5 ways to reduce coding stress
Tips to create a more efficient and profitable office

How to complete a same-day restorative case using a chairside workflow

PRODUCT ROUNDPUP: Restorative materials

We've come a long way in a relatively short amount of time when it comes to restoratives. As the speed of technology has accelerated, it has driven the ability of the research and development teams that create our next-generation materials. This month the gang here at Dental Products Report is encouraging you to take a look at your current materials and methods and identify areas you can update and improve. As I like to say, dentistry is like a moving sidewalk, and if you're standing still, you're actually going backward. There are lots of new ways to accomplish lots of tasks, and we think you'll find your bottom line can improve, your patients will be happier and your stress level just might go down due to some of the products you'll find in this month's issue.

I truly and honestly don't do one procedure the way I was taught in dental school…and I'm grateful for that. Our profession enjoys a fantastic amount of new products. It seems that about every six months I'm digesting several new materials and devices that have come down the development pipe,

DR. JOHN FLUCKE

It's easy to do. Familiarity with a particular restorative material can cause complacency in the most diligent clinician. Why explore new materials when you already have this one that works well enough? Sure, the restorative you use might have its problems or limitations, but you've adapted to them, and you're, well, comfortable. However, you're also in a restorative rut.

"When clinicians fall into a restorative rut, they're most likely acting out of habit, which may not be profitable or efficient. They have become comfortable with their techniques after years and years of always doing it a certain way," says Nikki Sparacino, MBA, global manager of restorative procedure solutions from Dentsply Sirona.

"It's easy to get into that restorative rut because you get in your comfort zone and you're used to the way things work," says Carla Cohn, DMD, a private practice general dentist limited to children in Winnipeg, Manitoba, Canada.

Improved properties, enhanced outcomes

Restorative materials enjoy continuous development from manufacturers seeking to enhance their offerings while improving patient outcomes and benefiting a practice's bottom line. From better mechanical properties to more natural-looking esthetics to simpler processes than the previous class of restoratives, new materials are changing dentistry at an unprecedented pace. However, for dentists who have tuned out all the press releases, marketing pushes and direct sales force presentations, restorative materials are performing (or not performing) like they always have.

See restoratives, page 32

TERRI LIVELY

EDITORS' CHOICE

New materials are changing everything from inventory to esthetics.

BREAK OUT OF YOUR RESTORATIVE RUT

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Cover image is a simulated comparison of third-party lab tests conducted in 2018.
Pay attention and check out new materials

DR. JOHN FLUCKE

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5M
This 5-megapixel intraoral camera features a durable metal body and Liquid Optic Lens technology to capture clear images with optimal color.

3M™ Filtek™ Universal Restorative
With simplified shade technology to make shade matching more efficient, this universal composite makes it easier to place long-lasting, esthetic restorations.

iProphy Mobile
Weighing just 90 grams, this cordless prophy handpiece is comfortable and quiet with all the power needed for efficient prophylaxis.

New materials are changing everything from inventory to esthetics.

by Terri Lively

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This five-megapixel internal camera with true autofocus is reported to provide incredible picture clarity and color. Liquid Optical Lens technology is designed to work in a similar way to human eyes, and the autofocus function quickly adjusts for extreme intraoral close-ups as well as full-face extralum images. The handpiece, designed by a dentist, is just 2.2 ounces, and the metal body is said to be comfortable to hold and use. With 12 LEDs surrounding the lens for optimized lighting, intraoral images can be captured without reflections or shadows. Another plus is the built-in zoom and mouse function. Three color modes are available, and the camera comes with Windows-based imaging software.

How does Liquid Optical Lens technology work?
Liquid lens optics reshape to adjust for depth of field and sharpness from any distance in just milliseconds without any mechanical movement. This is accomplished by applying a very minute amount of electricity to the TRUE AutoFocus lens assembly. The lens, which is like a bag filled with an optically clear gel, slightly changes shape and curve, much like the human eye. This happens so fast, it’s barely noticeable on screen.

3M™ Filtek™ Universal Restorative
Suited for both anterior and posterior use, 3M Filtek Universal Restorative offers a simplified shade system for efficient placement of esthetic and durable direct restorations. Its NaturalMatch technology reportedly allows its eight shades and an Extra White Shade to cover the 19 VITA classical and bleach shades. A Pink Opaluer also is available for masking stains or metal copings, and its universal opacity is said to make using the nanocomposite even more efficient. It offers optimal physical properties due to propriety low-stress monomers that reduce shrinkage stress and nanofillers that provide high strength and excellent wear resistance.

How does warming the composite make placement even more efficient?
Warming of 3M’s Filtek Universal composite resin decreases the material’s viscosity and increases flowability with no compromise of material properties. The resulting thixotropic flow facilitates intimate adaptation within a containment to create a strong monolithic form. Maintenance of a consistent temperature is important and easily regulated with Bioclear’s Heat Sync heater.

— Jihyun Kim, DDS

iPropHY Mobile
Designed for comfortable and smooth polishing, the iPropHY Mobile is light, quiet, steady as well as cordless. Weighing just 90 grams, the handpiece reportedly can reduce clinician wrist stress while offering enhanced access to hard-to-reach places. At just 57.8 dbA, the low operating noise benefits both patients and clinicians. Compatible with any disposable prophylaxis angle, it offers 2 watts of torque and five speeds between 500 and 2,500 rpm as well as a variable speed option.

What is the first impression of the handpiece?
We’ve received good feedback from hygienists, assistants and dentists. The most common responses were “It’s so light!” and “It’s so quiet!” We also had a number of hygienists comment on how great the fixed rotation and lower noise levels will be for their patients with sensory issues.

Does any part of the handpiece need to be autoclaved?
The iPropHY Mobile is CDC compliant using a disposable sleeve and disposable angle. There are no outer sheaths that need to be autoclaved. Just use the disposables and clean between patients.

— Jackie Sacrey, marketing manager, NSK America Corp.

NSK America
888-675-1675
nskdental.com
CIRCLE RS #4

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BREAK OUT OF YOUR RESTORATIVE RUT

New materials are changing everything from inventory to esthetics.

While doing what you’ve always done, with the tools you’ve always used for restorative cases is comfortable and familiar, find out why trying new restorative materials is good for your patients and your bottom line.

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—Paresh B. Patel, DDS | Implantologist, Educator

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TAKE A FRESH LOOK AT NEW RESTORATIVE INNOVATIONS

Continued from cover...threatening to disrupt how we practice—or at least to bring more opportunities for change.

Intraoral scanners continue to improve and become a greater part of what we do. We’re rapidly approaching the tipping point where scanners are mainstream. They’re already way past the realm of the early adopter.

Just as paperless was a goal a decade or so ago, offices are now starting to see the light at the end of the tunnel and at the other end is a world called “impressionless.” Imagine all your impressions and models stored in the cloud. How cool is that? The ability to scan and store patient models for future reference points and tracking of cases is a serious game changer.

Materials are also evolving at an incredible pace. Esthetic zirconia is now a reality and you know it’s only going to get better. Just a couple of years ago we really didn’t have any esthetic options with the strengths we have today. Now, for anterior or serious cosmetic situations, the doctor has choices. And the best part of choices is that the benefits to the patient are enormous. Utilizing good preparation techniques and a good lab can provide results that were difficult or impossible to achieve a few short years ago.

Composites also continue to evolve. Last February Ultradent released Mosaic®, which was seven years in development. It’s an incredibly gorgeous and easy handling composite that can be used in a variety of clinical situations due to its incredibly strong shades. Then there’s the recent release of OMNICROMH from Tokuyama. This composite is designed to be a “one shade fits all” material that could allow an office to decrease its composite inventory to a single shade for many procedures.

Then we have an increasing number of reliable bulk fill composites. Whether they’re dual-cured systems such as Coltene’s Fill-Up!™ and Danville’s Bulk EZ™, or total advanced light-cured systems such as KaVo Kerr’s SonicFill™ 3, dentists now have options for those procedures where time is of the essence.

And while I’m legally restricted from divulging anything now, trust me when I tell you that there are some incredible things on the horizon that will give us even more to be excited about.

We’re also seeing the continuing expansion of the “bioestoratovise.” These materials promise to help create and stimulate the growth of reparative dentin while decreasing the incidence of sensitivity. Some can even mimic tooth structure to help with repairs in the furcation or in endodontic perforations. Bases and liners such as TheraCal LC® from BISCO, Ultra-Blend® plus from Ultradent and VOCO’s Calcimol LC are light-cured, bioactive materials that stimulate healing in the dentin and pulp for indirect pulp capping procedures.

Then there’s Ceramir from Doxa Dental, a cement for indirect restorations that’s a “nanostructurally integrating bioceramic.” It’s a biocompatible dental luting agent that integrates with natural tooth structure and exhibits tooth-like physical and mechanical properties.

Combine these cutting-edge technologies with better bond strengths, CBCT systems and the expanding realm of dental sleep medicine and I think you’ll agree that there are plenty of things working to change our profession for the better. My job as “Dentistry’s Technology Evangelist” is a fun one for me. When you get a chance to see, explore and then inform the profession about the latest and greatest game changers, it’s hard to not get excited about all of the progress being made in our profession. So sit back and enjoy what we’ve put together for you this month. I’m confident you’ll find a few things in this issue that you’ll want to evaluate for yourself. I’m also confident a few of these will change your and your patient’s lives for the better.

Oh, and my new podcast, “Technology Evangelist,” is coming soon. Be sure to look for it!

Dr. John Flucke DPR Editorial Advisory Board member and DPR’s Chief Dental and Technology Editor

Our Mission Statement
Dental Products Report—known for its trusted new product information—delivers a sharp focus on high-tech innovations and their implementation as well as how cutting-edge technologies are transforming practices. DPR helps dentists future-proof their practices and position themselves to deliver the best dentistry possible to benefit both their patients and their practices. We are committed to delivering unbiased, quality content.

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Go beyond with Invisalign clear aligner therapy and the iTero Element scanner. Get started at provider.invisalign.com.
**AeroPro™**
Premier Dental’s AeroPro™ is reported to set a new standard in cordless prophy systems. The lightweight, well-balanced, ergonomic, cordless and pedal-less handpiece is said to enable greater control and mobility while reducing hand and wrist stress. It has a longer battery life and the ability to accept most types of disposable prophy angles, and it comes in two packaging options.

Premier Dental  
888-773-6872 | premierdental.com  
CIRCLE RS #8

**Nonin Pulse Oximeter**
This high-resolution wrist pulse oximeter with ProFox software system by Whip Mix is said to provide accurate and comfortable monitoring of patient oxygen levels and pulse rate. It has a compact design and large display screen, and it offers variable sampling rate options. There are also three sizes of sensor probes to choose from. The ProFox software provides a variety of chart-ready reports. It’s engineered to meet the latest Medicare guidelines for supplemental oxygen.

Whip Mix  
800-626-5651 | whipmix.com  
CIRCLE RS #9

**TPH Spectra® ST flow**
Designed to perfectly complement TPH Spectra ST universal composite, the TPH Spectra ST flow composite reportedly extends the benefits of the traditional SphereTEC® filler technology to flowable composites. This is said to provide efficient, aesthetic, flowable versatility. It uses five universal CLOUD shades, covering the entire VITA® Classic range, and it can be dispensed using syringes or the Compula® Tips unit-dose option.

Dentsply Sirona  
844-848-0137 | dentsplysirona.com  
CIRCLE RS #10

**Curve Business Intelligence**
The newest module within the Curve Cloud Platform combines comprehensive reporting capabilities with dashboards to deliver more than 50 unique views into key financial and operational metrics. This software was reportedly designed to provide dental practices of all sizes with easy-to-understand insights into the health of their practices as part of their practice management system.

Curve Dental  
888-910-4376 | curvedental.com  
CIRCLE RS #11
SprintRay Pro
DLP technology is said to allow for an expanded build area. A 1080p projector is designed to improve accuracy, while a UV projector prints at a 95-micron pixel size. The STEM Tank™ is reported to eliminate the need for mechanical separation, thus increasing print speed. The new cover enables single-hand operation while saving space, and there’s no need for third-party software with the one-button scan repair and base tool.

SprintRay
800-914-8004 | sprintray.com
CIRCLE RS #12

Weave Text-to-Pay
A wide-ranging payment platform designed to handle all payments in small- to medium-sized businesses, Weave’s Text-to-Pay platform provides numerous ways to collect money while making it effortless for consumers to pay, using a short messaging system (SMS). The platform is reported to be HIPAA-compliant and is served on webpages secured by Transport Layer Security (TLS) certification.

