Get predictable restorative results with immediate dentin sealing, powerful adhesives, minimally invasive mindset

Frank J. Milnar, DDS, AAACD, provides guidance on some of VOCO’s latest products

By Robert Selleck, Managing Editor

It’s hard to resist a company-sponsored presentation featuring an educator who’s willing to test anybody’s products and promises to never to claim which is best — and instead simply delivers the facts and lets the students come to their own conclusions about what’s better or best. Such is the case with two Dental Tribune Study Club presentations sponsored by VOCO at the American Dental Association Annual Session in New Orleans. The presentations feature Frank Milnar DDS, AAACD, speaking on two topics that naturally flow together: “Immediate Dentin Sealing and Contemporary Adhesive Strategies” and “Incorporating Minimally Invasive Concepts to Ensure Predictable Restorative Results.” Milnar agreed to answer a number of questions from Dental Tribune to give attendees a little better idea of what to expect from the sessions.

Would you provide brief overviews of your sessions?

Regarding “Immediate Dentin Sealing and Contemporary Adhesive Strategies,” today’s dental practices must know when and how to use total etch, selective etch and universal self-etch adhesives.

I’ll provide easy-to-understand guidelines for each. Attendees will leave with an understanding of the technologies, greater knowledge about the benefits of immediate dentin sealing and a better understanding of why the adhesive layer is the most important layer of a restoration.

In “Incorporating Minimally Invasive Concepts to Ensure Predictable Restorative Results,” I provide information and tips that will help practitioners quickly select products and develop the techniques required to create minimally invasive injectable composite restorations and prevent sensitivity. Attendees will learn how the properties of composite resins affect their longevity — which is critical to the goal of maximizing lifelong preservation of as much natural tooth structure as possible.

I’ll also provide simple-to-follow explanations of the chemistry that creates adhesion — and the next generation of injectable composites, with a focus on understanding when and where to use them.

Have there been some recent advancements in immediate dentin sealing products or techniques? Do you cover these in your sessions?

Yes. First, most clinicians don’t know what “immediate dentin sealing” is. I would bet 95 percent have not heard of the concept. Brannstrom’s hydrodynamic theory of 1966 showed that the movement of fluids in the teeth due to trauma promotes dentin sensitivity. Sealing exposed dental tubules prevents movement of fluid, thus reducing postoperative sensitivity. Immediate dentin sealing also protects the tooth from bacterial invasion. It’s often referred to as “sealing for healing.”

Cutting into deep, vital dentin creates a portal for bacterial invasion. Also, according to Dr. Franklin Tay, when cut dentin bleeds water — there can be a significant negative effect on the restorative bonding sequence.

When applying immediate dentin sealing in 2006, Pascal Magne advocates sealing the dentin at the time of the preparation appointment, then the enamel can be bonded at the final appointment of cementation.

How do you determine which new products or techniques you need to be using with your patients — and when?

That goes to adhesion. The adhesion layer is the most important layer in your restoration. Universal dentin bonding agents, or DBAs, are simpler, faster and employ easy-to-understand methods and techniques.

One example is VOCO’s Futurabond U (universal) dentin bonding agent. The challenge of determining which of these various products or techniques to use on the patient spills over to the next session, which gets into techniques connected to minimally invasive dentistry. The two go hand in hand. First, you have to have materials, adhesion and chemistry that correspond to smaller preparations. Then you need to know how to master the techniques.

Who should attend your sessions?

The entire staff! It’s helpful when the entire team understands the chemistry, the preparation, the indications, the contra-indications and the proper implementation of all these next-generation products.

If there’s just one or two core concepts you’d like attendees of your sessions to leave with, what are those?

When you pre-cure DBAs prior to impressioning, you don’t get collapse of the collagen fibers during cementation. Immediate dentin sealing is ideal for minimally invasive prep(s). Also you seal fresh-cut dentin on the spot, to eliminate the adverse effects of microbiology.

Adhesion, today — in any form — creates reparability. And that’s the new gold standard of our time. Preserve as much dentin and enamel as possible, with minimal trauma to the tooth. Immediate dentin sealing really promotes all of this.

Worth noting, too, in terms of other products offered by the sponsor, VOCO. There are various products that support immediate dentin sealing and adhesion by stabilizing the oral environment prior to and following restorative dentistry. An example from VOCO is Remin Pro, which has calcium phosphate fluoride and xylitol. VOCO Pro, Profluorid L and Profluorid L

FRANK J. MILNAR DDS, AAACD, is a graduate of the University of Minnesota School of Dentistry. He is an accredited member of the American Academy of Cosmetic Dentistry and a board examiner for accreditation. Milnar maintains a full-time practice in St. Paul, Minn., emphasizing appearance-related dentistry. He has published numerous articles about the direct placement of composites, shade selection and porcelain materials and is on editorial review boards for dental journals. He has been voted “Top Dentist” for the last several years in the Minneapolis/St. Paul Magazine. He has been voted by Dentistry Today as one of the top 100 dentists contributing to dental education.

You decide which one it is. And then you employ the techniques, materials and chemistry that support being minimally invasive.

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In New Orleans
Meet the 2013 SCADA student clinicians, view their research and earn C.E. credits from 1-4 p.m. Saturday, Nov. 2, at the 2013 ADA Student Research Post-er Exhibit, in Hall B, Level One, Room B21, of the Ernest N. Morial Convention Center. Learn more about DENTSPLY in booth No. 2501/2601 in the exhibit hall at the ADA Annual Session.

