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Florida Dental Laboratory Association
325 John Knox Rd,
Ste L103
Tallahassee, FL 32303
Phone: 850-224-0711
Fax: 850-222-3019

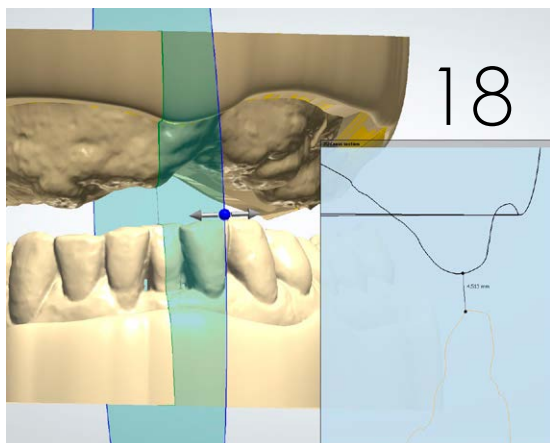
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focus Staff

Christina Welty
Executive Director & focus Publisher
christina@fdla.net

Kristi Demuth, CAE
Editor
editor@fdla.net

Maureen Turner
Advertising Sales
advertising@fdla.net



Value Gained

By Kevin Krumm, CDT, TE

FDLA President

*Thank you to
the members
who gave
me feedback,
supported
me, and
believed in
me over this
term.*

As I wrap up my term as FDLA president, this message provides me with a chance to look back and reflect on what an experience it has been.

First, working with my fellow colleagues on the FDLA board has been such an honor. Our talented board members are so dedicated to this profession, and it was a great learning opportunity to serve and work alongside such admirable people. We each contributed our personal insights and experiences, enabling us to get together and find ways to continue the organization's success. Having a diverse board brings a higher level of representation for labs of all sizes and provides the chance to collaborate on how to best meet the needs of all members.

Second, I would like to recognize the important relationship that FDLA has with our management firm, Partners in Association Management (PIAM). FDLA was one of PIAM'S original clients when the organization was created in 1998. They have played an integral role in creating all that FDLA is today. Our executive director, Christina Welty, works tirelessly to ensure FDLA stays current and relevant in addition to managing the day-to-day aspects of the organization. Christina and her team's efforts play a huge role in making sure the undertakings we as a board want to get done are not only accomplished but completed in an attainable and affordable way.

Next, I am looking forward to many upcoming events that I encourage members to participate



in. We are bringing back the Friday reception at the Symposium & Expo meeting. This is a great event for our exhibitors to network with laboratory owners, managers, and technicians in a relaxed and fun setting. I am eager to see everyone at the upcoming meeting and to welcome our new FDLA president, Rick Sonntag, RDT. I have no doubt he will do a fantastic job of leading this great organization.

It has been a true pleasure to be your president. Thank you to the members who gave me feedback, supported me, and believed in me over this term. What I have gained from this experience is invaluable and really emphasizes that in this small world, we are all in this together. 🌟



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 environment

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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By: Seay Management Consultants



BUSINESSES GRAPPLE WITH

Increased Marijuana Usage and Company Drug Testing Policies

As marijuana legalization becomes more widespread across the United States, employers are grappling with the increasing prevalence of positive drug tests and rising instances of employees cheating on these tests. According to Quest Diagnostics, marijuana positivity in the general U.S. workforce reached 4.5 percent in 2023, up from 4.3 percent in 2022 and 3.1 percent in 2019. With this trend, employers face significant challenges in maintaining a drug-free workplace while adhering to evolving laws and managing employee relations.

One of the most alarming developments is the surge in cheating on drug tests. Quest Diagnostics reported that workers are tampering with tests at an unprecedented rate, with approximately 6,000 urine samples classified as substituted in 2023, more than six times the rate from the previous year. Additionally, about 25,000 drug tests were deemed invalid, indicating potential attempts to hide drug use by mixing samples with additives. This rise in cheating poses a serious problem for businesses, undermining the integrity of

workplace drug testing programs and complicating efforts to ensure a safe and productive environment.

The Business Challenge

From a business perspective, the challenge lies in balancing the need for a drug-free workplace with the complexities of compliance and fairness. As marijuana becomes more accepted socially and legally, employers are reconsidering their drug-testing policies, especially in states where recreational

or medical marijuana use is legal. The patchwork of state laws creates a compliance nightmare for businesses operating in multiple states, where policies must be carefully crafted to avoid legal pitfalls. Moreover, rescheduling marijuana to a Schedule III drug, which President Trump indicated was a possibility during his campaign, could further complicate enforcement by making marijuana available for medical use with a prescription, adding another layer of complexity to workplace policies.

To address these challenges, employers may consider the following solutions:

- **Develop state-specific policies.** Create tailored drug-testing policies that comply with the laws of each state in which the business operates, ensuring that they are both compliant and relevant to the local workforce.
- **Implement impairment-based testing.** Shift the focus from pre-employment and random drug testing to impairment-based testing, where employees are tested only if there is reasonable suspicion of impairment on the job.
- **Educate managers and employees.** Provide training for managers on how to recognize signs of impairment and educate employees about the company's drug policies, including the legal ramifications of marijuana use.
- **Consult with HR experts.** Regularly review and update drug-testing policies with the help of HR consultants to stay compliant with evolving laws and best practices.
- **Consider alternatives to traditional drug tests.** Explore options like oral fluid testing, which may provide a more accurate assessment of recent drug use and reduce the likelihood of cheating.

The Role of HR in Marijuana Policies for Businesses


HR plays a crucial role in helping businesses navigate the challenges of patchwork state laws and the increased use of marijuana for medical and personal purposes. In today's rapidly evolving legal environment, where marijuana laws vary significantly from state to state, HR professionals serve as the linchpin in ensuring that companies remain compliant while still maintaining a safe and productive workplace.

HR professionals are uniquely positioned to offer the expertise needed to develop and implement drug-testing policies that align with both state and federal regulations. This in-

cludes crafting policies that take into account the nuances of different state laws, such as those that permit recreational marijuana use versus those that only allow medical use. By staying up to date on the latest legal developments and understanding the intricacies of each state's regulations, HR can help businesses avoid legal pitfalls that could lead to costly litigation or penalties.

Moreover, an expert HR team is instrumental in tailoring drug-testing policies to the specific needs of the organization. This means considering the company's industry, workforce demographics, and operational requirements when designing these policies. For example, industries that are safety-sensitive, such as transportation or construction, may require more stringent testing protocols, while others might benefit from more flexible approaches. HR can help strike the right balance between enforcing a drug-free workplace and respecting employees' rights and privacy, particularly in states where marijuana use is legal.

HR's role also extends to training and education. By equipping managers with the tools to recognize signs of impairment and an understanding of the legal implications of marijuana use, HR ensures that policies are not only implemented but effectively enforced. Additionally, HR can foster a culture of transparency and communication by educating employees about the company's drug policies, their rights, and the consequences of non-compliance.

In essence, HR professionals are vital in guiding businesses through the complexities of marijuana-related workplace issues. They ensure that policies are fair, legally compliant, and tailored to the organization's needs, all while protecting the workforce and maintaining a safe, productive work environment. Through strategic policy development, ongoing education, and compliance management, HR helps companies navigate this challenging landscape with confidence. 