Weave
888-579-5668 | getweave.com
CIRCLE RS #13

Image Guided Implant Dentistry System
The Image Guided Implant Dentistry System employs dental surgeons’ 3D treatment plans to direct targeted, precise placement of dental implants in real-time exactly where planned. Its reported features include no on-screen lag, sub-millimeter accuracy, a seamless digital workflow, a minimal footprint and a wide field of view. The handpiece is ergonomically designed, and a robotic auto stop provides maximum safety.

Image Navigation
646-741-2103 | image-navigation.com
CIRCLE RS #14

Pineyro Arch™ Kit
The Pineyro Arch™ Kit is reported to be the first instrument set of its kind specifically designed for implant debridement of full fixed implant restorations without removal of prosthesis. This kit contains three crescent-shaped arches: an anterior, posterior and mesial/distal. A fourth specialty arch is used for implants prior to impressions.

Paradise Dental Technologies
800-240-9895 | pfdental.com
CIRCLE RS #15
Restorative materials have come a long way since the 1800s, when amalgam was the dental material of choice. Today’s materials can be used for a wide variety of indications to produce high-strength, esthetic results. From universal composite and bulk fills to glass ionomers and adhesives, it’s easy to become overwhelmed by all the options. Over the next several pages, we’ve compiled some of the top options on the market. Whether you’re looking to increase the longevity of your restorations or you want to start working with bioactive materials, you’re sure to discover one or two products to incorporate into your armamentarium.

Enhancing restorative dentistry with advanced materials

[ compiled by Kristen Mott ]

3M™ Filtek™ Universal Restorative

- 3M™ Filtek™ Universal Restorative is a new universal composite that’s said to offer a modernized approach to anterior and posterior restorations
- It has a simplified shading process and advanced composite technology to reportedly provide strong and esthetic results
- The use of nanofillers is engineered to create a true nanocomposite that provides high strength and excellent wear resistance

3M
800-634-2249 | 3M.com
CIRCLE RS #16

TheraCem®

- TheraCem® is a dual-cured, calcium- and fluoride-releasing, self-adhesive resin cement indicated for luting crowns, bridges, inlays, onlays and all types of posts
- The material is designed to deliver a strong bond to zirconia and most substrates and features easy clean up and high radiopacity
- Due to its innovative chemistry, TheraCem is engineered to achieve a high degree of chemical conversion, which ensures high physical strength

BISCO
800-247-3368 | bisco.com
CIRCLE RS #17
EVANESCE™
- EVANESCE™ nano-enhanced universal restorative is designed to seamlessly blend into the tooth—reportedly resulting in margins that simply disappear.
- Its simple technique is said to often require only a single shade, or in more complex cases, fewer layers of composite.
- With putty-like handling, EVANESCE is engineered to easily adapt during placement and manipulation yet is absolutely slump-free.

Clinician’s Choice Dental Products
800-372-4346 | clinicianschoice.com
CIRCLE RS #18

BRILLIANT EverGlow®
- BRILLIANT EverGlow® is a universal submicron hybrid composite distinguished by easy polishability, gloss retention, ideal handling and exceptional blending properties.
- Highly esthetic outcomes reportedly can be achieved using seven universal shades in COLTENE’s Duo Shade system.
- For “brilliant” anterior and posterior restorations, it’s said to be the ideal modern filling material.

COLTENE
330-916-8800 | coltene.com
CIRCLE RS #19

TPH Spectra® ST flow
- The innovative SphereTEC filler technology is now available in a flowable version.
- Clinicians are said to profit particularly from the flow-on-demand effect, which reportedly ensures the composite reliably adapts to the cavity walls and the flow behavior can be precisely controlled.
- Beside the five universal shades of the TPH Spectra® ST line, two dentin shades, one enamel shade and a bleach white shade are available.

Dentsply Sirona
844-848-0137 | dentsplysirona.com
CIRCLE RS #20

Ecosite Bulk Fill
- Ecosite Bulk Fill is a posterior restorative composite that’s said to deliver superior esthetics with a single, quick 20-second light cure.
- Its ability to flow smoothly under pressure reportedly ensures high packability without sticking to instruments.
- The material is engineered to reliably cure in a single-layer application to the depth of 5 mm while providing unmatched handling, polishability and superb adaptation.

DMG America
800-662-6383 | dmg-america.com
CIRCLE RS #21

EZ-Fit Translucent
- Unlike other “dowl” fiber posts, EZ-Fit has a second tier that reportedly prevents “bottom cutting,” which will eliminate the high apical stresses under function common to other passive posts.
- The translucent aspect of EZ-Fit is said to allow the post to be seen extremely clear on a radiograph, allowing the dentist to see his or her work clearly.
- The strength, retention and stability of the EZ-Fit Translucent post is reportedly unlike any other passive fiber post on the market.

Essential Dental Systems
201-487-9090 | edsdental.com/ez-fit_translucent
CIRCLE RS #22

Efficient Esthetics Product Portfolio
- Designed to help dentists achieve high-quality esthetic restorations, this product combination reportedly reduces working steps by up to 58 percent without compromising restoration durability.
- Products include the Tetric® Evo-Line family of composites, Adhese® Universal, Bluephase® Style LED curing light, and OptraGate® lip and cheek retractor.
- When used in combination, simplicity meets esthetics for isolating, bonding, restoring and curing direct restorative procedures.

Ivoclar Vivadent
800-533-6825 | ivoclarvivadent.com
CIRCLE RS #23
CLEARFIL MAJESTY™ ES Flow
• This new, light-cure, universal flowable composite is designed to be used for all direct restorations for all cavity classes, as a cavity base/liner, for repair of tooth erosion and wear, and for intraoral repair of fractured restorations
• It’s said to be exceptionally easy to polish by wiping the cured resin with an ethanol-soaked gauze or cotton roll
• The material contains special submicron fillers that are treated with a proprietary silane coupling agent, reportedly giving the product superior mechanical properties

Pulpdent
800-343-4342 | pulpdent.com
CIRCLE RS #24

Predicta™ Bioactive Bulk
• Predicta™ Bioactive Bulk is a dual-cure, bulk fill resin composite that’s said to be easy to place and combines excellent strength, exceptional durability and optimal characteristics close to those of natural teeth
• The material is bioactive and releases fluoride, calcium and phosphate ions to stimulate mineral apatite formation and remineralization at the material-tooth interface
• It’s suitable for direct or indirect restorations

Parkell
800-243-7446 | parkell.com
CIRCLE RS #25

CompCore™ AF
• CompCore™ AF is a dual-cure composite core buildup material with fluoride release, high radiopacity and Hyperbranched Technology™ for increased strength
• When CompCore AF is fully cured, the material is said to exhibit superior compressive strength, but it also can be cut smoothly and precisely with high-speed rotary burs
• It’s designed for easy handling, exceptional performance and superior durability

Premier Dental Products Company
888-773-6872 | premierdentalco.com
CIRCLE RS #26

ACTIVA™ BioACTIVE-RESTORATIVE
• ACTIVA™ BioACTIVE-RESTORATIVE is a highly esthetic, bioactive composite that’s said to deliver all the advantages of glass ionomers in a strong, resilient resin matrix that will not chip or crumble
• It’s engineered to chemically bond to teeth, seal against microleakage, and release more calcium, phosphate and fluoride
• The material is reportedly more bioactive than glass ionomers, while being more durable and fracture-resistant than composites

Pulpdent
800-343-4342 | pulpdent.com
CIRCLE RS #27

LUNA
• LUNA is said to be the ideal universal composite for daily anterior and posterior restoration challenges
• It’s a simple esthetic composite system that’s designed to have high polishesability, strength and wear resistance
• The high compressive strength of LUNA is engineered to enhance the longevity of composites by withstanding oral grinding forces

SDI
800-228-5166 | sdi.com.au
CIRCLE RS #28

Biodentine®
• Biodentine® is a fully biocompatible resin-free material that’s said to highly reduce any risk of tissue response
• It’s also a bioactive material promoting reactionary dentine genesis for pulp vitality preservation
• The material reportedly needs no surface conditioning and no bonding, and it exhibits excellent sealing properties to reduce the risk of clinical failures through bacteria percolation, thus ensuring the absence of postoperative sensitivity

Septodont
717-286-0100 | septodontusa.com
CIRCLE RS #29
Beautifi³ Flow Plus X
- Shofu’s latest bioactive nano-hybrid flowable composite, Beautifi³ Flow Plus X, is said to demonstrate excellent flexural and compressive strength and maintain exceptional color stability before and after curing
- The material contains Giomer technology—the release and recharge of six beneficial ions. These bioactive ions reportedly inhibit plaque formation, minimize hypersensitivity, neutralize acid, and release and recharge fluoride
Shofu Dental Corporation
800-827-4638 | shofu.com
CIRCLE RS #30

Ca-Lok™ Cavity Liner and Base
- Ca-Lok™ Cavity Liner and Base is a light-cure, flowable adhesive, UDMA resin for close to pulp and indirect restorations
- Releasing calcium, phosphates and fluoride, it’s designed to be a true bioactive resin
- With its flowable viscosity and unique handling characteristics, precise placement and control is reportedly achieved
TAUB Products
800-828-2634 | taubdental.com
CIRCLE RS #31

Estelite Universal Flow
- Estelite Universal Flow is a new, supra-nano filled flowable composite available in three viscosities (high, medium and super low)
- It’s engineered to have a higher filler content than traditional flowables and offer great cavity adaptation and easy handling without compromising strength
- One shade of Estelite Universal Flow reportedly can blend beautifully with several tooth shades, so clinicians can reduce inventory and save costs
Tokuyama Dental America
877-378-3548 | tokuyama-us.com
CIRCLE RS #32

Phasor™ and Exquisite Restoration™
- Exquisite Restoration™ composite reportedly has exceptional handling and provides excellent mechanical properties
- With its low shrinkage and low abrasion, it’s said to be the perfect composite for any anterior or posterior restoration
- Using near-infrared heating technology, Phasor™ heats composite to 150 degrees in 45 seconds, and it’s designed to work perfectly with Exquisite
Vista Dental Products
877-418-4782 | vista-dental.com
CIRCLE RS #33

GrandioSO Heavy Flow
- GrandioSO Heavy Flow is an 83 percent filled high viscosity, nano-hybrid, universal flowable composite
- The material is said to possess the necessary physical properties to provide new solutions to age-old challenges
- This flowable is engineered to offer initial shrinkage less than 3 percent, said to be among the lowest in the flowable composite category, a high fill rate and flexural strength of 400+ MPa
VOCO America
888-658-2584 | vocoamerica.com
CIRCLE RS #34
Soothe gum irritation and reduce harmful bacteria

PerioSpot™ provides targeted protection and therapy where gums need it most. [compiled by Kristen Mott]

Information provided by Dental Herb Company.

THE PROBLEM

Gums can become inflamed and irritated at the site

After implant placement, scaling and root planning, or crown preps, or as part of ongoing periodontal treatment, gums often need extra care and protection.

THE SOLUTION

PerioSpot™

- PerioSpot™ is an antimicrobial and soothing gel designed to provide targeted therapy and protection of the gums
- It is said to enhance traditional rinse therapy by providing a localized therapeutic boost at the site
- The formula utilizes natural ingredients such as powerful essential oils, herbal extracts, aloe vera and xylitol to benefit gum health
- The gel can be applied chair-side and/or provided for patient home care
- Its sticky viscous formula is designed to stay where you place it
- PerioSpot is said to be ideal for stubborn inflammation and irritation sites

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800-747-4372 | dentalherb.com
CIRCLE RS #35
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REACH® please contact your local dealer
The new Purevac® HVE System represents the improvement in efficiency dental professionals have been waiting for.

**THE PROBLEM**

Infection prevention and control are serious concerns for the dental team. Procedures that generate aerosols, splatter, fluids and debris can pose health risks to both patients and dental professionals.

**THE SOLUTION**

**Purevac® HVE System**

- The high-volume tip removes 90 percent more aerosols during ultrasonic scaling compared to a low-volume saliva ejector, thus creating a safer environment.
- The kink-resistant hose is 69 percent lighter and 130 percent more flexible than a standard HVE hose, optimizing ergonomics.
- The Purevac® HVE features a 360° swivel, making it easier to maneuver.
- The fog-free mirror provides greater visibility and illumination to the treatment area.
- Procedures are more efficient with two tools in one hand. No switching back and forth between the HVE and a mirror. This contributes to safer conditions.