In more than 450 dental universities across the globe, more than 5,000 dental students each year dig into the foundations of dental science. The International Association of Student Clinicians (SCADA) program meets the need of dental students for an opportunity to participate in original research, meet their peers, and present their research work. In 2013, SCADA will attract students from across the globe to the ADA Annual Session in New Orleans.

What are some of the newer products you’re using that make “minimally invasive” and “maximum esthetics” easier to mutually achieve?

We now have new flowable composites that have high fill rates, which means they are enduring. You can actually use these as universal composites for minimally invasive preparations. We can have a variety of opacities, translucencies and effects, which is to say “enamel effects” in a flowable syringe to achieve esthetics. This is the key to the whole thing. That’s why I’m really keen on these new flowables such as VOCO’s GrandioSO Flow. There are two flowable types: heavy-bodied and regular, depending on if you want the material to move or stay in place once put in the preparation.

How to you determine which new products or techniques you should be using?

The essence of this is for the dentist and the auxiliary to determine where you are in the sequence before you prepare. The minimally invasive dentist understands the product and the chemistries and the preparation guidelines before he or she takes a handpiece and puts it on the tooth. The minimally invasive dentist will focus more on the enamel that can be remineralized — and use that in the preparation instead of simply focusing on removal of decay and much of the enamel around it.

The minimally invasive dentist would stabilize the oral environment using a variety of the aforementioned products, such as Remin Pro or ProFluorid, before starting the restorative sequence. Otherwise you are building in an undesirable environment that will decrease the longevity of your work. You must answer the basic question: Are you a physician who diagnoses? Or are you a surgeon who cuts? Those are big questions today. Are you going to be “proactive” or “reactive” in your mindset?

Ultimately, we want to avoid a repeat restorative cycle. We want to keep it minimal, so you can repair. We want to keep the repair small. If you’re orthodox, like a surgeon, every time you cut that tooth open again to replace, there’s more trauma to the tooth. You want to avoid that. If you conserve the tooth structure, you have more strength surrounding the tooth instead of more vulnerability.

Your sessions are sponsored by VOCO. How did you end up associated with the company, and what attracted you to its products and services?

When VOCO was first coming into this area, they had predictable products that were easy to understand. I used the products predictably in my office with my assistants. And VOCO is strong on science. I can create artwork and teachers in the U.S. for VOCO composites and provisional. I felt that they had predictable products that were easy to understand.

The good news is, for maximally esthetic restorative dentistry, we now have new flowable composites that have high fill rates, which means they are enduring. You can actually use these as universal composites for minimally invasive preparations. We can have a variety of opacities, translucencies and effects, which is to say “enamel effects” in a flowable syringe to achieve esthetics. This is the key to the whole thing. That’s why I’m really keen on these new flowables such as VOCO’s GrandioSO Flow. There are two flowable types: heavy-bodied and regular, depending on if you want the material to move or stay in place once put in the preparation.

Any final thoughts?

I try to base much of my thinking on this simple question: “What technique, what preparation, what adhesion would you like in your mouth, doctor?” I don’t just teach for VOCO. There are lots of other companies with good products out there. I cross-train myself on many of them. I don’t do detailed scientific analysis on everything. But I watch my assistants to see how rapidly they embrace and adapt to something — and how a product can help us work together.

VOCO’s Futarabond U, which is its newest launch, is an example. It does it all. It does all the chemistries. You can use one bottle for every clinical procedure. It’s one of many new products in this area in the marketplace.

That’s where the industry is today. Everything is universal. One bottle does it all. It’s better when your assistants understand the product, can inventory it — can bring it out and disperse it, knowing this is where we are in the preparation sequence. It’s better when they know when we’re ready for adhesion, whether there’s light or no light, whether we have zirconia or resin. These new products make that easier to accomplish.

I won’t claim a particular product is “the best.” But I’ll teach it to you so you clearly understand it — using the Socratic method of questioning and answering. Then, it’s up to you to decide. In summary, these two courses really showcase “adhesion” as the Achilles’ heel of restorative dentistry.
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76th Annual Winter Clinic packs an entire dental convention into a single-day event

The Winter Clinic is the largest one-day dental convention in North America, where dental professionals come to learn from world class speakers and explore and save on products and services. The 76th Annual Toronto Academy of Dentistry Winter Clinic is Friday, Nov. 8. The single-day event features 24 separate programs in contemporary dentistry, offering something for the entire dental team.

This year’s clinical program covers a broad spectrum of topics and includes an examination of the way digital technology is transforming the workflow in the dental office; demonstrations of cutting-edge tools and equipment; specialized techniques for prosthetic tooth repositioning; the use of lasers in periodontal therapy; a discussion of current views on the use of X-rays as a diagnostic tool; advice on the latest legal requirements for health and safety in the dental office; and how to meet the demands of the modern dental practice through healthy habits and humor. Among the sessions: “Death, Taxes and Other Disasters: A Silver Linings Financial Playbook for Dentists,” “Managing Adverse Outcomes,” “The Future of Practice Values: Good-bye Routine Recall... Hello Healthy Patient and Practice!”, and “To Polish or not to Polish? – That is the Question.” There also are five category-1 core courses scheduled. And the event will include a full exhibit floor with a wide selection of dental products and service providers offering demonstrations and special show pricing.

Education sessions spill over to the exhibit floor, too, with topics such as: “Prepare Your Practice for a Medical Emergency,” “Technology in Your Practice” and “Are Your Patients Still Practising Unsafe Sports?”

For more information or to register, you can call the Toronto Academy of Dentistry at (416) 967-3049, or all the details can be found online at www.tordent.com.

Leila Soto Villamil shares her research at the 2012 ADA meeting.

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(Source: Toronto Academy of Dentistry)