About the Author

Seay Management Consultants, Inc. is a full-service human resource management and labor relations consulting firm that has been operating in Florida since 1966. Our primary goals are to ensure your business complies with all local, state, and federal employment regulations, eliminating any financial exposure in these areas. As a member benefit, FDLA members can utilize the free human resources hotline at 888-245-6272 or admin@seay.us for support with any HR matters.

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Beyond Balance: MASTERING WORK-LIFE **FOCUS** *to Thrive Without Burnout*



Are You Chasing Balance—or Finding Focus?

Picture this: You're juggling deadlines, client calls, and family commitments. The to-do list never shrinks, and the feeling of being pulled in a million directions is constant. Sound familiar? If you're like many professionals, the elusive "work-life balance" feels more like a myth than a reality. But what if the very idea of "work-life balance" is setting us up for failure? What if the problem isn't about balance at all, but about focus?

The problem is that "balance" implies perfection: equal energy distributed everywhere, all the time. What if, instead of chasing balance, we embraced work-life focus—a mindset that acknowledges the ebb and flow of life's priorities?

James Clear, in "Atomic Habits" writes about the Four Burner Theory. Imagine you're cooking with all four burners on the stove. If you're like me in the kitchen, that's three too many things to manage! For an organized cook, the two pots on the

front burners are the primary focus, while the back-burner pots simmer, waiting for their turn. Personally, I get stressed with more than one pot on the stove, but this perspective allows us to focus on what matters most in the moment (the front burners), guilt-free, while ensuring other priorities (the back burners) remain in sight.

I once heard Lara Hodgson speak after writing the book "Level Up: Rise Above the Hidden Forces Holding Your Busi-

ness Back.” She shared a relatable story about being at her child’s soccer game, trying to watch while responding to work emails. With one eye on the game and one eye on her phone, neither received her full attention, and both suffered from her split focus. Can you relate? I know I can. Reading emails on my phone while having a conversation with my husband isn’t the best strategy for maintaining a strong and healthy relationship. Perhaps you can see yourself in a similar situation?

Recognizing Burnout: The Early Warning Signs

Burnout doesn’t happen all at once; it creeps in. Mitch Harrison, a Vistage speaker, encouraged us to notice the signs before it’s too late. Ask yourself: “How do I act or communicate when I’m operating at 50 percent?” If you’re not sure, ask your colleagues, friends, or family—they’ll likely notice before you do. Common signals might include irritability, procrastination, or a lack of enthusiasm for things you normally enjoy. My husband can tell when I’m moving in that direction before I realize it. I usually don’t notice until I’m on the verge of tears at every little hassle, and by then I’m probably already below 50 percent. For professionals whose work demands precision and focus, recognizing these signs early can prevent costly mistakes and protect your well-being. By identifying these patterns, you can take proactive steps to avoid hitting a breaking point.

Leaning on Trusted Advisors

When the pressures of work and life feel overwhelming, having a group of trusted advisors can make all the difference. That’s exactly the kind of space I help create as a Vistage

Chair. My group is a confidential, judgment-free zone where members can talk openly about the challenges causing stress and explore solutions with others who “get it.” The members often tell me they feel better just being able to talk about what they are dealing with—it’s like releasing the weight of carrying it all alone.

It’s not just about solving problems—it’s about having a support system that understands the unique pressures of leadership. Whether it’s a peer advisory group, a mentor, or a community of like-minded professionals, having a circle of trusted advisors creates a vital outlet for managing stress and gaining perspective. Who do you turn to when you need support? If you don’t already have a group like this, consider building one or joining a space where you can bring your challenges, knowing the environment is safe, unbiased, and supportive.

Recharging with Intention

Stephen Covey’s “Big Rocks” analogy reminds us to prioritize the most important things first—those big rocks that truly matter. In “The 7 Habits of Highly Effective People” Covey demonstrates this with a volunteer who is given a jar and a pile of rocks, each labeled with priorities. The task is to fit them all into the jar, but no matter how hard she tries—rearranging, squeezing, even attempting to pound them in, there’s simply no way to make it all fit.

The takeaway is clear: we all have limits. If we don’t prioritize the most important “rocks” first—our core priorities like personal growth, relationships, and health—we’ll find ourselves overwhelmed and unable to manage everything. Many of these priorities live in Quadrant 2 of Covey’s Time Management Matrix: important but not urgent. These are the areas that refuel us, yet they’re often the first to get neglected when life gets busy.

One critical Big Rock? Daily rest. A good sleep routine isn’t just a luxury; it’s essential. Whether it’s setting a consistent bedtime, minimizing late-night screen use, or creating a calming routine, prioritizing rest is one of the simplest and most impactful ways to recharge.

Beyond rest, it’s vital to think about energy. Consider this:

- What activities, people, or moments leave you feeling energized?
- What consistently drains your energy?

Once again, James Clear’s “Atomic Habits” reinforces the importance of building regular habits or systems: “You don’t rise to the level of your goals; you fall to the level of your systems.” In a recent Vistage workshop, Mitch shared a tem-



plate for creating a personal refill plan. Just like Covey's Big Rocks, Mitch recommends figuring out what refuels you and putting those activities on your calendar.

The plan needs to work for you and will likely need to be adjusted over time. Here are some examples of how you can structure your recharge habits:

- **Daily:** Prioritize quality sleep, find daily inspiration, and keep a gratitude journal.
- **Weekly:** Spend time on hobbies or with people who energize you.
- **Monthly:** Reflect on what's been draining or fueling you and adjust. Schedule and honor time for non-work activities, even unpaid tasks like cleaning or yard work.
- **Periodically:** Take a break—whether it's a weekend unplugged or a day off for reflection. Have some fun!
- **Annually:** Commit to a personal retreat or professional workshop to refresh and realign.

Planning these intentional recharge points is like plugging in your phone at night or refueling your car when the gas gauge runs low. Without them, your performance will inevitably suffer.

Shifting from Balance to Focus

Work-life focus is about acknowledging that life isn't a perfect split between work and personal time. It's about being fully present in whatever you choose to prioritize. Sometimes, work takes the front burner—like when you're rushing to meet a deadline or training a new employee. Other times, family or personal health might take precedence.

The key is being intentional about how you spend your energy and time. Let go of guilt about the pots on the back burners; they'll have their time.

To make this shift, start by asking yourself reflective questions:

- What are the two "pots" I want on my front burners this week?
- What can I adjust or let simmer to give those my full focus?

Next, focus on scheduling your priorities, learning to say no, delegating, or outsourcing the things that free up your time for what matters most, and practice ways to pull yourself into the moment so you aren't splitting your focus. By making these choices consciously, you take control of your priorities instead of letting them control you.



*It's about
doing the right
things at the
right time.*

From Burnout to Thriving


Now, imagine what life would feel like if you spent more time on what fuels you and less on what drains you. How might you shift your focus without guilt? Could you redefine success—not as balance but as being present for what matters most?

Work-life focus isn't about doing it all; it's about doing the right things at the right time. By recognizing your Big Rocks, creating intentional systems, and protecting your energy, you can not only avoid burnout but truly thrive.

So, take a moment to reflect:

- What energizes you?
- What drains you?
- What's one small change you can make this week to tip the balance in favor of what fuels you?

Start small and make adjustments as you go. This isn't an event; it's a journey. Just as you understand the importance of precision and planning in your work, apply that same mindset to your life. Design systems that help you stay recharged, focused, and ready to tackle whatever comes next. You have the power to thrive—not just survive.