Reference

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□ Yes, please send me Tokuyama updates & promotions.
The benefits of bioactive restorative materials

How ACTIATM BioACTIVE-RESTORATIVE™ leads to longer-lasting restorations. [by Nina McCollum]

ACTIATM BioACTIVE-RESTORATIVE™ is said to be the first esthetic bioactive composite with an ionic resin matrix—a shock-absorbing resin component—and bioactive fillers that mimic the physical and chemical properties of natural teeth. The material is dual-cure and can be used for all classes of restorations, including bulk filling.

Pulpdent
800-343-4342 | pulpdent.com
CIRCLE RS #39

After amalgam, the standard for replacing missing tooth structure became inert, tooth-colored dental composites made from ceramic particles and a resin base. These restorations offer a more esthetic look but require multiple steps and exacting precision. Even when well-crafted, research indicates traditional composite fillings last an average of five to seven years.

“Long before composite resins, we had the original bioactive material: glass ionomer,” says Susan McMahon, an accredited cosmetic dentist in Pittsburgh, Pennsylvania. “They leach fluoride, are cariostatic and form a chemical link to the tooth. They are far less technique-sensitive, but glass ionomers are not as esthetic as composite and do not wear as well.”

Pulpdent worked to improve the bioactivity property in fillings, designing a product to better protect pulp while delivering a stronger, more active filling through the bond it created with teeth. The result was ACTIATM BioACTIVE-RESTORATIVE™.

ACTIATM BioACTIVE-RESTORATIVE™ is a dental resin that elicits a chemical reaction from the tooth, releasing more calcium, phosphate and fluoride directly into the tooth structure to help it to actually repair itself. Whether the lesion is from decay, fracture or trauma, the interface between the material and the tooth is said to result in less vulnerability to decay over time.

ACTIATM BioACTIVE-RESTORATIVE™ consists of a bioactive ionic resin matrix—a rubberized resin component to act as a shock absorber—and a reactive ionomer glass filler. It’s designed to elicit a response that stimulates apatite formation and the natural remineralization process that unites the restoration and tooth together, while also sealing margins against microleakage, secondary caries and failure.

“I like it because it not only makes beautiful durable restorations, but it is a great choice for minimally invasive fillings. It’s more like natural tooth structure,” Dr. McMahon says. Since the bioactive composite releases ions directly into the teeth, Dr. McMahon chooses ACTIATM BioACTIVE-RESTORATIVE™ for areas that are prone to recurrent decay, such as proximal boxes of Class II restorations and root surface fillings.

“ACTIATM BioACTIVE-RESTORATIVE™ polishes well. This material is getting closer and closer to the natural properties of the tooth,” Dr. McMahon says. ACTIATM BioACTIVE-RESTORATIVE™ is formulated to offer the advantages of glass ionomers in a stronger, resilient matrix. It not only chemically bonds to the tooth and releases calcium, phosphate and fluoride, but it also offers better bioactive properties than regular glass ionomers.

Dr. McMahon has been using this product for about four years, and she says she believes in Pulpdent’s research and dedication to delivering an improved composite product that will result in longer-lasting, better seated restorations.

“I choose it because I have confidence in their research and their company. It works well and makes beautiful, conservative restorations,” she says. Dr. McMahon says she uses the product in a variety of restorative applications, including pit and fissure caries. She says it allows her to remove the smallest amount of tooth, retaining the healthy tooth structure and restoring it with a material that supports the natural remineralization process. According to Dr. McMahon, her patients are actually happy and excited about the prospect of fillings that include material that will end up being helpful to the affected tooth, which makes using ACTIATM BioACTIVE-RESTORATIVE™ a positive experience for both the dentist and the patient.

Bioactive materials that behave well in a moist environment, help to neutralize the conditions that cause dental caries and maximize potential remineralization may become the new standard, according to Dr. McMahon.
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How to improve curing with VALIANT®

One dentist’s take on the benefits this curing light from Vista Dental Products offers. [by Renee Knight]

The features
Dr. Mounce describes the VALIANT’s features as impressive, including the four LEDs that produce a uniform beam profile of high-intensity light in the 395 to 500 nm wavelength as well as the high-grade optics, including a built-in transilluminator light. This light makes it possible to check for fractures, cracks and residual caries without the need for a second piece of equipment.

VALIANT also offers three different power modes, allowing a quick and easy switch between procedures. The power modes include a standard 20-second cure (1,200 mw/cm²), a ramp-up 20-second cure (1,200 mw/cm²) and a boost mode (2,500 mw/cm²), which provides a high-powered, three-second cure.

“When fully charged, VALIANT can complete 150 20-second cures, which is more than enough to get through the day,” Dr. Mounce says. “The versatile light features a multi-spectral curing range that allows it to polymerize nearly all light-cured composites. It also contains single-button operation and intuitive controls.

The benefits
When Dr. Mounce uses the VALIANT, he knows the total composite is being cured during treatment thanks to the light’s 6.8-mm depth of cure and versatility of application, giving him greater confidence in the end result.

“Combined with the Phasor™ composite warming gun, I have confidence from using heated composite and its improved flow blended with the powerful and consistent curing of VALIANT. That’s a great combination,” he says.

The VALIANT’s ergonomic design is another advantage, Dr. Mounce says. Other devices he’s used were too bulky, too heavy, too long, or too short and simply felt awkward. The VALIANT, on the other hand, is “just right,” according to Dr. Mounce.

“It is user friendly and fun to use,” he says. “The small head profile and lightweight aluminum body are easy to handle, especially in areas where space is limited.”

The economical, lightweight curing light is easy to handle, Dr. Mounce adds. It’s cordless, which makes it mobile, and its long battery life means it’s always ready for use. The light comes with a charging station as well as other accessories, including protective sleeves and a protective eye shield. The three-year warranty is a bonus.

Why you should invest in the VALIANT curing light
This value-priced, durable light provides clinicians with everything they need for successful cures, Dr. Mounce says. Patients spend less time in the chair and dentists spend less time chairside.

“ar Richard Mounce, an endodontist, first began using the VALIANT® multispectral curi-
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Creating predictable restorations with Pro-V® C&B

Why one dentist enjoys the flexibility of this temporary crown and bridge material. [by Jo Donofrio]

Flexible, durable and efficient

According to Joseph Kim, DDS, sometimes when dentists try to remove a temporary bridge, it will fracture, or when a clinician tries it in, if the patient bites down hard, it will break. Pro-V C&B creates a strong and durable restoration, reducing the risk of fracture when subjected to high or sudden masticatory loading in the mouth.

“Pro-V C&B has a slight bit of flexibility that makes it forgiving, which reduces the chance of the restoration fracturing,” says Dr. Kim, who has been practicing dentistry in Sugar Grove, Illinois, for more than 18 years. “Anyone who is doing longer spans will appreciate the flexibility as opposed to a traditional acrylic material that can snap very easily when you bend it even slightly.”

With Pro-V C&B, the entire process is more streamlined and efficient. Once mixed, the material sets within four minutes and flows easily into the impression with great control.

Dr. Kim says the product saves time in terms of not having to rebuild or repair fractured temporary bridges and crowns.

“The increased durability is also ideal when final crowns and bridges are intentionally delayed as part of a larger treatment plan. Dr. Kim says the product saves time in terms of not having to rebuild or repair fractured temporary bridges and crowns. The increased durability is also ideal when final crowns and bridges are intentionally delayed as part of a larger treatment plan.

“Pro-V C&B and bridge materials, Pro-V C&B is a self-curing material, PRO-V C&B is available in four essential, high-fidelity shades, polishes to an aesthetic finish and can be trimmed with minimal effort. “Of all the auto mix crown and bridge materials, Pro-V C&B is going to give you the best balance between slight flexibility, hardness and esthetic appeal,” Dr. Kim says. “Any dental practice that appreciates quality and those intangible factors is not going to regret going to this product.”
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Improving practice communication with Patient Prism®

How this service helps the dental team respond to patients’ needs from the very first call.

[ by Lou Shuman, DMD, CAGS, with Amol Nirgudkar, CPA, CGMA ]

What is Patient Prism®?
Patient Prism is a call tracking and coaching service that takes call monitoring to a new level. The goal is to convert more callers into booked appointments. This is done with artificial intelligence (AI) and call coaching, allowing quick intervention to influence behavior change at the front office level and ultimately help more people receive the dental care they need.

How does Patient Prism work?
Patient Prism identifies areas during the conversation that weren’t optimal from a conversion standpoint. We highlight those areas visually and include commentary from our team in Tampa, Florida, along with training videos that apply to specific aspects of each call.

A dental office team member can look at data without having to listen to a whole phone conversation and call the patient back right away to say, for example, “Sir, you called us earlier and said you had no insurance. We forgot to mention we have several financing options available for you. Let’s start by having you meet the dentist to see what can be done to fix the problem. Would a morning or an afternoon appointment work better for your schedule?”

It gives these offices a second chance to make a great first impression. It allows the front office to see failures as they happen and address them head on.

How is AI involved?
We utilize several subfields of AI, including classification algorithms, regression analysis, natural language processing, decision trees, artificial neural networks and deep learning. These tools combine to allow the machine to perform an initial quality check, which is the identification of what the patient wanted in terms of keywords. If a patient says they wanted a crown, it identifies that keyword.

The machine transcribes the call and looks at mood and sentiment to curate information for a Patient Prism coach to format and send out to the practice. It’s important for us to have humans reviewing the data and validating it because AI isn’t there yet, but the AI makes the coaches a lot more efficient at curating the feedback.

The AI is also pinpointing areas that need to be looked at. It’s not just transcribing the call and picking out keywords. It identifies if the caller is a new patient without needing to connect to a practice management system.

We’ve trained the AI to look at the commonalities in language a new patient would say on the phone. Because it classifies a call at the outset, we can focus our energies on any new patients that aren’t getting booked.

We show the receptionist where there could be gaps in communication. When a patient who needs an extraction calls, for example, the best practice is to ask if they’re in pain because you want to empathize with the patient. You can say, “Sir, are you experiencing any discom-
fort? Can we help you with that?” to build trust with the patient and show you care. These small things make a big difference.

How are new patients identified?
We use tracking phone numbers, which are attached to all the marketing the dental practice is doing, whether it’s Google Ads, Facebook, or YouTube. Those tracking numbers are instantly forwarded to the main line of the practice.

While we assume most of those calls are new patients, that may not always be the case. Our main focus is to ensure a new patient who calls an office is appointed. The big leak in the marketing tunnel is from new patients who call as a result of seeing an ad but can’t schedule an appointment for various reasons. We can also utilize a phone tree where new patients press ‘one,’ and those calls come into our system to be analyzed.

Tell me about the workflow
Let’s say a call came in at 9 a.m. and the conversation lasted for five minutes, during which the patient mentioned insurance was an issue. At 9:05 a.m., the patient hung up. At 10:05 a.m., a text message or email is sent to the practice with a secure link to the call recording and visualization, which includes color-coded areas identifying where the front office could’ve handled the call better and suggest different ways to address the caller’s concerns.

There are at least two or three short videos with specific phrasing the receptionist can watch to know what to say when they call back the patient—or how to handle this type of situation in the future.

For example, if this was an out-of-network insurance patient, there would be a video about how to deal with out-of-network patients. It would encourage you to say, “Although we aren’t in-network with that insurance provider, we work with that company often and we’re more than happy to file on your behalf. Let me make a call to confirm exactly how your dental benefits can be used in our office.”

By the time the front office calls the patient back, they’ve had coaching on what to say. We have about 250 videos associated with phone conversion skills. These are recorded by some of the top consultants in the country such as Fred Joyal and Linda Miles. These scenarios answer questions such as “How do you talk to an anxious patient?” or “How do you talk to someone when there’s a language barrier?”

Can you tell me how the AI subfields you utilize function in this workflow?
The overall goal of AI is prediction. We use pattern matching, one of the early precursors to AI. We look at data analysis, where we structure the data into various fields. We use neural networks to look at hidden patterns not necessarily identified by human beings, which could bind certain cohorts of patients together.

There’s a whole list of data science tools we use to determine the prediction. In traditional regression analyses, you look at past data and provide an input (independent) variable and an output (dependent) variable to the machine. It would decide relationships and was skewed toward the dependent variable. One of the problems we saw early on was the classification dilemma.

