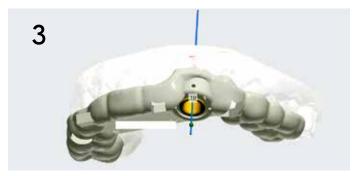
mmediate implant placement and temporization at the time of extraction is quickly becoming more popular in implant dentistry. It's a procedure that requires more planning than a two-stage approach and subsequently, has more things that can go wrong. When done right, with several small steps perfectly executed, tissue health and patient satisfaction provide the ultimate reward. In this tech tip, we'll cover a case study using immediate loading and provide some insight on predictably fabricating the restorations.





The patient presented with a diastema between #7 and #8 and an old crown on #10. Her chief complaint was esthetics (Fig. 1). The poor result of #10 caused a great deal of anxiety for the patient who was worried the next restoration would be equally as bad. Upon further evaluation, it was concluded that #10 had internal resorption and would require extraction and implant. The patient showed adequate bone and soft tissue, so the oral surgeon and restoring doctor decided on an immediate implant and immediate temporary at the time of surgery to avoid an Essex retainer or flipper partial. Tooth #7 would be veneered to close the diastema and harmonize the esthetics.

As with all immediate load cases, planning is critical. The case started with a wax up in preparation for an atraumatic extraction of #10 and veneer temporary on #7. A CT-derived surgical guide was designed using 3Shape Implant Studio with



the intention of having the final restoration screw-retained (Figs. 2-3). The angulation of the implant and subsequent screw-access hole can be difficult to manage in immediate placement situations, but a surgical guide, when used properly, will help immensely in getting the precise angulation of the implant and not letting the drill simply follow the path of least resistance. Tech Tip #1: plan accordingly.



Once the surgical guide was completed, the implant coordinates were imported into 3Shape Dental Designer where a temporary restoration was designed. The author added "wings" to each side of the temporary so the incisal edge position was not lost during surgery (Fig. 4). A free-hand placement of the temporary is extremely difficult to manage; the "wings" add another element of predictability and serve to minimize surgery time (Fig. 5). Tech Tip #2: plan with the intention of minimizing complications.

After eight weeks of healing, the restorative team and patient were finally ready for final restorations with the patient showing immaculate tissue response to the extraction, placement, and temporization of tooth #10 (Fig. 6). Shade photos were taken with a Canon T5i and Canon MT-24EX Twin Flash utilizing both reflected photos and Polar eyes cross-polarization filters (Figs. 7-8). While the eLab Shade Management technology avoids challenges with conventional shade tabs and shade matching, the author prefers to have shade tabs both as a reference for choosing materials, and as a backup in the event the eLab photos are not usable or inaccessible. The protocol is identical for every shade-matching patient: one set of polarized photos with the eLab shade card and the three closest-in-value Vita 3D shade tabs, one set reflected, flash only (Fig. 9). Tech Tip #3: gather as much data as possible.

The final restorative plan consisted of a LiSi veneer on #7 (GC America) and a ti-base abutment with PFZ crown on #10 (Priti-Denta zirconia and GC ZR-FS layering). The final sub-gingival depth of #10 and the need for original components (Biohorizons 3.0 platform) required some out-of-the-box thinking to prevent an extremely small ti-base from supporting a very tall abutment-crown complex. It's well known that Biohorizons only makes a 3.5mm tall ti-base that slopes down the lingual to allow for an angled solution. The author felt this was far too short for long-term stability, so he decided that a stock abutment with a 3mm collar would be used instead (Fig. 10). The shape of the stock abutment emergence profile matched the emergence of the temporary and would be far

















more predictable than a custom emergence as it avoids contact with the surrounding bone. The #10 crown was designed for facial cutback and zirconia lingual, which contributed two important aspects to longevity:

- 1. A more robust zirconia connection allowed for polished zirconia to be in contact with the tissue.
- 2. The lingual surface surrounding the screw-access hole was kept fully zirconia, also to be more robust and reduce chances of fracture.

Six-month recall photos were taken and showed a very harmonious result that was achieved using both lithium disilicate and layered zirconia (Fig. 11). The eLab virtual try-in showed a ΔE of 1.6, well under the threshold of $\Delta 2.0$, above which a restoration becomes noticeably brighter or darker. The before and after showed a very harmonious result (Figs. 12-13), and a very nervous and insecure patient with a tremendous emotional investment could now look in the mirror and feel confident in her smile. Tech Tip #4: execute for success.

Technology in dentistry can help do many amazing things, but we have to remember that it's just a tool. The human touch was needed to communicate with an unsure patient, the human touch was needed to design the guide and the restorations, and the human touch was needed to turn simple round ingots and a white zirconia framework into teeth that appear natural and harmonious. Keeping up with technology is critical for any dental lab and learning how to maximize that technology makes restorative dentistry more predictable. Properly managed, technology won't replace us, it simply makes us better. Remember...plan accordingly, plan to minimize complications, gather as much data as possible, and execute for success. I hope you enjoyed these tech tips. SMILE ON! 0

About the Author

Rick Sonntag, RDT, is president and founder of 4Points Dental Designs in St. Petersburg, Fla. 4Points Dental Designs specializes in building relationships that optimize patient-centered outcomes in implant and functional-esthetic dentistry. Rick's vision for the lab was inspired by his experience as an inhouse ceramist at The Dawson Center and Accreditation with the American Academy of Cosmetic Dentistry. With Rick's extensive level of experience leading the company, the 4Points team is able to achieve its ultimate goal of helping dentists maximize results while minimizing stress and chair time.