This article was written with the assistance of AI writing tools, with all content reviewed and edited by the author. 

About the Author

Becky Tolnay is a Professional Facilitator and Vistage Chair based in Tallahassee, Florida, with 35 years of experience in leadership development and strategic facilitation. Through Tolnay Team Solutions, she helps business leaders and teams streamline workflows, improve communication, and increase productivity. Becky also leads a peer advisory group for CEOs, providing a confidential space for leaders to navigate challenges and make better decisions. She can be reached at becky@tolnayteamsolutions.com.



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G-CAM:

SHIFTING THE POWER DYNAMIC

Between Zirconium and PMMA

By Yaron Gabel, DDS

Writing about new materials is tough. They come to the market almost every year, each of them promising to be the next big thing that will change dentistry forever - and some do. Hybrid composites, zirconium, and high-impact printable resins certainly made a difference in how we do things, but many more disappointed quickly and left the market just as fast. It's difficult to showcase them too, because if you write too much science, people get bored and say, "This means nothing to me. I just want to know its uses and workflow." Yet write very little of it and people get skeptical and ask, "But where is the data?" So, I'm going to do a bit of both and hopefully at the end of this article I will show you why I believe G-Cam is a great product that is here to stay, why I feel it will shake the power dynamic between zirconium and PMMA off its hinges, and why you should never attempt to write a dental material article that attempts to please all audiences at the same time. Let's dive in and see what you think.

The bottom line is graphene is incredibly resilient.

The first thing that popped into my mind when I learned about the existence of graphene-reinforced or graphene-doped PMMA was... graphene? Really? That thing in pencils that breaks at the slightest pressure against paper...that's going to make PMMA stronger? The first thing they said back to me was, "Don't be an idiot, that's graphite not graphene, but you are not too far off." It turns out graphene is not only

obtained from graphite but apparently is one of the strongest materials in the world. According to an article published in Science magazine, "it would take an elephant, balanced on a pencil, to break through a sheet of graphene the thickness of Saran Wrap."⁽¹⁾ Now if that does not impress you, I don't know what will. The bottom line is graphene is incredibly resilient. This is because it's made of a single layer of carbon atoms arranged in a honeycomb pattern, where the wall of one side of the molecule forms and reinforces the structure of the next, and the one in front of it does the same for next, etc., (Fig. 1). Besides being incredibly powerful, it's also light in weight and has excellent conductive properties, allowing for incredible applications in the scientific field. It was discovered back in 2003, and up until today, we are still finding incredible applications for it.⁽²⁾

So, if it's so great, how come we have only heard about it in the last decade? Well, it turns out that until around 2010 it was not possible to separate it from the sheet of metal used to pro-

Figure 1

Diagram shows graphene's honeycomb structure of carbon atoms. Image courtesy of Graphenano®.

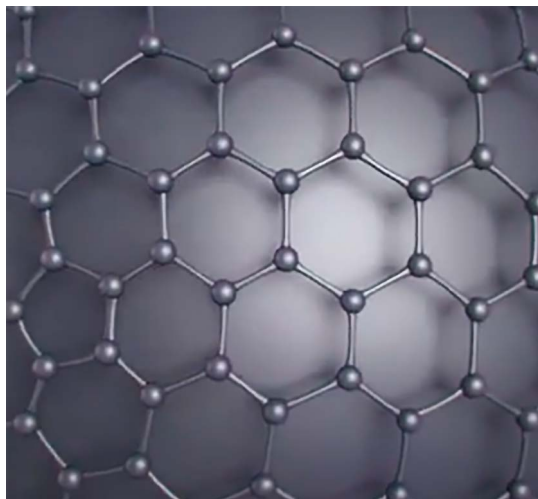
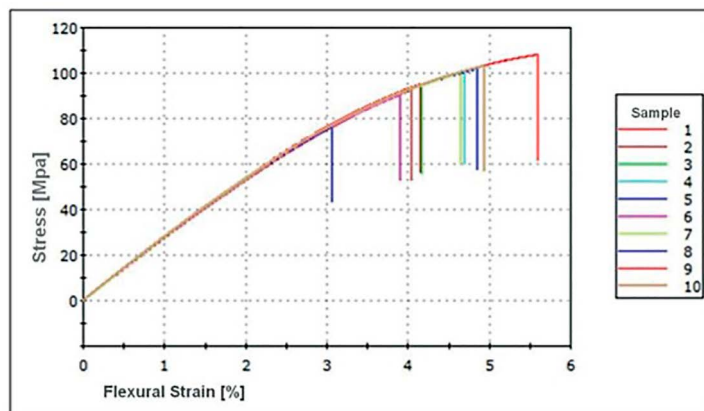
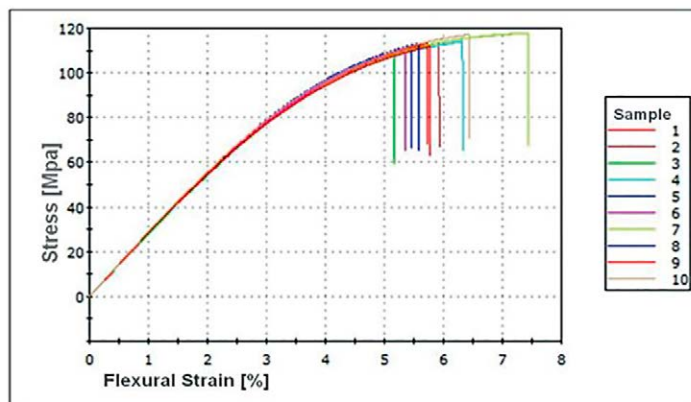


Figure 2 Comparison charts showing the resistance of straining forces between PMMA (Left) and G-PMMA (Right). Image source: ⁽⁵⁾



PMMA stress-strain curves.



G-PMMA stress-strain curves.

duce it, so it could not be used for anything medical. Once that issue was overcome, it opened the door for many biological applications including those in the dental field. Add to that the need for about 10 years of studies and establishment in a viable market and well... here we are.

What does it mean to have graphene-doped PMMA? Does this mean that it will make restorations that are unbreakable? Unfortunately, no. At the end of the day, graphene only reinforces the PMMA. It is not the main component of the millable disc, but it does endow it with very positive attributes.

According to a study by Ionescu et al. published in the dental materials magazine in 2022⁽⁴⁾, the incorporation of graphene nanostructures, due to their specific interactions given by their surfaces at the nano-level, was shown to enhance the mechanical properties of nanocomposites, providing increased strength, low friction, and good wear properties. Adding minimal amounts of graphene nanoparticles (less than one wt%) within the formulation of polymeric materials, such as PMMA, can improve their physical characteristics and even confer antimicrobial activity. This was quite a discovery; it seemed graphene not only made PMMA stronger, but it kills bacteria too.

Graphene as a reinforcing factor that increases surface hardness and flexural strength

There is a myriad of articles that explore the improvements graphene provides to PMMA when it comes to increased flexural strength and lower elastic modulus, allowing the material to bend more before it breaks, thus reducing the fracture resistance when compared to conventional PMMA.