The training model is built using an algorithm based on data you think could be relevant. Sometimes when you use neural networks, they have a way to figure out which variables are independent variables. A combination of structured data, pattern matching and neural networks forms the basis.

Natural language processing (NLP) also plays a big part, which is what Alexa, Siri and Google Home are doing. Using natural language processing tools, we’re able to feed data into an engine that predicts with a certain degree of accuracy whatever you’re trying to ascertain. One of our first questions was how to predict a new patient is calling, and to what degree of accuracy this prediction could have.

What else can we do with this data?
There are many potential applications of the data we collect on the phone. Being able to see and tie together different data points, such as services requested, the type of insurance they have, how quickly they’re looking to have an appointment and whether they book or not, for example, could help dental practices figure out predictive models. How many lab supplies do they need to order for implants or Invisalign cases?

Doctors use the data we provide to find out where there are gaps in what patients are requesting and what the practice provides. They’re using it to determine if they should add Invisalign, dental implants, or same-day crowns to their services based on what people are asking for on the phone.

We can tell them how many calls come in before their office opens, how many patients are requesting early morning appointments, or how many patients are requesting appointments after the office closes.

The practice can make staffing decisions based on convenience for the population they serve. These data points from an operations standpoint are of immense value.

Where do you see this technology going in the future?
We believe the technology is going to get faster in understanding. Right now, our response time to a missed new patient appointment is 60 minutes. In the near future, I’d like to get that down to half an hour. In the more distant future, I see it acting as a virtual assistant on the phone, listening to the receptionist and coaching while in the midst of a call. I also see a virtual receptionist eventually answering the phone calls, but that’s a long way off.

The technology Google Duplex introduced recently allows a virtual assistant to make an appointment, and the receptionist has no idea she’s talking to a machine. (Search “Google Duplex haircut appointment” on YouTube.) It’s somewhat scary for the industry, but we hope our technology will help receptionists and call center agents know how to respond when this happens.

The best use case for us now is helping people be more efficient by providing feedback quickly, helping them serve their patients better. It’s not about replacing humans; it’s about giving them the tools and coaching so that we can have a greater chance of serving a bigger population of patients who deserve dentistry to change their lives.

ABOUT THE AUTHORS
Dr. Lou Shuman is the CEO of Cellerant Consulting Group, a venture-in-residence at Harvard’s i-Lab, the chairman of the technology advisory board at WEO Media, a long-time contributor to Dental Products Report, and the founder and creator of the Cellerant Best of Class Technology Awards.
Amol Nirgudkar, CPA, CGMA, is the CEO and founding partner of Patient Prism LLC. He brings a tremendous wealth of knowledge and experience as a CPA and business adviser to hundreds of small businesses across Florida and the United States.
BIOFILM DISRUPTION WITH RUBBER CUP POLISHING

Understand oral biofilm and rubber cup polishing to identify and treat the patients who can benefit most.

[by Shannon Pace Brinker, CDA, CDD]

Our patients deal with biofilm throughout their lives. As dental professionals, we can help them better manage it by offering rubber cup polishing with disposable prophy angles in cases where it’s deemed appropriate.

Selective polishing, performed at the clinician’s discretion, can help control biofilm growth and prevent oral and systemic disease progression in our patients. Finding the right prophy angles and knowing the proper techniques for successful rubber cup polishing are key to patients realizing these benefits. Providing proper patient education also will help ensure patients know how rubber cup polishing can control biofilm and prevent disease as well as what steps they can take at home, including brushing and flossing regularly, to maintain a healthy mouth and smile.

Understanding biofilm

Bacteria colonization within the oral cavity (and throughout the rest of the body) starts at birth and constantly changes as patients age. At first, single planktonic cells develop throughout the cavity. This creates an ecosystem for bacteria (primarily Streptococci) to begin to form on tooth surfaces, leading to the first stages of biofilm.

So, what exactly is biofilm? Basically, it’s a generic community of colonized cells on a surface. For our purposes, it’s important to note dental biofilm has all of the characteristics of biofilm architecture and microbial community interaction, but it develops in the oral cavity, consists of more than 700 contributing oral microbial species, and demonstrates a distinct method of conditioning the tooth surface.

Dental plaque biofilm is made of highly specialized, coordinated multispecies forms of microorganism life located permanently on the tooth surface in a matrix. A layer of extracellular polysaccharides surrounds these microorganisms to ensure they’re more resistant to immunological defense systems and less susceptible to antimicrobials, which can make them challenging to manage.

A closer look at biofilm growth and development

Beneficial and pathogenic bacteria live together in the human body, making balance—better known as microbial homeostasis—key to maintaining health in all systems. Microbial homeostasis balances both synergistic and antagonistic microbial interactions to bring stability to the oral cavity. When there’s homeostasis breakdown in the microbiome, it can lead to changes in the microflora balance— and that microbiological imbalance in the biofilm can predispose sites to disease, which is exactly what your patients want to avoid.

Processes of decreasing and increasing biofilm pH occur before tooth surface de- and remineralization. When the mouth is healthy, these processes take place without causing tooth enamel damage, while the required balance remains intact. This means oral health maintenance is achieved when biofilm is disrupted regularly.

The benefits of rubber cup polishing

While important, maintaining basic oral hygiene habits, such as routine brushing, flossing and using antimicrobial rinses, isn’t the only way patients can combat the harmful biofilm that develops over time in their mouths. Rubber cup polishing can disrupt, destroy and control biofilm and is typically used in initial or supportive periodontal therapy, which effectively removes supragingival biofilm plaque.

There was a time when dentists used rubber cup polishing on every patient they treated. That’s because they thought it helped with fluoride uptake, which of course has its benefits. This is no longer a common practice because studies have shown there’s no evidence to support this theory.

Today, rather than turning to rubber cup prophylaxis for every patient, dentists use selective polishing instead. Dentists only opt to complete rubber cup polishing when it’s deemed an appropriate
way to control, disrupt, or destroy dental plaque biofilm, maximizing its effectiveness.

Research has shown polishing can lead to enamel mineral loss and should be limited to areas where stains can’t be removed by other methods. Clinicians must be able to determine when rubber cup polishing is necessary for biofilm removal to avoid the morphological changes that can occur in tooth structure with continuous polishing. This determination can be made after a comprehensive exam is completed.

Why the prophy angle you use matters

When working to disrupt biofilm through selective polishing, a high-quality prophy angle is key to success. Disposable prophy angles are a great option because they help prevent cross-contamination.

What exactly should you look for in a prophy angle? Here are a few of the main characteristics your prophy angles should have:

- A straight or contra-angle shape
- Firm and soft cups made from soft, latex-free material
- Internal and external fluting
- Splatter reduction to keep messes to a minimum
- The ability to flex and flare for reliability and optimal performance

Choosing the right prophy angle for your practice

There are a variety of disposable prophy angle options on the market today, including the Ultrapro® Tx prophylaxis family from Ultradent Products. This product line includes advanced prophy angle cup designs, splatter-free pastes and an ergonomic handpiece.

The disposable prophy angles are comfortable to use and feature an ergonomic design, which is of course important for dental professionals who use these products every day. They also come equipped with smooth, quiet gears. These characteristics make the procedure more pleasant for both you and your patients. The Ultradent prophy angles are available in various options, including original, extra and skini.

The cup design reduces splatter and allows for more efficient cleaning, which can save time. The angles feature optimal flare for improved subgingival access, enabling them to reach areas of the tooth other angles can’t. The extra and skini angles feature outer ridges for improved interproximal cleaning and are available in right-angle or contra-angle designs. With 20 percent shorter heads, all the prophy angles in this line are designed for improved access and visibility in the oral cavity. The skini angles also have a 25 percent slimmer neck and are sterile to minimize the risk of infection. There’s no natural rubber latex in any of these prophy angles, which are all available in soft or firm cup designs. Color-coded cups make it easy to identify firm or soft prophy angles (the green angles are soft and the blue angles are firm).

These prophy angle are value priced, and because they never expire, they can be bought in bulk for additional savings.

This line also includes a lightweight handpiece that allows for a smooth polishing experience. At only 2.2 ounces, the handpiece reduces hand and arm fatigue that often comes with rubber cup polishing. It features a 360° swivel for easy rotation and a soft-start motor to minimize splatter. The vibration-free handpiece cleans at a maximum speed of 4,000 RPM and features a universal E-type motor for multifunctionality.

Beyond the angles in the Ultrapro
Clinicians must be able to determine when rubber cup polishing is necessary for biofilm removal to avoid the morphological changes that can occur in tooth structure with continuous polishing.**

**Clinicians must be able to determine when rubber cup polishing is necessary for biofilm removal to avoid the morphological changes that can occur in tooth structure with continuous polishing.**

When investing in the right prophy technique, it’s important to choose materials better suited for this procedure. These materials give oral health professionals the ability to effectively clean the teeth. With proper technique, we can achieve outcomes for your patients.

**What to look for in prophy paste**

In the past, clinicians would apply pumice to stains during rubber cup polishing.13 Pumice is harsh, and research now shows less abrasive materials are better suited for this procedure. These materials give oral health professionals the ability to effectively remove stains while still maintaining adequate enamel.

There are a variety of pastes to choose from for rubber cup polishing, including the prophy pastes that are part of Ultradent’s Ultrapro™ Rx line. These gluten-free pastes are splatter free for easy cleanup. They contain 5% potassium nitrate, 1.23% fluoride ion, and are available in flavors your patients will love (Cool Mint, Walterberry®, Bubble Gum and Orange Dream-sicle). The pastes are also easy to rinse, eliminating the residual grittiness patients often associate with prophy pastes—leading to a more pleasant experience.

The rubber cup polishing technique

While investing in the right prophy angles, pastes and handpiece is important for successful rubber cup polishing, you also need to know and use the proper technique for optimal results. To start, dental health professionals must put on personal protective equipment before beginning the procedure and provide patients with safety glasses.

Clinicians shouldn’t use rubber cup polishing to disrupt biofilm until they’ve deemed it appropriate for the patient in the chair.14 This decision should come after a comprehensive assessment. Once that’s complete and it’s time to move forward, the patient should be given a pre-procedural antimicrobial mouth rinse.

Once ready to go, dental health professionals should begin polishing at the distal surface of the most posterior tooth, then move toward the anterior, working on the gingival third to the incisal third of the tooth. The rubber cup should be filled with the right amount of paste for the tooth surface being polished. Pressure from the revolving cup must be light (just what’s necessary to remove biofilm and any stain on the teeth) and applied to the tooth surface using a low speed.

The cup should flare slightly and slip into the sulcus. With an intermittent patting motion, the cup can be moved to an adjacent area of the tooth surface. The handpiece can be altered as needed by turning or lifting it. This will help the rubber cup adapt to the tooth surface.

Following these simple steps will help ensure you correctly perform the rubber cup polishing procedure, leading to optimal results for your patients (and a more pleasant, comfortable experience for you as well).

**Educate your patients**

Before beginning the polishing procedure, talk with patients about what you’re doing and why. Educate them about biofilm and the damage it can do to their teeth and their overall health. Explain what rubber cup polishing is and how it can benefit their oral health, including controlling biofilm and preventing disease.

This is also a great time to talk with patients about preventative maintenance they can do at home. Remind them how important it is to brush and flush regularly and to come to your office for regular checkups. Make sure they understand the damage biofilm can do to their teeth if it’s not taken care of. Show them proper brushing and flossing techniques if necessary, and let them know you’re happy to answer any questions they may have.

**Conclusion**

Throughout the course of our lives, complex biofilm communities grow and change in our bodies. As dental professionals, we’re most concerned with microorganisms that cause disease and prevent the development of healthy, disease-free oral structures. Using disposable prophy angles for this procedure eliminates the risk of cross-contamination while keeping biofilm growth in check.

For the best results, it’s important for dental professionals to know what to look for in an effective, reliable and affordable prophy angle. Options like the Ultrapro™ Rx prophylaxis family from Ultradent Products give us the solutions we need to manage biofilm in our patients. Learning the proper rubber cup polishing technique is also key, helping to ensure we provide our patients with the best care possible.

**REFERENCES**

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New materials are changing everything from inventory to esthetics.