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The Giving State

Florida has the second largest number of labs participating in the Dental Lifeline Network (Donated Dental Services), with 212 labs as of August 31, 2023. The Smile Again Center (SAC), Stuart, Fla., is one of those volunteers. Since 2021, they have donated frequently and provide donations not only in Florida, but all over the country. Regional Prosthetic Director Stephen DePirro shares more about what they do and why.

"We volunteer by providing fixed and removable prosthetics to those in need across the country. We love giving patients and clinicians access to great restorative results; we are constantly involved with the Dental Lifeline Network and contribute to treatment plans across the nation every month! It is just part of who we are as an organization.

"People struggle with so many things in life, and we are in a position where our abilities can help others live better lives. We love that SAC can contribute to so many smiles and touch so many lives across the United States. For us it has been a



pleasure; internally, our management team takes extra special care as these are learning opportunities for our junior team members. Everybody wins! We really try to deliver our best every day." – Stephen DePirro



FDLA District Workshops are Back!

FDLA was excited to offer its first district workshop since the pandemic. On December 9, Aleksandra Polczynski lead participants in the course, "Aesthetic Characterization of 3D Printed, Immediate Full-Arch Provisional Restorations." The workshop was a fantastic learning experience and FDLA looks forward to

offering more workshop opportunities. We would like to thank our sponsor, GC America Inc., and Knight Dental | Leixir Dental Group in Oldsmar, Florida for hosting!



House Bill 7063

Governor DeSantis signed House Bill 7063 into action, which reduces the sales tax rate on commercial leases of real property from 5.5% to 4.5% effective December 1, 2023. Owners who rent their facilities need to confirm that their landlords are charging this new lowered amount of tax on commercial rent.

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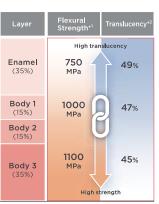




*Finished the restoration by polishing, glazing, and porcelain layering. Photo courtesy of Shigeru Adachi, DT, Cusp Dental Supply, Inc.

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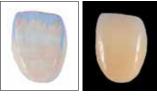


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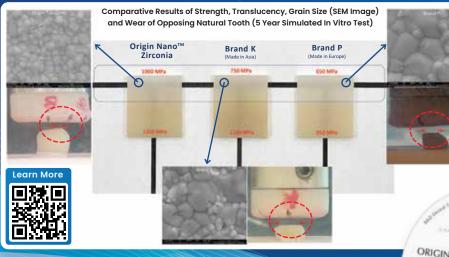
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We look forward to a great 2024.



The Extended Family

Michael Reina is the vice president of dental laboratory sales at Zimbis, located in Scottsdale, Arizona. An industry veteran, he talks about the importance of successful partnerships.

By working together, labs and supplier partners can create successful partnerships with doctors, resulting in both satisfied patients and laboratory employees.

How does Zimbis help dental laboratories be successful?

It all comes down to creating efficiencies and saving time and money. If not managed correctly, inventory has the potential to waste a LOT of both time and money. Dental labs, especially small ones, are under more pressure than ever to maximize every minute and every dollar spent. Employees should have the time to focus on what they do best, and not spend excess time counting, managing, and invoicing inventory. Automated inventory is faster and more accurate as two-way integration ensures each part is billed accurately, and it is always available when needed.

Where do you see the industry headed in the next five years?

There have been a few trends defined in the past decade including corporate consolidation, the switch to digital workflows, and increased regulatory scrutiny. I think we are going to see continued acceleration of those trends rather than a reversal. In turn, independent labs are going to need to focus on streamlining processes. We believe we can help laboratories in this transition with our integrated FDA lot number tracking, reducing the hassle with automatic back-up sent to the cloud.

How can lab owners differentiate themselves in today's environment?

Dentists usually work with multiple labs, and in order to stay competitive, labs need to differentiate. A clear differentiator is on-time deliveries of prosthetics at reasonable prices, yet laboratories struggle with meeting client pricing and timing expectations, in correlation with



staffing shortages. Our goal is to assist the lab to be more competitive with automatic re-order when stock runs low. This ensures labs always have what they need in stock to complete patient cases in a timely fashion, and increased cost savings on shipping with fewer emergency orders and rush deliveries. By working together, labs and supplier partners can create successful partnerships with doctors, resulting in both satisfied patients and laboratory employees.

Why is being an FDLA Business Partner valuable to you?

At Zimbis, we really focus on building relationships. We value being a part of the tightly knit dental laboratory extended family. An important component of building relationships for us is to form ties with industry organizations. The entire FDLA team and board is so focused and supportive, they make it easy for us to join the family.

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