In one such study, they compared the effect of non-aged PMMA and G-Cam, and they concluded that GNF-doping significantly improved the flexural strength of PMMA (133.58 ± 7.76 MPa) by about 28 percent (170.17 ± 11.47 , $p < 0.0001$). Interestingly enough, after being subjected to aging treatment, the flexural strength of GPMMA increased even more (179.41 ± 8.37 , $p = 0.0078$) instead of an expected decrease overtime.⁽⁴⁾

A different study by Di Carlo et al. showed that the addition of one percent of graphene to PMMA led to an increase of 80 percent in the value of the elastic modulus and 20 percent in tensile strength, making it more resistant to straining forces than conventional PMMA (**Fig. 2**). They also found that the addition of 0.5 wt% of nGO into PMMA significantly enhanced flexural strength and adding more than 0.5 wt% nGO significantly increased the surface hardness as well.⁽⁵⁾

The values tend to vary between studies, but all of them agree that there is certainly an improvement when adding graphene to PMMA. Now, one thing to keep in mind is that while this material is not as strong as zirconium, it is much lighter in weight, with a flexural strength similar to bone and a surface hardness closer to dentin.⁽⁶⁾ This makes it kinder on the opposing dentition and distributes less force to the implants through gravity or masticatory forces.

Graphene as an antibacterial and antifungal element

One of the greatest characteristics of G-Cam is its capacity to reduce bacterial and fungal accumulation in and on the restoration. Priyadarsini et al. studied the use of graphene and graphene oxide as nanomaterials for its application in medicine and dentistry and reported that the graphene mol-

ecules, which have pointed uneven corners, cause stress on the cellular membranes of the bacteria, leading to cell membrane damage and integrity loss.⁽⁷⁾

In their studies, they also reported that coating the artificial acrylic teeth surface with graphene and zinc oxide nanocomposite decreases the deposition of cariogenic *Streptococcus mutans* bacteria and biofilm formation.⁽⁷⁾

Additional studies done by Jung-Hwan Lee et al. also reported a sustained antimicrobial-adhesive property against *Candida albicans* that was observed in two percent nano graphene oxide incorporated PMMA resins for up to 28 days. In this study, it was also reported that nGO exhibited an anti-adhesive effect against microbial species in artificial saliva and listed nGO's potential usefulness as a promising antimicrobial dental material for dentures, orthodontic devices, and provisional restorative materials.⁽⁸⁾

Lastly, a study by Tian Zhang et al. reported that besides repulsing bacterial adhesion, GMs with antibacterial properties can also directly damage or starve prokaryotic cells by wrapping isolation. Which essentially means graphene can wrap around bacteria to isolate it from the environment so it cannot feed.⁽⁹⁾

Standing the test of time

When exposed to the effects of time, G-Cam also has great color stability as shown in the study done by Gülce Çakmak et al., where they showed that the material appears to be resistant to long-term coffee exposure of 5000 cycles, which is equivalent to six months of intraoral service.⁽¹⁰⁾

G-Cam also has a lower water absorption rate (4-5 $\mu\text{g}/\text{mm}^3$) than PMMA (10-30 $\mu\text{g}/\text{mm}^3$), which leads to less degree of distortion and better surface stability over time when exposed to the effects of saliva in the mouth.⁽¹¹⁾

Now, I don't know if you are as easily impressed as I am, but these are major upgrades over conventional PMMA. As with everything, though, there is an * at the end of these claims. Because while these attributes sound fantastic, it is always important to remember that modifying the concentration of graphene added to PMMA will make these results vary. Those with low concentrations will see less beneficial results.

Pretty cool huh? Now that we know what it is, what can we use it for?

Applications

G-Cam can be used for a myriad of applications (**Figs. 3-5**), ranging from crowns and veneers, all the way to bridges, full-arch All-on-X restorations and even dentures.

G-Cam as a crown and veneer material: Due to its great translucency, light refraction, and great potential for layering and stratification, G-Cam is a great alternative for crowns and veneers. According to the original manufacturer, it is recommended to make crowns at least 0.6 mm thick around the preparation and at least 0.4 mm at the margins. Occlusion should be light on intercuspidal and without contacts in excursive movements.⁽¹²⁾ Implant crowns should have an emergence profile minimum of 1 mm, 2.5 mm around the abutment and 1.5 mm everywhere else. If the height of the Ti base does not exceed 50 percent of the height of the restoration, it



Figure 3 G-Cam crowns. Image courtesy of Graphenano®.

will have to be replaced with an abutment instead to ensure the stability of the structure and avoid de-cementation.⁽¹³⁾

It can be used for veneers 0.5 mm and 0.3 mm at the margins on healthy teeth and 1.5 and 1mm at the margins on discolored teeth due to the translucency of the material. Upper veneers can have a cingulum in natural occlusion with the lower arch; lower veneers should be in soft occlusion and have no interference in protrusive and lateral movements.⁽¹²⁾

G-Cam as a bridge material: Bridges should have no more than two pontics between crowns and three between implants. It is recommended to make anterior pontics with a surface larger than 9 mm² or more on anteriors and 13 mm² on posterior. Occlusion should be light on intercuspidal and without contacts in excursive movements.⁽¹²⁾

G-Cam as an All-on-X material: Cantilever should not exceed 11 mm or more, with a connector cross-section of 13 mm² or more. It should not have individualized lingual or palatal structures and be in balanced occlusion.⁽¹²⁾

How does it behave at your dental laboratory and at the dental practice?

For all intents and purposes, the material is PMMA, so at the end of the day you can perform the same layering, staining, stratification, polishing, and milling protocols and techniques that you would use with regular acrylic and composite restorations. This makes for very easy adoption at your dental laboratory. Nothing really has to change while still offering added benefits for the clinicians. When it comes to the clinical side of things, cementation protocols remain the same as



Figure 4

G-Cam bridges. Image courtesy of Graphenano®.



with any other composite-based restorations when priming is needed on the restoration itself, and acid etching is necessary on the prepared tooth.

Cases can be repaired with the same materials as composite and PMMA, which is a huge advantage over zirconium. G-Cam discs can be milled with either wet or dry milling systems and require no changes to your current workflows. Lastly, when it comes to sintered zirconium you need to make the restorations larger than usual, but with G-Cam you mill the size you need, so you can fit 50 percent more units (avg. 22 versus 34) and it takes about a third of the time to manufacture (11 hrs versus 3.5 hrs), leading to a much higher productivity.

Final thoughts

G-Cam is a wonderful material that elevates it from traditional PMMA pucks while still retaining all the benefits of acrylic. It is not up there with zirconium when it comes to wear or fracture resistance, but as we previously discussed, strength isn't everything. It provides a great alternative that is kinder to the opposing dentition and implants, does not produce clicking sounds like zirconium, and allows for higher productivity at a significantly more affordable price. It is a wonderful improvement over traditional PMMA pucks that allow easy reparability and the high esthetic realism of acrylic, but with better performance, aging, color stability, and bacteriostatic properties than its predecessor.



Figure 5

G-Cam All-on-X. Image courtesy of Graphenano® and Vision Dental Laboratory.

It's as if PMMA had gone on a diet and exercised for several months to get back in the dating world of dental materials and came back stronger and sexier after many disappointing breakups (pun intended). I strongly believe that if allowed the opportunity, it will substitute traditional PMMA and will open the door for more affordable, highly esthetic durable restorations. Is it here to stay? That is up to you. ①

Earn continuing education credits for this article and quiz!

Receive .5 hours CDT/RG Scientific credit and .5 hours of General credit towards your state of Florida dental laboratory renewal by reading this article and passing the quiz. To get your credit, complete the quiz located on the FDLA website at www.fdma.net using the focus Magazine link. Once you have completed the quiz, fax it to FDLA at 850-222-3019. This quiz is provided to test the technician's comprehension of the article's content and does not necessarily serve as an endorsement of the content by FDLA.