[by Terri Lively]
DOING WHAT YOU’VE ALWAYS DONE, WITH THE TOOLS YOU’VE ALWAYS USED, FOR RESTORATIVE CASES IS COMFORTABLE AND FAMILIAR. IT’S LIKELY ALSO SLOWER, MORE DIFFICULT, LESS ESTHETIC AND POSSIBLY LESS PROFITABLE. TRYING NEW RESTORATIVE MATERIALS IS GOOD FOR YOUR PATIENTS AND YOUR BOTTOM LINE, SO MAKE IT A PART OF YOUR PRACTICE.

Continued from cover ... “They may not be getting the quality from the cases that they do,” says Justin Chi, DDS, CDT, director of clinical technologies for Glidewell Laboratories. “They may be having problems and aren’t aware of it or accept it as normal for using that type of material. They may not be getting the longevity or the esthetics some of the newer materials can provide.”

Dr. Cohn questions the logic of using materials a dentist isn’t 100 percent satisfied with—or maybe even unsatisfied with—when there’s such a large amount of new technology and advancements in dentistry today.

“Why do we need to leave ourselves and our patients wanting more when all we need to be willing to do is try something new?” Dr. Cohn says.

We spoke to several clinicians and experts in dental materials to uncover the challenges for clinicians who might have fallen in a restorative rut, what benefits are possible with new materials and which restoratives they’re excited about these days. Here’s what they had to say about breaking out of your restorative rut.

The challenge of a restorative rut
A significant drawback to staying in a restorative rut is missing out on the improvements to materials. Material improvement brings a practice new opportunities to deliver a higher level of patient care and esthetics. However, Sparacino thinks staying in the rut could affect the practice’s bottom line as well.

“Materials continue to progress and with them come new techniques. By not adopting those techniques dentists are not realizing the efficiencies that come with them and potentially missing out on opportunities to make their practice more profitable,” Sparacino says.

Jean Madden, science affairs manager for 3M™, understands why clinicians would be cautious about switching their composite. They want to be assured of excellent clinical outcomes both for their patients and their practice with no unnecessary risks.

“We also understand that there are so many choices and so many different acronyms and marketing claims for direct composites that it can be intimidating and confusing to clinicians when researching new options,” Madden says.

“Dentists may hesitate to try new procedures outside of their comfort zone or embrace the latest innovations in new materials and restorative practices,” adds Beth Collington, director, digital materials and laboratory equipment for Zahn Dental.

Indirect advances
Jeff Lineberry, DDS, a private-practice clinician in Mooresville, North Carolina, says the science for indirect restoratives has changed a lot. He recalls a time not so long ago when all a clinician had for indirect restorative material was gold and porcelain fused to metal (PFMs). Now, indirect restoratives include porcelain systems, lithium disilicates and zirconia that are much more lifelike and strong.

Dr. Lineberry knows some older practitioners who only use gold and PFM for indirect restorations. He feels these practitioners are disregarding the benefits of newer materials.

“You miss out on a lot of great materials out there that are stronger, more esthetic and have the potential of giving patients a fantastic restoration that’s going to be long-lasting, especially when it comes to the indirect materials,” Dr. Lineberry says.

Most of the crowns Dr. Chi did in dental school a few years ago were cast gold and PFM. Much of the literature supports the use of PFMs. However, a common issue, Dr. Chi explains, is the porcelain will fracture off, and while it still protects the tooth, it loses the esthetic aspect of the crown. Dentists might continue using it, considering it a “normal” failure.

However, Dr. Chi says the newer, monolithic, single-material restoratives, such as a full zirconia crown, are more durable than a PFM. Zirconia is kinder to the opposing teeth and the esthetics are improved, so you don’t get that gray hue you can get with PFMs.

“Someone that might still be in that rut with an old material might not realize the huge improvement they would get by making that little switch,” Dr. Chi says. “The challenge is getting beyond their little bubble and giving it a shot, trying not to let that fear of this new scary material hold them back.”

Direct material developments
The science of direct materials has changed a lot also. Over the past four or five years, bulk fill composite resins have become a hot topic, Dr. Lineberry says.

Bulk fills allow the clinician to place larger increments of the composite resin, which means fewer steps. Bulk fills are designed to make direct restorations quicker and easier. Also, per Dr. Lineberry, research shows that when used properly, bulk fill composites are a viable option for direct restorations.

However, Dr. Lineberry, who writes about bulk fills and often lectures on composites, says clinicians have been slow to adopt bulk fills into their practice. He estimates there tends to be a five- to seven-year gap on average for new material adoption. He says there are two main reasons for this delay.

“Many people wait for at least three, five, or even seven years because they are watching to see what happens with the material,” Dr. Lineberry says. “The other problem is sometimes manufacturers rush materials to the marketplace. If you put a bulk fill out that doesn’t go well to start, it gets a bad name pretty quickly. Then, everyone starts lumping all the bulk fills in with the one that was rushed.”

Laura Olenderski, global brand manager for Dentsply Sirona’s universal composites and flowable composites, says sometimes improvements in restoratives fix one problem but then create another.
For example, some advancements in restoratives are time savers, but they sacrifice the outcome or integrity of the procedure, specifically the durability of the restoration. Finding ways to avoid compromising integrity while improving the material is an area Olenderski focuses on every day.

“We’re excited about having found a way to improve these procedures but to do so without cutting corners and still providing the efficiency gains that clinicians are looking for to improve procedure profitability,” Olenderski says.

New materials, renewed passion
Dr. Chi agrees, adding that with anything new there’s always fear or uncertainty. Dentists have questions about performance, what to do if it fails, how to prep or cement. Also, with that change in material comes the difference in technique and usage of tools.

“They might go to a CE about a new thing and hear about these 15 required bonding steps and that may put them off,” Dr. Chi says. “Dentists like to stay in their little bubble. They’re on the front lines, and it’s tough to change from things they learned in the very beginning.”

On the other hand, trying new things and improving your knowledge base can also help keep a dentist enthusiastic about his or her restorations. Nate Lawson, DDS, Ph.D., says when he feels like he’s in a restorative rut, he self-criticizes his work and feels demotivated about his skills in the profession.

“If there are aspects of your restorative protocol with which you are unconfident or you start trying to cut corners, your restorations pay the price and they don’t hold up well. Then you think, ‘Am I doing a service to my patient?’ and you get depressed about the entire profession.” Dr. Lawson says. “You don’t stay up on your game.”

Dr. Lawson is the director of the division of biomaterials at the University of Alabama School of Dentistry. His background is in engineering, and he has always enjoyed the materials side of dentistry, learning about them and testing them. New materials bolster his passion for dentistry.

“When you find something new and you learn to do a procedure better, it reinvigorates you and makes you a better dentist,” Dr. Lawson says. “But it also makes you more productive. It can make you excited about doing dentistry again.”

Dr. Cohn says dentists who have been in practice for a few years get comfortable and technically proficient about what they do day in and day out. She agrees that trying new materials increases the dentist’s excitement about working. New materials also make the day more fun.

“Let’s face it, doing that same procedure day after day can get mundane. It’s a little bit boring,” Dr. Cohn says. “Using new, innovative materials will kick it up a notch. When we have a product, material or a technology that is innovative and new, it gives that much more to our patient in return.”

The impact of improved materials
Madden says 3M hears from clinicians that introducing a new restorative may require staff training, new techniques and changes to their inventory. Composite materials also have many considerations from handling to ease of use, physical properties to a range of shades. Customer service, price, staff training and practice workflow are all part of the equation, too.

“So, if a dentist chooses to change, they want to be sure what they choose will work for them and is made by a company they trust,” Madden says.

Collington says using improved materials can help fulfill patient expectations. She says patients are more educated about dental products that work to improve their experience at the dentist. It also means their expectations are higher, Collington explains. They expect their doctor to deliver optimal care.

“It benefits practitioners to deliver solutions using the most current, innovative tools, technologies and materials, which will also help them stay competitive,” Collington says.

“As patients, we go into a dental office with an expectation that the work that’s being done is going to last at least for a reasonable amount of time and meet our expectations visually,” Olenderski agrees. “We expect that the esthetic result will hold up not just physically but also in terms of appearance.”

Benefits patients notice
From a positive standpoint, everyone involved in the process from the front desk to the assistant to the clinician gets excited about providing patients with the latest restorative materials, Dr. Chi says. Patients also like having improved materials that look more natural—especially those that don’t break from time to time.

“It’s a great opportunity to build that positive connection when your patients know you are providing the most updated thing that is available,” Dr. Chi says.

However, there’s a learning curve with new materials, Dr. Chi says. It changes the workflow. New adhesives might be necessary to bond the glass ceramics, which might mean it takes longer to deliver a crown instead of conventionally cementing.

Communication with the lab also changes as well as the preparations. For example, a PFM has parallel walls and sharp corners, but with zirconia, you round things over, which could mean different tools or

Before: Lesions in tooth #2 and beneath amalgam restorations in tooth #3.

After: Tooth #2 restored with G-ænial™ BULK Injectable and tooth #3 restored with G-ænial BULK and G-ænial Sculpt® from GC America.
Research is an excellent way to verify marketing claims on a new material. As 3M’s Scientific Affairs Manager, Jean Madden handles the research for the 3M™ product line. She’s careful to create parameters in the research that would be meaningful to a clinician. For example, she chooses to compare 3M’s composites to the best composites in the market from reputable companies.

“We’re not picking obscure private label brands no one’s ever heard of because we know we can do well against them. We’re picking the world’s leading composite,” Madden says.

Madden says they also pick a benefit that a clinician will see and then have a third party verify that specific product claim. For example, a third-party research center in Amsterdam tested their claim about the low wear of a true nanocomposite and validated that the 3-body wear of 3M Filtek™ Universal Restorative is statistically lower than other composites tested and the most similar to the wear of human enamel.

“We’re validating all of our marketing claims as best we can with third parties because we know that’s more believable,” Madden explains.

Nikki Sparacino, Dentsply Sirona’s global manager of restorative procedure solutions, also recommends looking to your trusted manufacturers when trying new materials. Dentsply Sirona, like the other major manufacturers, has extensive in vitro and in vivo studies. Sparacino says they have rigorous requirements in place to launch products to ensure they’re meeting the expectations of their customers.

“Large manufacturers like Dentsply Sirona invest a substantial amount of money and time into research to test products prior to bringing them to the market,” she says.

Dentsply Sirona Global Brand Manager for Universal Composites Laura Olenderski thinks that if a company doesn’t have the research on the new product, it can be a red flag for dentists.

“If you see a new product on the market and ask for research or proof that it’s safe and effective, we’re going to have it for you,” Olenderski says. “And if a company doesn’t, then maybe that’s not the best place to jump in and try something new.”

Sparacino recommends looking to third parties for unbiased research. Dentsply Sirona engages with many different third parties for testing.

“A number of our products are the control products for third-party testing, which speaks to the amount of trust and confidence they have in our products if they’re using them as the control to test other products against,” Sparacino says.

Materials manufacturers want to talk to dentists in their language and realistic terms. To support this effort, Dentsply Sirona changed the way it communicated and marketed to clinicians a few years ago.

“Instead of focusing on the features and benefits of a product, we give them solutions to everyday restorative challenges they’re facing in these very common procedures and we focus on how can we make those procedures more efficient and predictable,” Sparacino explains.

In addition to giving them opportunities to hear about their materials from key opinion leaders and the clinician’s peers, part of Dentsply Sirona’s approach is to leverage the expertise of the direct sales force to help troubleshoot common challenges with restorations. They’ve invested in education and training for sales reps to ensure they’re equipped to answer questions a doctor may have.

Sparacino says their solution for Class II restorations, for example, gives clinicians a prescribed approach on how to restore them. When following this approach, clinicians have indicated they were no longer having some prevalent problems with composite restorations, such as sensitivity or premature failure.

“We have developed this complete solution that allows our sales team to troubleshoot with the doctor to identify where is the challenge, what is the issue that they’re having and then recommend a clear solution to address that problem,” Sparacino explains.

Olenderski adds that the consultative approach has helped everyone in the office get on board with the change in technique. She says it addresses the fact that it can be a challenge to break old habits or change how you work.

“‘We know that they’re going through challenges,’” Olenderski says. “‘It’s not always as simple as buying a new product and immediately being more efficient and knowing how to use it. So, it’s important to come with the ability to help them work through that transition phase, too.’”

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The materials used for restorative dentistry never stand still. The companies behind these products are constantly working to develop solutions that make restorations last longer, look more lifelike, and are easier to design, fabricate and place.