About the Author

Yaron Gabel, DDS. With expertise in digital workflows, CAD/CAM 3D printable and milled full-mouth prosthetic solutions and education, Dr. Gabel has joined Preat to partner with you and help your business grow. Dr. Gabel received his D.D.S. degree from the Technological University of México in 2009 and acted as Dental Director and owner of his own clinic in

Mexico City prior to moving to the U.S. During the last 10 years of his career, prior to joining Preat, Dr. Gabel has combined his passions for dentistry and education by leading lectures, webinars, technological segments and hands-on training sessions to individual doctors, academia, group practices, laboratories and schools such as NYU, UNC and USC through Clinical Advisory and Customer Service Manager roles at Dentca and Whole You. He has also guided his previous parent company Mitsui Chemicals in the development of 3D printed denture materials, design platforms and All-on-X deliverable provisional and full-denture technology. Dr. Gabel has now joined Young Innovations and Preat as Sr. Clinical Education Manager, where he hopes to make a difference in the way you tackle the world of dental technology today.

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TREATMENT PLANNING

Using the Copy Denture

Treatment planning in implant dentistry might be one of the most overlooked, yet most important aspects for successful implant restorations. Over the years, we've all heard the words of Benjamin Franklin, "If you fail to plan, you are planning to fail." Dental technicians and lab owners know this better than anyone. In a profession that often rushes to start procedures or shorten temporization time, many clinicians will forego essential steps in the treatment planning process. The result of omitting simple treatment planning steps include loss of chair time, loss of patient confidence, loss of "stomach lining" and for the lab, considerable financial losses on failed or delayed cases.

The perspective of the lab technician in implant planning cannot be understated. Lab technicians provide a perspective on materials and logistics that dentists and their specialists are either untrained in or are unable to see potential problems. We've all encountered the same issues...immediate dentures made with questionable occlusion, "mush" bites on full-arch cases, occlusal rims used incorrectly, and the inability to capture stable and repeatable joint positions.

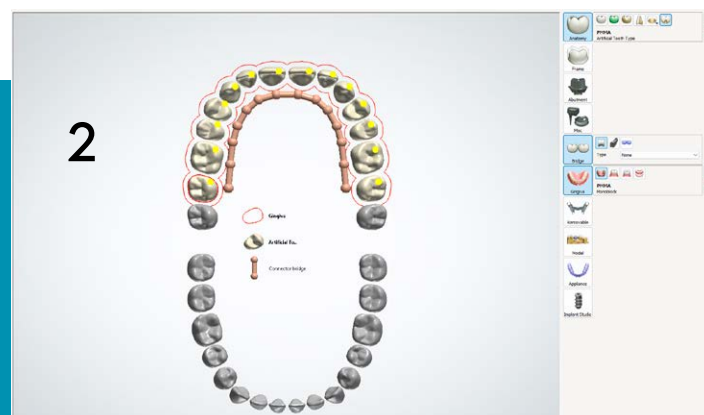
Enter the digital age. Stone models and articulators are replaced by intraoral scans, virtual "mountings", and tooth arrangements instead of wax-ups. CT scans are now commonplace, and upper and lower arches of implants can be planned in a couple of hours, including interim prostheses. Doing so, however, requires accurate and complete records. The challenges we encounter in digital dentistry include:

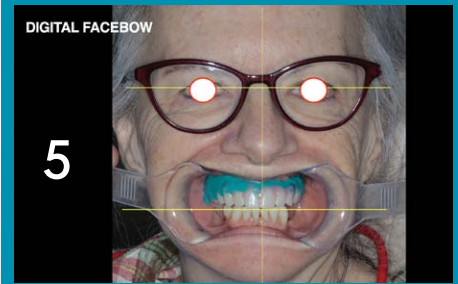
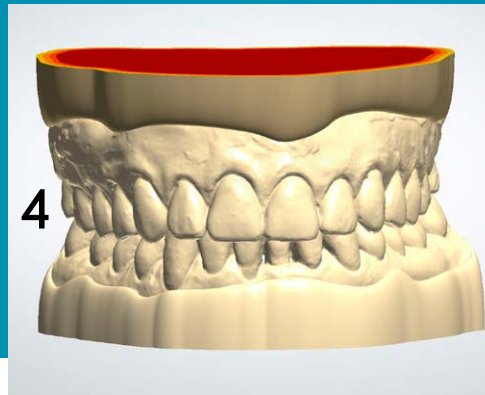
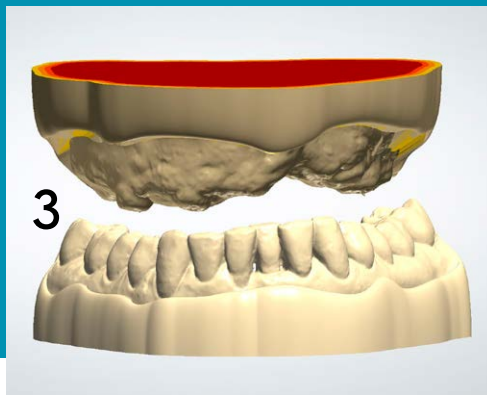
1. Unpredictability of scanning tissue across the arch with some IO systems.
2. Unpredictability of scanning tissue based on the operator.

3. Bite scans from edentulous areas are not accurate.
4. Dentures fabricated without esthetic principles.
5. Dentures fabricated failing to take esthetic landmarks into account.

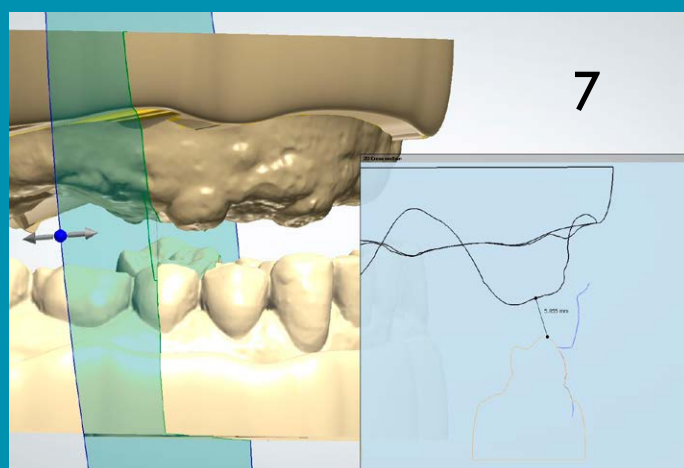
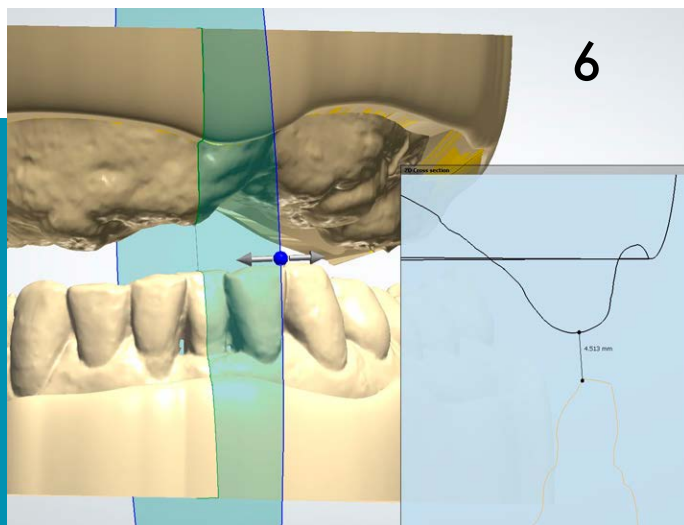
A very simple but underutilized addition to our treatment planning process is the use of a copy denture, also referred to as a reference denture. The copy denture is a 360° scan of the patient's current denture, ideally relined with light-body impression material to capture the patient's current soft tissue exactly (**Fig. 1**). The copy denture serves several purposes to aid in treatment planning:

1. The copy denture, when inverted in our design software, provides an exact replication of the patient's current soft tissue without the need for intraoral scanning of soft tissue. In the order form, the case is set up as a denture and labeled as an impression in the file repair stage (**Figs. 1-2**).






2. When a scan is taken with the denture in place and with a bite scan, the copy denture provides the maxillary - mandibular relationship both in the horizontal dimension and provided vertical dimension of occlusion (**Figs. 3-4**).
3. When full-face photos are provided as part of the clinician's accurate and complete records, the copy denture provides us with an esthetic key for fabrication of future prostheses. With it, we can assess the esthetic A point and determine if changes are needed to the midline or incisal edges (**Fig. 5**).



4. When used with scan markers in the dual scan technique, the copy denture can be merged with the patient's CT scan for virtual implant planning.

When implants are already placed, the data we get from the copy denture can, and in this case, will, change a treatment plan. This case was originally planned for a bar overdenture, but after evaluating the occlusal clearance using the cross-section tool in 3Shape Dental Designer, it was determined that space was inadequate for a bar overdenture (**Figs. 6-7**), which would require a minimum of 15 mm of clearance. If the surgeon had this data prior to placing implants, bone could have been reduced to allow for the desired prosthesis. This is a great example; when a technician is involved in the treatment planning of a full-arch case, the copy denture is the most important piece of information we can have for prosthetic planning.

Technician involvement in the treatment planning process is more important than ever. Becoming a resource and trusted partner elevates the technician, benefits the doctor, and most importantly, ensures patient trust in the process and the team. The copy denture is one more tool to have in the toolbox to make restorative dentistry more predictable. 

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 in-house 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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June 13 – 14, 2025

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The Southern States Symposium & Expo, presented by FDLA, is the largest dental laboratory industry meeting in the country run by a nonprofit association. Everything being offered at the Symposium will provide an exceptional educational experience.

Treasure Hunt — Uncovering Hidden Opportunities is the theme for the 2025 Southern States Symposium & Expo. Through continuing education, an excellent showcase of dental laboratory products and services, and great networking opportunities with others in the industry, this meeting will help you find and capitalize on hidden opportunities in business and personal growth, ***much like a pirate's quest for treasure.***

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2025 SCHEDULE OF EVENTS (as of 3/24/2025)

FRIDAY – JUNE 13

- 7:00 a.m. – 6:00 p.m. **Registration Desk Open**
Sponsored by: Alien Milling
- 7:30 a.m. – 8:00 a.m. **Morning Beverage Break**
Sponsored by: Fricke Dental Mfg.
- 8:00 a.m. – 8:30 a.m. **Welcome, Board Installation & President's Message**
- 8:00 a.m. – 12:30 p.m. **OPTIONAL HANDS-ON WORKSHOP**
The Use & Understanding of Different Ceramic Powders for Predictable & Natural Results
Presented by: Chucuri Chemali, TPAD, DTG
Sponsored by: GC America, Inc.
(Pre-registration & additional fees required – Capacity 15)
- 8:30 a.m. – 9:30 a.m. **OPENING KEYNOTE ADDRESS**
The Crossroads of Craft and Technology: Navigating the Future of Dental Technology
Presented by: John Wilson
Sponsored by: Ivoclar
- 9:30 a.m. – 9:45 a.m. **Mid-Morning Beverage Break**
Sponsored by: Vulcan Custom Dental
- 9:45 a.m. – 11:45 a.m. **FRIDAY MORNING KEYNOTE**
Full Arch Fully Digital, a Practical Approach
Presented by: Ryan Lewis, DMD, MSD
- 11:45 a.m. – 12:15 p.m. **Awards Presentation & NADL / NBC / FDLT Updates**
- 12:30 p.m. – 1:15 p.m. **FDLA Luncheon**
Sponsored by: Argen Corporation
- 1:30 p.m. – 3:00 p.m. **HYBRID INTERACTIVE PANEL**
Interactive Collaboration for Solutions
Facilitated by: Rick Sonntag, RDT – 4Points Dental Designs
Alexander Wünsche, CDT – Zahntechnik, Inc., CDL
John Wilson, Sunrise Dental Laboratory
Sponsored by: FDLA
- 1:30 p.m. – 5:00 p.m. **OPTIONAL HANDS-ON WORKSHOP (continued)**
The Use & Understanding of Different Ceramic Powders for Predictable & Natural Results
Presented by: Chucuri Chemali, TPAD, DTG
Sponsored by: GC America, Inc.
(Pre-registration & additional fees required – Capacity 15)
- 3:00 p.m. – 6:00 p.m. **Expo Hall Open**

- 3:00 p.m. – 6:00 p.m. **Expo Hall Kickoff Reception**
- 6:00 p.m. – 7:00 p.m. **Buccaneer Bash**
Sponsored by: Zimbis

SATURDAY – JUNE 14

- 7:00 a.m. – 3:30 p.m. **Registration Desk Open**
- 7:30 a.m. – 8:00 a.m. **Morning Beverage Break**
Sponsored by: Cardinal Rotary Instruments
- 8:00 a.m. – 9:30 a.m. **A COURSES**
- 8:00 a.m. – 11:00 a.m. **OPTIONAL LECTURE/HANDS-ON DEMONSTRATION**
Seamless Digital Workflows: Mastering 3Shape All-on-X Design & Photogrammetry Integration
Presented by: John Wilson
(Pre-registration & additional fees required – Capacity 15)
- 9:30 a.m. – 10:30 a.m. **Expo Hall Break / Mid-Morning Beverage Break in Expo Hall**
Sponsored by: Affordable Dentures Dental Laboratories, Inc.
- 9:30 a.m. – 3:00 p.m. **Expo Hall Open**
- 10:30 a.m. – 11:30 a.m. **B COURSES**
- 11:30 a.m. – 1:00 p.m. **Expo Hall Break / Lunch in Expo Hall**
- 1:00 p.m. – 2:00 p.m. **C COURSES**
- 1:00 p.m. – 4:00 p.m. **OPTIONAL LECTURE/HANDS-ON DEMONSTRATION #1**
Seamless Digital Workflows: Mastering exocad All-on-X Design & Integration of Different Recording Methods
Presented by: Alexander Wünsche, CDT
Sponsored by: Argen Corporation
(Pre-registration & additional fees required – Capacity 15)
- OPTIONAL LECTURE/HANDS-ON DEMONSTRATION #2**
Basics of Ivotion Digital Denture Design with 3Shape Dental System
Presented by: Patrick Coon, CDT, TE
Sponsored by: Ivoclar
(Pre-registration & additional fees required – Capacity 15)
- 2:00 p.m. – 3:00 p.m. **Expo Hall Open / Afternoon Beverage Break in Expo Hall**
Sponsored by: GPS Digital RPD
- 3:00 p.m. – 4:00 p.m. **D COURSES**

KEYNOTE SESSIONS – FRIDAY, JUNE 13

OPENING KEYNOTE ADDRESS

The Crossroads of Craft and Technology: Navigating the Future of Dental Technology

Presented by: John Wilson, Founder, Sunrise Dental Laboratory

CDT/RG: 1 Hour of Professional Development Credit • State of Florida: 1 Hour of General Credit

The dental technology trade stands at a pivotal crossroads — where craftsmanship meets digital precision and tradition collides with innovation. In this keynote, John Wilson brings over 40 years of experience to explore the challenges and opportunities facing today's dental laboratories.