Some new products are small evolutions that build on a successful and established predecessor, while others are radical innovations that demand a unique categorization while opening new possibilities for treatment and long-term clinical success. Every new restorative material is designed with the same goal of being a better option for clinicians and patients.

Here are some of the current trends in the latest wave of restoratives:

**Dental composites**
- Improved handling and sculptability
- Deeper curing with bulk fill composites
- Faster placement
- Longer lasting
- Improved chameleon effects
- Simplified shade systems
- Gingival shade options
- Improved radiopacity
- Viscosity options

**Indirect all ceramics**
- Improved, lifelike esthetics
- Enhanced translucency
- Multiple shades in a single material
- Stronger crowns and bridges
- Better suited for all areas of the mouth
- Simplified tooth prep requirements
- Monolithic to eliminate delamination or veneer chipping
- Faster and easier processing (both chairside and at a dental laboratory)
- Kinder to opposing dentition
- No coping at the margins

**Bioactive restoratives**
- Composite-like handling and esthetics
- Improved marginal sealing
- Calcium, phosphate and fluoride release
- Available as liners, restoratives and cements
- Well suited for high-risk patients
- Reduced sensitivity

“**It’s a no brainer. You’re seeing kids and the shade matches. They’re ready. It’s just so easy,**” Dr. Cohn says.

Dr. Lineberry has been using new bulk fill composites from GC America because he likes how they handle and the overall outcomes of the restorations. The G-ænial™ Flo and G-ænial™ Universal Flo composites come in injectables and composites.

“The G-ænial Universal Flo product is stackable,” Dr. Lineberry says. “Flowable resins, when you put them in place, sometimes want to slump or run. This material has a much lower viscosity than a lot of the composite materials that you use, so it flows well, but then it stays where you put it.”

Dr. Lineberry also likes PANAVIA V5 from Kuraray, a dual-cure resin cement. He learned about it a couple of years ago from John Burgess, DDS, MS, at the University of Alabama who spoke highly of the product in his research. He uses it for bonding indirect restorations and likes it better than his previous adhesive.

“It is easier to clean up, and it’s a more user-friendly system overall,” Dr. Lineberry says.

Like most dentists, 3M’s customers said they wanted to increase efficiency and productivity in their practice. However, they didn’t want these improvements to come at the cost of esthetics or clinical outcomes.

Madden describes their latest 3M Filtek™ Universal Restorative as a universal composite with a simpler system and creamier handling. She says the physical properties are similar to their well-known 3M Filtek™ Supreme Ultra, but the new resin has lower polymerization stress, and the filler system offers improved radiopacity.

Also, 3M wants to reduce the number of restorative composites a dentist keeps in his or her inventory. Madden’s global market research says dentists have seven shades of composite in inventory. However, they use a single shade and opacity for 54 percent of their anterior restorations.

3M responded with a system that has only eight shades. They also added a new pink opaquer for blocking metal and dark dentin and an even whiter extra white for patients who bleach their teeth.

“These shades have been scientifically proven to provide coverage for all 19 shades of the VITA Classical Shades and extended bleach shades. Also, our shades target an opacity that’s between dentin and enamel to make them easier to blend with natural dentition,” Madden says.

“These improvements are part of an overall effort to simplify the restorative process. “We’re trying to make dentists’ lives easier,” Madden says.

Olenderski is excited about TPH Spectra® 8T universal composite restorative with SphereTEC™ filler technology. Incorporating this filler technology into the universal composite formulation improved the way the product handles, the esthetics and the durability of the restoration, Olenderski says.

“We’ve utilized the SphereTEC technology to boost our performance in those areas so that we can help the dentist and make improvements in the areas that are important to them,” Olenderski says.

The newest TPH Spectra ST composite has viscosity choices, so the doctor can work with the handling he or she likes best. Also, the chameleon blending effect of the composite allows five shades to cover the 16-shade classical VITA range, which is what Olenderski says makes it easier to shade match the patient and streamline office inventory. It also has excellent stain resistance, so it will retain its esthetic appearance over time.

“Research that we’ve done has shown that 88 percent of dentists are stocking more than five VITA shades in their office on average,” Olenderski says. “By incorporating this product, they’re able to reduce inventory expense.”

GlideWell Laboratories introduced BruxZir® Esthetic Solid Zirconia about a year and a half ago. Before the launch of the new esthetic material, BruxZir was used primarily in the posterior. The new product is more translucent than the previous version and can be used anywhere in the mouth.

Dr. Chi says this new material can make monolithic zirconia crowns and veneers rival the esthetics of the glass ceramics, such as lithium disilicate and lithium silicate. The translucency allows the material to mimic the appearance of natural teeth. However, it also maintains a 900 MPa flexural strength, double the amount of some of the glass ceramics.

“Those glass-based and feldspathic porcelain materials have been the go-to for esthetically demanding cases, veneers and anterior,” Dr. Chi says. “But now we have zirconia that meets that esthetic...
 requirement and on top of that gives you the strength of zirconia.”

Dr. Chi says that in the past, dentists had to decide if they wanted something strong or something esthetic for some of their restorations. However, the new materials give them a no-compromise option.

“It is so wonderful to practice at this time and know you can offer that for our patients,” Dr. Chi says.

Getting outside your comfort zone
Change can be more difficult for some people than it is for others. Dr. Lineberry recommends a clinician who’s reluctant to change materials explore why.

“In other words, just because your restorative works doesn’t mean it’s the best. Amalgam still works too, but it doesn’t mean you keep using it,” Dr. Lineberry says.

He compares upgrading to improved materials to a dentist’s mobile phone. Everyone carries a phone, but few people carry the 10-year-old model. Most have a model from within the past couple of years.

“It’s the same thing. You have to evolve,” Dr. Lineberry says.

The stakes are high with new restorative materials. Many clinicians, including Dr. Lineberry, are reluctant to try new things because it’s going to be in the patient’s mouth for the next several years. He recommends doing your own research on the material or asking your sales rep to provide research before you give any new restorative material a try.

“That’s what I do when any of the reps come in and want me to try a new material. I say, ‘Show me the research and I’ll consider it,’” Dr. Lineberry says.

Dr. Cohn also thinks that clinical decisions need to be made based on evidence. Sound science should drive early adoption.

“But beyond that, you need to look to the advice of people like the key opinion leaders that have made it their business to do that very early adoption and learn from their experience,” Dr. Cohn says.

Learning to use new materials
Dr. Lineberry thinks doctors should attend a hands-on course with the material. Continuing education is an excellent way to get comfortable with the improvements in restoratives.

Collington also believes a focus on continuing education will help a doctor who’s wary of trying new restorative materials. Fortunately, Collington says, the dental industry has numerous educational opportunities offered by leading clinicians, distributors and manufacturers.

“Clinicians can take advantage of these opportunities to better understand how innovative new products can create dynamic differences in their practices and patients’ lives,” Collington says.

“For example, at Zahn Dental, we offer live classroom educational sessions, monthly webinars and Zahn Academy, a resource-rich platform that includes 500+ videos and articles to help labs thrive.”

Dr. Cohn advises doctors reluctant to abandon what they’ve always done but who want to try a new material to start using the new material on a small sample of patients, people you can follow closely during that test period. Depending on the procedure, you can determine an amount of time with which you’re comfortable.

“Always base your clinical decisions on evidence and seek the opinions and experiences of experts in our field. Begin with a small number of procedures that you are able to follow closely and once you are comfortable with the performance of a given material, then grow from there. Always balance science and evidence with an open mind and willingness to learn,” Dr. Cohn says.

Sparacino also recommends talking to your peers or calling your local rep or the manufacturer to ask questions. They can help make dentists feel more comfortable trying something new that can improve the way they practice and the patient outcomes they deliver.

“Everything evolves over time. Some new technologies will improve profitability for the practice by making them more efficient in what they’re doing,” Sparacino says.

“Dentists should be open to exploring and learning new techniques so that they can realize those efficiencies.”

Advancing materials advance the industry
Dr. Chi believes the profession of dentistry will not advance unless dentists are open minded enough to embrace change and try new materials. He also acknowledges that there can be challenges and a learning curve, but the opportunity to learn is worth the risk.

“You could end up finding something that changes your outlook on dentistry,” Dr. Chi says. “You provide something better for your patients, and it could provide a renewed sense of connection with the work. That’s a cool opportunity.”

Materials are improving all the time as the science moves forward. Now, dental schools teach different techniques using different materials than they did 20 years ago. Dr. Lineberry points out that they aren’t doing it for financial reasons.

“It’s not because the manufacturers are making them do it,” Dr. Lineberry explains. “They are doing it because they are evolving with the science that’s out there.”

“Do not be afraid to step outside your comfort zone and try new things. There is so much support for you out in the industry. Your patients deserve access to the latest innovations in digital technology and accuracy of materials,” Collington says.

“As dentists, we never stop learning,” Dr. Cohn says. “All of the innovations that our dental world has to offer, we owe it not only to ourselves to try them, but we also owe it to our patients to evolve with that dental world we live in.”

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IN DECEMBER 2018, A 39-YEAR-OLD male patient from out of town reported to the office complaining of cold and sweet sensitivity on the maxillary left area of the jaw.

Visual examination revealed decay on the mesial marginal ridge and distal marginal ridge of tooth #13 as well as extensive buccal and occlusal decay on tooth #15 (Figs. 1-2). Bitewing radiographs and intraoral photographs were taken, which confirmed the above diagnosis and also exposed additional decay on the distal of tooth #12 (Figs. 3-4).

Treatments for the teeth were discussed, which included crowns, inlays, onlays and composite restorations. The patient requested that the restorations be conservative, be ideal for each tooth and also have longevity. It was decided to do ceramic inlays on teeth #12 and #13 and a ceramic crown on tooth #15. The materials selected reflected the strength and esthetics needed for the long-term service of the specific restorations.

Often, we work with outside laboratories to complete our restorative cases; however, considering the patient had a travel itinerary to keep, time was of the essence in this case. Managing the complete chairside workflow in our practice meant the patient could receive his restorations in the same day without an inconvenient interruption to his schedule. In addition, we could provide more control over esthetics, function and quality of any ceramic restoration.

**Treatment**

The tooth was prepped and the CS 3600 intraoral scanner was used to scan the preparation sites and surrounding dentition to create the digital model (Fig. 5). This digital model would be later used to plan the preparations in computer-aided design (CAD) software (Figs. 6-7).

The scan was saved in the patient’s chart in CS Imaging version 8 software. Due to direct integration, exocad ChairsideCAD software was launched directly from the patient’s chart and the digital impression was automatically transferred into the design software. This seamless interface not only saved time but also eliminated the risk for errors—import/export issues, opening the wrong file, etc.—that can sometimes occur when a dataset is transferred between software platforms.

Next, the inlays and crown were designed (Fig. 10), the occlusion was checked and the blocks were nested for ideal placement of the restoration in the block.

Once the design was complete, the job was sent to the CS 3100 Smart Milling Queue for chairside manufacturing (Fig. 11). The bicuspid restorations for teeth #12 and #13 were completed with the feldspathic ceramic in VITA Mark II block. The VITA Mark II block was specifically developed for use with CAD/CAM technology, such as the CS 3100. Its fine-particle structure ensures enamel-like behavior, natural abrasion characteristics and a translucency/chameleon effect. After the quick milling process, the restorations were completed with no thermal refinement processes, such as staining, glazing, or crystallization firing.

The molar restoration for tooth #15 was completed with lithium disilicate, or Ivoclar Vivadent e.max material. The CS 3100, a four-axis mill with multiple tools, cut the e.max blue block precisely, creating a smooth margin for a near perfect fit with no chipping at the margin, unlike other milling systems.

The IPS e.max CAD acquired its final strength of 500 MPa and the desired esthetic characteristics, such as tooth color, translucency and brightness, during its crystallization process. Time savings during the design phase allowed ample time for crystallization and glaze.

Once the milling was complete, the restorations were polished, the fit was verified and they were cemented in place (Fig. 12). Final control radiographs were acquired with the RVG 6200 intraoral sensor to confirm the fit of the inlays and crown (Figs. 13-14).
Key takeaways
Utilizing a chairside restorative system that connects each step in the process seamlessly from the first scan to the final restoration plays a key role in my practice’s ability to deliver quality results to patients. First, the CS 3600 intraoral scanner captures the digital impressions. From there, the clinical chairside version of exocad ChairsideCAD can be launched directly from the patient’s digital chart where the digital impression is saved. ChairsideCAD can be used to design single units, multiple units, implant restorations, veneers, bridges, or overlay wax-ups and fabricate restorations needed to correct occlusion and/or esthetics.