With an emphasis on mentorship, cross-training, and sustaining passion in a rapidly evolving field, John will discuss the struggles of attracting and retaining skilled technicians, the pitfalls of chasing the latest technology without purpose, and the necessity of mastering fundamentals before embracing digital workflows. He will also address the hard realities of business sustainability, from pricing pressures to scaling operations while maintaining excellence.

Sponsored by:

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FRIDAY MORNING KEYNOTE

Full Arch Fully Digital, a Practical Approach

Presented by: Ryan Lewis, DMD, MSD

CDT/RG: 2 Hours of Scientific Credit • State of Florida: 2 Hours of General Credit

Advancements in digital technology have improved efficiency in full arch digital workflows. Photogrammetry and more recently grammartry have proven to be accurate methods to work through fully digital workflows for full arch implant supported restorations. During this keynote presentation, Dr. Lewis will focus on workflows utilizing grammartry.



HYBRID INTERACTIVE PANEL

Interactive Collaboration for Solutions

Facilitated by: Rick Sonntag, RDT – 4Points Dental Designs

Alexander Wünsche, CDT – Zahntechnik, Inc., CDL

John Wilson – Sunrise Dental Laboratory

**CDT/RG: 1.5 Hours of Scientific Credit •
State of Florida: 1.5 Hours of General Credit**

Join Rick, Alexander, and John for an interactive discussion where you take the lead as an expert and collaborate with our speakers to find solutions for the challenges facing the laboratory and dental industry.

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Sonntag



Wünsche



Wilson

NEW THIS YEAR! LEARNING LABS IN THE EXPO HALL

FDIA provides the opportunity to earn CE credits during the Expo Hall hours. Table clinics will take place in the Learning Lab area located in the back of the expo hall on both Friday, June 13 and Saturday, June 14 during Expo Hall hours. The following sponsor(s) will be presenting table clinics as of 3/15/25.



(Each participant will earn CDT/RG and State of Florida credits per course. Topics, speakers, and schedules for each table clinic will be listed in the Symposium onsite program and onsite signage.)

2025 COURSES & EXPO SCHEDULE – SATURDAY, JUNE 14

	BREAKOUT GROUP 1	BREAKOUT GROUP 2	BREAKOUT GROUP 3	OPTIONAL WORKSHOPS
8:00 A.M. – 9:30 A.M. A COURSES	COURSE A1 CERAMICS/CROWN & BRIDGE From Single Crown to Full Arch - Material Update for Fixed Implant and Tooth Supported Restorations <i>Speaker: Alexander Wünsche, CDT</i> <i>Sponsor: Argon Corporation</i>	COURSE A2 BUSINESS MANAGEMENT Building the Ideal Team <i>Speaker: Rob Gitman</i> <i>Sponsor: NDX Thayer</i>	COURSE A3 REMOVABLES Ivotion Digital Denture Design with 3 Shape Dental System <i>Speaker: Pat Coon, CDT</i> <i>Sponsor: Ivoclar</i>	LECTURE/HANDS-ON DEMONSTRATION 8:00 a.m. – 11:00 a.m. Seamless Digital Workflows: Mastering 3Shape All-on-X Design & Photogrammetry Integration <i>Speaker: John Wilson</i>
9:30 A.M. – 10:30 A.M.	EXPO HALL OPEN (Expo Hall Opens at 9:30 A.M.)			(Participants in 8:00 a.m. - 11:00 a.m. workshop may attend any lecture in C & D Tracks, Expo Hall / Lunch.)
10:30 A.M. – 11:30 A.M. B COURSES	COURSE B1 REMOVABLES Removable Prosthetics: 3 Decades of Techniques and Tips - A Continuation <i>Speaker: Tom Zaleske, AS</i> <i>Sponsor: FDLA</i>	COURSE B2 BUSINESS MANAGEMENT Financial & Risk Management in the Digital Age <i>Speaker: Travis Zick</i> <i>Sponsor: FDLA</i>	COURSE B3 CERAMICS New Fundamentals of Rapid Sintering for All Cases <i>Speaker: Rich Green</i> <i>Sponsor: B&D Dental Technologies</i>	
11:30 A.M. – 1:00 P.M.	EXPO HALL OPEN (Lunch in Expo Hall)			
1:00 P.M. – 2:00 P.M. C COURSES	COURSE C1 FLORIDA LAWS & RULES / PROFESSIONAL DEVELOPMENT Florida Laws & Rules <i>Speaker: Gary Morgan, CDT</i> <i>Sponsor: FDLA</i>	COURSE C2 IMPLANTS Precision in Digital Bar Substructures: Mastering I-Bar Design in Blender For Dental <i>Speaker: John Wilson</i> <i>Sponsor: Alien Milling</i>	COURSE C3 CERAMICS Simple Yet Effective: Anterior Fabrication Strategy 2025 <i>Speaker: Sean Park, MDC, CDT</i> <i>Sponsor: Kuraray America, Inc.</i>	OPTIONAL LECTURE/HANDS-ON DEMONSTRATION #1 Seamless Digital Workflows: Mastering exocad All-on-X Design & Integration of Different Recording Methods <i>Presented by: Alexander Wünsche, CDT</i> <i>Sponsor: Argon Corporation</i>
2:00 P.M. – 3:00 P.M.	EXPO HALL OPEN			- OR -
3:00 P.M. – 4:00 P.M.	COURSE D1 REGULATORY STANDARDS / PREVENTION OF MEDICAL ERRORS Training for Compliance <i>Speaker: Gary Morgan, CDT</i> <i>Sponsor: Safelink Consulting</i>	COURSE D2 DIGITAL WORKFLOW An Unexpected Journey: The Evolution of 3D Printing and Digital Dentures...and What's Around the Corner <i>Speaker: John Madden, Master CDT</i> <i>Sponsor: Zahn Dental</i>		OPTIONAL LECTURE/HANDS-ON DEMONSTRATION #2 Basics of Ivotion Digital Denture Design with 3Shape Dental System <i>Presented by: Patrick Coon, CDT, TE</i> <i>Sponsor: Ivoclar</i> (Participants in 1:00 p.m. – 4:00 p.m. workshops may attend any lecture in A & B Tracks, Expo Hall / Lunch.)



FDLA is a State of Florida Approved CE Provider



CDT/RG Credits

All Southern States Symposium & Expo courses have been approved by the National Board for Certification for CDT/RG Credits.



AGD Credits

Approved PACE Program Provider FAGD/ MAGD Credit: Approval does not imply acceptance by a state or provincial board of dentistry or AGD endorsement.

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➔ See page 29 for hotel information



FDLA Board Nominations Open

FDLA is looking for volunteers to give back to the industry and is currently seeking the following professionals and industry partners to serve in leadership positions:

1) Director

Must be an active member of the association. Each term on the board is a one-year term, and a board member can serve up to three years consecutively in a director position. Officers are one-year terms.

2) Supplier Representative (Two-year term)*

*Must be an active Associate or Business Partner member

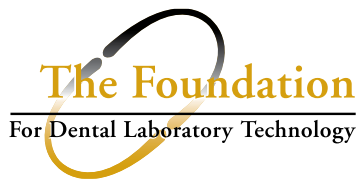
FDLA Time Requirements: Service on the FDLA board requires attendance at approximately four board meetings a year. February, June (in-person during the Symposium & Expo), September and December.

New board members would be elected on Friday, June 13, 2025, and would serve at least a one-year term on the FDLA state board. (Supplier Representatives serve one (1) two-year term.)

SPECIAL NOTE: Outside of the board meeting held in conjunction with the Southern States Symposium & Expo, all other meetings are held virtually.

To be considered, please complete the survey below on or before Monday, April 21.

<https://s.surveypal.com/k47r21pm>



Foundation for Dental Laboratory Technology Grants and Scholarships Deadlines

CDT HARDSHIP GRANT ONGOING

Covers the CDT renewal fee of \$180 for active CDTs, RGs, and RETs experiencing a hardship

STERNGOLD GRANT

APPLICATION DEADLINE: June 1st

Awards one school with a DLT program \$1,000 in store credit at Sterngold Dental

SCDL BUSINESS ENTERPRISE EDUCATION GRANT

APPLICATION DEADLINE: June 15th

Awards individuals up to \$2,000 to supplement expenses related to business management CE recipients wish to attend

NADL UNIVERSITY GRANT

APPLICATION DEADLINE: July 15th

Covers tuition for individuals to attend NADL U, typically costing \$1,495-\$1,895 each *NADL membership required

SPEAR EDUCATION GRANT

APPLICATION DEADLINE: July 15th

Awards two in-person seminars (\$995 value each) and five Spear Online Memberships (\$2,748 value each)

CDT PILLAR SCHOLARSHIP

APPLICATION DEADLINE: September 15th

Covers the costs of the written comprehensive exam, written specialty exam, and hands-on practical exam, one time each. The scholarship amount awarded varies but can reach up to \$1,200.

RG PILLAR SCHOLARSHIP

APPLICATION DEADLINE: September 15th

Covers the cost of the Recognized Graduate (RG) exam one time, typically costing \$275

KEYSTONE GRANT

APPLICATION DEADLINE: October 1st

Awards up to \$2,000 to a school to develop and heighten DLT awareness and education

VISION 21 GRANT

APPLICATION DEADLINE: October 15th

Covers registration for individuals to attend the NADL Vision 21 Meeting, typically costing around \$700 each *Must be employed by a dental laboratory

MARK JACKSON MEMORIAL EDUCATION GRANT

APPLICATION DEADLINE: November 15th

Awards up to \$2,000 to supplement expenses related to an approved CE program the recipients wish to attend

APPLY TODAY at www.dentallabfoundation.org/scholarshipsgrants.

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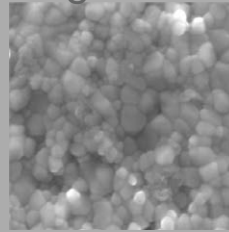
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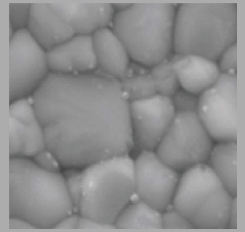
50+ units of
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in 1 hour

Particle Size Comparison (both magnified at 50,000 x)

Origin Nano



All Others



VS

Origin Nano has the smallest particle sizes resulting in: Fastest Sintering, Lowest Distortion and Highest Strength & Toughness

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FDLA Calendar

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For more information, see pages 20-23 and 29 in this issue and visit: www.fdla.net/symposium

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Please continue your support of the FDLA Southern States Symposium & Expo by staying at the Signia by Hilton Orlando Bonnet Creek, the appointed FDLA host hotel.

Beacon of Light

Chris Peterson is the owner of Peterson Dental Laboratory, CDL, based in Delray Beach, Fla. He has been an active member and leader of the FDLA since 2007. He shares more about what FDLA has meant to him.

The FDLA was a core part of my education, vendor relationships, networking, lab culture, and an opportune time to relax.

Why did you originally decide to join the FDLA?

I originally joined the FDLA for my own selfish reasons. I wanted to grow. At the time, I had only been exposed to my father's lab and to Inman Orthodontics in Coral Springs, after my school internship. The FDLA gave me an opportunity to meet others farther along in their career and to learn from their experiences. You meet so many technicians, lab owners, vendors, and manufacturers during the different FDLA events.

What value do you receive out of being a member?


As a "newbie" to the industry, I was exposed to new processes and products that I had never seen before. This was so exciting. I think it drove my father nuts that I kept bringing back all these samples from the Symposium. After a few years of attending, my relationships were developing with people I had met. I would go and people

were excited to see me again! From this point, the question of "value" wasn't really a question anymore. The FDLA was a core part of my education, vendor relationships, networking, lab culture, and an opportune time to relax. After 10 years of serving on the board as a director and then executive member, the value I received can't be recounted. I have grown as an active listener, team player, and many other things along the way. Thank you, FDLA!

In what ways is the Symposium worth the investment of time and money?

Read the paragraphs above again if you are in doubt! Exposure to other people's ideas and experiences is priceless. You can't put a dollar value on innovation, mindset change, culture, rejuvenation, and personal growth. Time out of the lab reduces burnout. Owners, managers, and technicians all need this.

As many state associations are dissolving, how do you see the FDLA evolving to meet the needs of Floridian dental laboratories?

The FDLA has continued to adapt and is facing this headwind tactically. We aim for the FDLA to be a "Beacon of Light" in our state and nationally. Team "burnout" and "distressed team cultures" are common laboratory issues now. This organization is taking steps to make sure our association meets the needs of its members holistically. We not only provide great educational content but aim to create a great team building environment with open discussion forums, dining options, and a great space that families can come and enjoy as well. It's not just about the "technical education" but it's a time to relax and have fun. If you are a small or large lab owner, bring your teams to the FDLA meeting. It worked for me as a small lab and now as a larger lab. 



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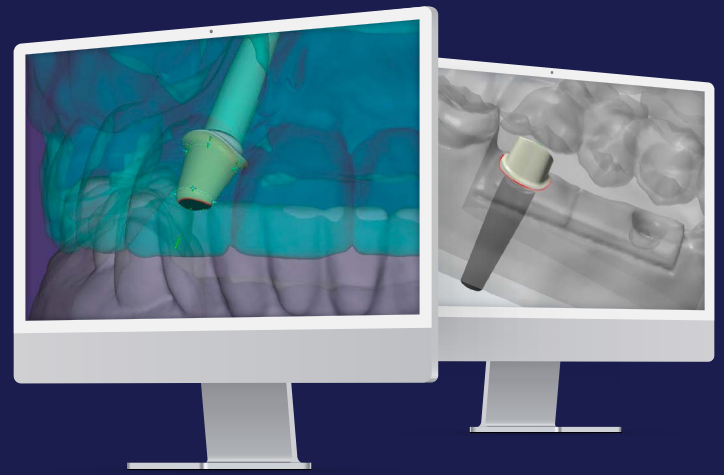
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