When designing in ChairsideCAD, the clinician selects the type of restoration and material to use. Next, he or she may continue the design using the typical CAD/CAM workflow: mark the margin; select a tooth from the anatomization library, or just let the software select the proposed tooth anatomy; and check the line of draw. The software can automatically adjust the proposed tooth to the preparation, creating contacts and an occlusion the clinician has preset in his or her preferences.

Once this proposal is complete, the clinician can inspect the restoration for approval and make any changes using simple tools. Finally, the restoration is sent to block nesting, modified if necessary and sent to the milling queue for fabrication.

Once the restorations are completed and taken to the mouth, there’s minimum need for adjustment. With my preferences preset—such as cement thickness, percent of occlusal and interproximal contact—I virtually have no, or minor, adjusting.

The most amazing thing about these restorations is the marginal integrity. It creates a margin I haven’t seen before with other CAD/CAM systems or from commercial laboratories—virtually smooth and radiographically like the patient has received his or her enamel back.

With control over the quality of the restoration in my hands, my practice was able to deliver first-class ceramics quickly with increased profitability and less overhead.

AT A GLANCE
1-4. Initial situation, extensive buccal decay on maxillary left second molar, and significant interproximal and occlusal decay on both bicuspid.
5-7. Preparation site was scanned using the CS 3600 intraoral scanner.
8-9. Inlays and crown were prepped, and rubber dam was removed for photos.
10. Inlays and crown were designed in exocad ChairsideCAD.
11. Restorations milled by CS 3100 milling system.
12. Final placement of the inlays and crown.
13-14. Final control bitewing radiographs acquired with the RVG 6200 confirm fit.

CS 3100
- Combines highly precise four-axis wet milling with top-of-the-line CAD software
- Delivers accurate and durable restorations for doctors seeking to offer patients same-day solutions
- Ideal for the milling of full-contour crowns, full-contour bridges, inlays, onlays and veneers

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TREAT MALOCCLUSIONS AND SLEEP DISORDERS CONCURRENTLY

Learn about this combination therapy with clear aligners and the Aligner Sleep Appliance®.

[by David Crumpton, DDS]

IN RECENT YEARS, OUR PRACTICE has been actively screening all our patients for known dental signs and symptoms associated with sleep disorders. These include patients who brux or grind their teeth, report they feel tired throughout the day, have a retrognathic mandible and suffer from malocclusions, among other signs.

Clear aligner therapy is one treatment we provide to address malocclusions. Knowing the correlation between malocclusions and sleep disorders, we had a dilemma in deciding what to address first. Fortunately, I discovered an ideal solution to this dilemma: combination therapy allowing me to treat my patients with clear aligners and the Aligner Sleep Appliance® from SleepArchiTx™ to address both conditions concurrently.

Case summary
A patient presented to the practice complaining that her husband and daughter had told her she snores, at times wakes up gasping for air, short of breath and appears to be choking. The patient also stated she hasn’t slept well for the last 20 years.

Our clinical findings included a body mass index of 27, a constricted maxillary arch, retrognathic mandible, high palatal vault, tooth occlusal wear, Class IV Mallampati restricted airway and a familial history of sleep apnea (Figs. 1–3).

When the patient was younger, she had four premolar extractions during orthodontic intervention. These had now slightly relapsed, causing anterior crowding and reclining of her premolar and molars. In addition to the snoring, the patient was diagnosed with Hashimoto’s disease, which has also been correlated with obstructive sleep apnea. She also had a previous diagnosis of periodic limb movements of sleep (PLMS), for which she was on a higher-than-normal dosage of clonazepam. Clonazepam has also been linked to causing sleep apnea.

The patient previously completed an in-lab sleep study, resulting in no significant hypopneic or apneic events. The study didn’t yield a diagnosis of sleep apnea or other related sleep disorders (Fig. 4).

Despite these results, the patient continued to seek medical evaluations due to her suffering drastically from poor sleep.

STEP 01 Diagnosis
To determine why the patient was still feeling excessively tired throughout the day, we collaborated with our dental sleep service provider, SleepArchiTx, and their board-certified sleep physicians to determine a diagnostic plan. The physicians recommended an in-lab sleep study that incorporated positive airway pressure titration with a nasal cannula into the lungs to record pressure changes that occur when the patient has PLMS. This type of study was selected because the physicians suspected the PLMS might be the cause of false results.

The test resulted in an apnea hypopnea index (AHI) of 7.4 and respiratory disturbance index of 31.1, establishing a diagnosis of obstructive sleep apnea (OSA). The patient demonstrated OSA with significant degree of obstructive respirations during sleep. The obstructive respirations resulted in fragmented sleep continuity. Treatment options included continuous positive airway pressure (CPAP), oral appliance therapy, or surgical intervention. PLMS were identified at 24.3 per hour (Fig. 5).

STEP 02 Treatment plan
At case presentation, the patient opted for oral appliance therapy, stating she wouldn’t tolerate the CPAP.

Given the patient’s anterior malocclusion and constricted upper and lower arches, clear aligners were selected to address the orthodontic corrections and the Aligner Sleep Appliance (ASA) was selected to address her airway deficiency. The treatment plan called for the patient to wear the clear aligners throughout the day. At night, the patient would wear the clear align-

Respiratory events are within normal ranges with an overall AHI of 1.3 events per hour of sleep and a REM AHI of 3.0 events per hour.

The technician described the patient’s snoring as light.

EKG showed an abnormal sinus rhythm.

Baseline oxygen saturation 96.7 percent and minimum oxygen saturation 92 percent.

Esophageal manometry was used to detect subtle sleep-disordered breathing events.

The patient demonstrated obstructive sleep apnea (OSA) with a significant degree of obstructive respirations during sleep.

This was in the form of rare apneic and more frequent hypopneic episodes, snoring and snoring-effort related arousals.

This resulted in an Apnea-Hypopnea index of 7.4 episodes per hour.

The Respiratory Disturbance Index (RDI), which includes effort related arousals as well as apneas and hypopneas, was 31.1.
ers and the Aligner Sleep Appliance to keep the airway patent.

**STEP 03 Case design**

This case was designed by first capturing the patient’s upper and lower arches, including the palate, using the iTero scanner and submitting the digital files to Invisalign for case setup.

Once the Invisalign ClinCheck was created, it was digitally submitted to SleepArchITx for case review (Fig. 6). SleepArchITx then planned the sleep appliance fabrication based on the proposed orthodontic movements that were performed by the trays worn throughout her treatment and retentive stage.

The aligner therapy was designed to improve the patient’s occlusion while increasing the oral cavity space to provide more room for her tongue. The orthodontic goal was to upright upper and lower arches to achieve posterior expansion and to procline the upper and lower anterior quadrants up to 3 millimeters per arch.

The Aligner Sleep Appliance (Fig. 7) is designed to retrofit over the clear aligners at every stage of treatment and allows for mandibular advancement as necessary to achieve airway patency. In this case, the patient’s initial bite was set at 2.5 millimeters from centric occlusion.

**STEP 04 Combination therapy appliance delivery**

Before delivery of the ASA, case review with the SleepArchITx clinical team was performed to discuss ASA delivery protocol, including future appliance adjustments that may be required as the patient progresses orthodontically.

The patient’s first set of clear aligners was delivered in the same visit as the ASA. The patient was shown how to wear her aligner trays and sleep appliance concurrently. The patient was instructed to change her aligners weekly and to wear the ASA over the aligners at night while she slept.

**STEP 05 Determining medical insurance coverage**

Since the patient’s initial sleep study reflected no significant sleep disruptions, this presented a challenge for medical insurance coverage for the therapy necessary to address her chief complaints. However, by properly evaluating the patient’s medical and dental history, a better diagnostic plan was achieved. The results of a second study yielded the appropriate diagnosis of obstructive sleep apnea.

Working closely with SleepArchITx and their medical billing team, our practice was able to get the patient’s case properly accepted for medical insurance coverage. In addition, the patient paid an out-of-pocket amount to cover the balance of the case fee.

**STEP 06 Follow-up and comprehensive care**

Along with the new sleep study findings, the patient’s sleep physician reduced the clonazepam dosage to minimize any OSA side effects the drug may cause.

As of March 2019, the patient has been in combination therapy, wearing her aligners and sleep appliance for just more than two months. We’ve had three follow-up appointments to ensure compliance and comfort of the therapy.

One adjustment has been made to the ASA, advancing the mandible forward to relieve residual snoring. At the third recall appointment, per the treatment plan, the next set of aligner trays were fitted with the ASA to ensure proper fit and evaluate for discomfort. Radiographs were taken showing stable condyle positions with improvements to the oropharynx (Fig. 8). A sleep study will follow to evaluate efficacy of the therapy now that the patient has been stabilized.

Upon results of the efficacy sleep study, the patient will be placed in long-term care management to ensure the therapy continues to be effective and no contraindications develop.

**Conclusion**

Under normal circumstances, this patient would’ve continued to suffer from her sleep disorders because the initial sleep study failed to properly identify her condition. As a result of our comprehensive and interdisciplinary approach to patient management, the patient now reports that the quality of her sleep has improved. She’s also happy with the improvements to her smile and how the aligners and the sleep appliance work so well together.

The patient appreciates the lower clonazepam dosage and reports she doesn’t have any more periodic limb movements.

**References:**


**ABOUT THE AUTHOR**

David Crumpton, DDS, is a graduate of Baylor College of Dentistry and a member of the Academy of General Dentistry, the Texas Dental Association and the American Dental Association. He has lectured and trained thousands of other dentists over his career, including on restoration and cosmetic topics. Dr. Crumpton has a private practice in Texas.
I love technology! I absolutely love it! Anybody want to go back to belt-driven handpieces? Didn’t think so.

We’re the luckiest generation of dentists, but one of my few regrets is I’m past the halfway point in my career. That means I won’t get to use as many of the incredible changes today’s graduates will find routine by the time they’re in my place in their careers.

However, advancement means change, and change means adaptation. Most of us prefer the status quo over integrating change into our systems. But honestly where’s the fun in that? Dentistry is about improving our patients’ lives. You can’t do that with a belt-driven handpiece.

The focus of this issue of Dental Products Report is to get you out of your restorative rut, and my focus as Technology Evangelist is to routinely encourage you to step outside of your comfort zone. So, this month let’s take a look at ways to help you improve your restorative procedures by using some new concepts and technologies.

**Anesthesia**

Although the technology has been around for a while, I’m still frequently asked about The Wand® or its big brother, The STA®. These systems provide what’s referred to as “Computer Controlled Local Anesthetic Delivery,” or CCLAD for short.

Generally, there are three things that cause pain from dental injections. First is the stick of the needle. Second is the burn from the pH difference between the anesthetic and the human body. Third is the pressure of liquid displacing tissue. It turns out most of this pain can be eliminated by very slow anesthetic delivery.

I’ve never met a dentist who didn’t give perfect injections. However, when I began using CCLAD, patients were singing my praises like never before. It turns out my injections weren’t as painful as I thought. Until they were...if you know what I mean.

CCLAD devices use a system that injects super slowly. Even if you think you can do this, the machine does it better. It’s also a benefit that the handpiece looks much more like a drinking straw than the medieval stainless steel syringe patients are used to seeing.

There’s also a new device from Septodont called the Dentapen. It’s a self-contained system that provides CCLAD in a handheld device. It’s sleek, high-tech looking, and weighs only 40 grams. I haven’t had a chance to get my hands on one yet, but I’m planning on putting it through some clinical trials soon.

**Electric handpieces**

As we’ve evolved with bonded restorations, preparation designs have changed, but the way we create them hasn’t. Simply put, most offices are still using air turbine handpieces.

I used to be one of those doctors. Then a few years ago, I was asked to help with development of an electric handpiece system. In order to make sure I got enough experience to provide feedback to the company, I switched my primary operatory over to the electric system. I was immediately blown away. You can’t truly appreciate the advantages of electrics until you use them clinically. In a very short time I was hooked. The experience was akin to riding a bicycle and then getting on a Harley. Going back was simply impossible.

My current favorite is the Bien-Air iOptima. It uses an iPad as the controller, and you can dial in the exact RPM. The system is incredibly versatile, offering the ability to do restorative, endo, implants and a piezo scaler.

Prepping with an electric is easier on both doctor and patient. Gear-driven electric handpieces don’t stall, allowing them to operate at lower RPMs. You can prepare with less noise as well. Electrics are to handpieces what digital is to radiography.

**Isolation**

Battling saliva during bonding procedures is something we all deal with. Isolation is critical to clinical success and efficiency. Fortunately, there are products designed for when it seems like you’re “working under water.”

Isolite 3 from Zyris is the big dog of this category. A versatile system, it provides suction and has a built-in bite block. It also functions as a cheek and tongue retractor as well as providing a bright white LED for illumination and an amber light for bonding. This illumination is tremendously helpful.

For efficiency and ease of use, you can’t do much better. By keeping a dry field, restorations have less chance of moisture-induced sensitivity and a longer life span because of better bonding.
Magnification
Statistics show more than 80 percent of doctors are working with some type of magnification. If you really want to perform better, it’s a requirement that you see better, so if you really want to up your game, up your magnification!

My modus operandi is to do hygiene at lower magnification because it provides more of a “big picture” view. Being able to see almost a quadrant helps me to understand the overall scheme. However, there are times I want to see closer, and when I’m doing clinical procedures, I want as much magnification as I can get.

I’ve got a couple suggestions to round out your armamentarium. Orascoptic has a couple of products designed to provide multiple magnification options.

First is the Orascoptic EyeZoom which puts three levels of magnification in a single frame. Rotating the barrels of the telescopes move them to different levels. They’re incredibly comfortable and easy to use.

The second product is the Orascoptic OmniOptic which allows you to swap different telescopes into a single frame. The frames are custom built for the doctor’s optics, and you purchase the telescopes in the magnification levels you desire. This allows you to have just the levels you need. The optics are easy to change, snapping into the frame via secure magnets.

I also recommend some type of auxiliary lighting attached to your frames. I tend to work at 4.5x to 5.5x routinely and increased magnification means more light is needed. However, I recommend you buy a system with variable brightness levels. Working at maximum brightness can create eye fatigue and cause some operators to lose some depth perception. Giving your eyes a break at a lower brightness level can be smart.

Wrapping up
To do better requires a constant effort, and sometimes knowing where to change to get better can be daunting. I think one of the important things we need is coaching. All of us can benefit by someone making some suggestions. Michael Jordan had a coach, Tiger Woods has coaches, successful CEOs have coaches.

What I take away from that is the simple fact that no matter how good you are at something, there are always things you can do to get better. Oh, and sometimes those things can be outside your box of comfort. So, take a look at some of these suggestions and see if there are ways here or in other aspects of your practice where you can get better. Stepping outside your comfort zone is difficult, but I’ve found it always pays off—big. Keep dreaming and keep improving.

DR. FLUCKE’S TECHNOLOGY UPGRADES

Product Category: Anesthesia
Old Tech: Syringe and Needle
New Tech: Computer Controlled Anesthetic Delivery
Examples:
- The Wand® from Milestone Scientific – milestonescientific.com
- Dentapen from Septodont USA - septodontusa.com

Product Category: Handpieces
Old Tech: Belt-drives; air turbines
New Tech: Electric motors
Example:
- iOptima from Bien-Air – dental.bienair.com

Product Category: Isolation
Old Tech: Rubber dam
New Tech: Isolation and retraction systems
Example:
- Isolite 3 from Zyris – zyris.com

Product Category: Magnification
Old Tech: Standard loupes
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5 ways to reduce coding stress

Follow these best practices to create a more efficient and profitable office. [by Patti DiGangi, RDG, BS]

F rom seeing patients to writing treatment plans to keeping up with the latest innovations and technology, dentists are very busy people. In addition, dentists are running a small business and all it entails, including management and continued staff training.

Many practices have billing systems that file third-party claims. For many, there could be a better way.

These “better ways” or best practices could help dental team members to code more effectively, thus increasing claim approvals and leading to more efficient collections. These five best practices in coding can also reduce stress.

1. Use the most accurate code
As professionals, our coding obligation is to use the most accurate code to describe the procedure performed. Coding for what you do is a fundamental rule for all coding.

Many practices have experienced a third-party payer remapping (or down coding) their submissions. Carriers don’t automatically change a dentist’s submitted procedure code to a less complex or lower-cost code. A submitted code may be changed when a professional review of the submitted charges and supporting clinical information such as X-rays, photographs, periodontal charting, narratives and treatment notes indicate the original coding may have been inappropriate.

This leads practices to think codes can be used based on a plan’s coverage. Treatment plans must be developed according to professional standards, not according to provisions of an insurance contract.

This has been discussed many times in regard to the practice of alternating codes D1110 and D4910. Mark Rubin, JD, legal counsel for the American Dental Association, stated in 2006: “Knowingly alternating the D1110 and D4910 to maximize insurance benefits would constitute fraud. We must code for the procedure being performed. By doing otherwise, the attorney general could make a convincing case for prosecution.”

Treatment should always be based on clinical need and not on covered services.

Most dental professionals are caring, ethical and honest and...
Third-party carriers include these clinical practice guidelines when determining coverage. For example, the “Professionally-applied and Prescription-strength, Home-use Topical Fluoride Agents for Caries Prevention Clinical Practice Guideline (2013)” made evidence-based recommendations after a thorough systematic review of current scientific evidence.

When treatment recommendations are based on documented, well-supported evidence, stress is reduced by knowing the science behind what’s done.

3. Learn the AAP classification of Periodontal and Peri-Implant Diseases and Conditions 2017

Most periodontal coding flowcharts follow the same pattern. Care is for new patients, yet periodontal disease isn’t dependent on when a patient enters our practice. Further, most flowcharts divide care into treatment for periodontitis bone loss disease with little mention of gingival disease. This is also too simplistic for the large variety of patient conditions.

Most practices are still using these treatment case types:
- Type I: Gingival disease
- Type II: Mild periodontal disease
- Type III: Moderate periodontal disease
- Type IV: Advanced periodontal disease

These treatment types were created by the AAP for the purpose of third-party insurance payment. These shouldn’t be confused with disease classifications.

On June 21, 2018, the American Academy of Periodontology (AAP) published its “Classification of Periodontal and Peri-Implant Diseases and Conditions 2017.” This document includes a staging and grading system for periodontitis and classifications of peri-implant disease. And for the first time, there aren’t only classifications of disease, but there are classifications for health.

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4. Document your diagnosis

Dentists and all clinicians must become more involved in coding. Most often, coding is left to business professionals. In a fast-moving world, this can no longer be the case.

A major opportunity is made available by using diagnostic codes. Diagnostic information may affect how a claim is paid when specific dental procedures minimize the risk associated with the patient’s oral and systemic health condition.

This is a best practice in action and moves professionals in the direction that will be required in the near future. The diagnosis codes reported on the claim with the service rendered is to justify to a payer why a service was performed. The diagnosis reported can determine the medical necessity of the procedure.

This isn’t limited to medical cross-coding. Both the ADA claim forms and the HIPAA standard electronic billing transactions are able to report up to four diagnosis codes per dental procedure in Box 34A.

Routinely documenting the diagnosis and information supporting the diagnosis can significantly reduce rejections and the request for more information, thus reducing stress.

5. Commit to lifelong learning and training

CDT codes change for many reasons, including the introduction of technology, materials, or techniques that have led to new procedures. Codes are updated annually with new, revised and deleted codes.

Practice management software is also updated annually but may not include the entire CDT code entries. This could lead to mistakes, errors in understanding and inappropriate coding.

Therefore, ongoing, annual training is needed. This shouldn’t be limited to those responsible for coding. Annual training and updates are necessary for everyone in the practice, particularly the dentist.

Learning together creates communication and reduces stress.

Continued evolution

The world moves much faster than it did just five to 10 years ago, and there’s more competition than ever. It’s easy to fall behind. Coding competency is extremely important in the revenue cycle. Avoiding all pain points isn’t possible, but it can be reduced. Coding will continue to evolve. Best practices will continue to change. Continuous learning is key to stress reduction and success.

ABOUT THE AUTHOR

Patti DiGangi, RDH, BS, is an international speaker who is passionate about prevention and working with dental professionals to improve practice profitability. Patti is the author of the DentalCodeology™ book series for busy dental professionals. Patti also holds publishing and speaking licenses with the American Dental Association for current dental terminology and SNODENT diagnostic coding, and she recently authored a chapter in the American Dental Association’s CDT 2017 and CDT 2018 Companion titled “D9000 – D9999 Adjunctive General Services.”
Are dental software contracts ‘rigged’?

If you don’t know how to play the game, you’ll end up with a losing deal. [by Mike Uretz]

With the explosion of new dental software capabilities, chances are your DSO, group, or practice is looking at changing your software, in the middle of purchasing new software, or upgrading your software to a new version.

In any case, the most critical path to your success is negotiating a software contract that assures you get the best deal and gives you adequate protection into the future.

Unfortunately, having the experience of many years of negotiating both dental and medical software agreements, I can tell you with certainty the system is rigged in favor of the vendor. You start behind the eight ball, and unless you really know how to play the game, will wind up with a poor deal and a losing contract.

And don’t think you can just pass it all off to your attorney. Unless your company attorney has years of specific software and IT contract negotiations, you should be concerned.

Different type of deal
Dental software contracts are much different than the standard contracts and agreements. It’s important to understand that there are many “business” issues that need to be addressed in a successful software contract. If you don’t personally take control of these issues and decisions from the outset, it can be a recipe for disaster. That’s what many software vendors are counting on.

They usually get what they want because the groups and practices they are selling to either don’t have the knowledge to question all the aspects of their contracts and agreements or they just choose to keep their head in the sand during the process. Business issues regarding your software contracts and agreements need executive management involvement and decision-making as well.

I can’t tell you how many times over the past years I’ve been contacted to review software contracts for a group or practice after their attorney had input and I still found many items not addressed or that could’ve been negotiated further to avoid issues down the road.

Ask questions
Don’t let your software vendor intimidate you into believing you shouldn’t question every aspect of both your deal and your contract. An example is the time when I was helping a large group negotiate their software agreement and I insisted the vendor structure a very detailed support agreement as an addendum. This support addendum was meant to spell out situations and associated metrics regarding support assurances as well as remedies if the vendor didn’t meet what was agreed upon.

Instead of the vendor appreciating what we needed in order to get the deal done and work with us, they argued they had never structured a support agreement like this in the past, they weren’t going to do it now, and they didn’t need it because they’ve never had a problem with support.

They said I could check with some of their customers to confirm this. They didn’t get the point. Whether they did supply good support or not in the past was irrelevant to structuring a solid support agreement to protect my client from issues that could occur in the future. When they kept arguing we didn’t need a detailed support agreement, we decided to go elsewhere.

Prepare for change
What about vendors trying to hold your patient data hostage by demanding, even after you terminate the contract, you pay them everything you supposedly owe or they will not give you access to your patient data? What if their software had issues or they didn’t provide good support? Does that give them the right to keep your data until you “pay up”?

One group came to me after the fact. They had numerous issues with their vendor, yet the vendor refused to give them their data. The group hadn’t thought about this when they were signing the deal.

There was another group that approached me after they decided to purchase new software. Their original vendor was going to charge an exorbitant amount to transfer their data to the new system. The group should’ve addressed this in the contract with a transition clause.

These are the types of issues management of a DSO, group, or practice needs to be involved with. They’re business issues reflected in your contracts.
Cloud concerns
If you happen to be contracted with a cloud-based software vendor, you assume you’ll always have backups, and if something should happen to your data, it can be easily recovered. However, there was a situation where a group found out its software vendor didn’t have good backups. When there was an issue with their database, the vendor claimed they weren’t responsible for all the manual work to recreate their patient data. You would’ve thought the software contract would address this and vendor would pay for the recovery. However, when I asked to see the group’s previous software contract, this wasn’t addressed. Again, another business issue the group should’ve thought about during the contracting process.

Games and deals
Do you assume just because your software account manager or salesperson tells you you’re getting the best deal possible that it’s true? Don’t kid yourself. You need to be aware of the game vendors play.

I was helping a group negotiate a contract and when I reviewed the proposal along with the terms they were offered, I thought they could do better. The purchasing manager of the group assured me he had negotiated the best deal available. After making my case, he finally agreed to let me see if we could get more. After a few phone calls and meetings with vendor management, we did get some large additional discounts. It pays for you to know the game, or at least think about it, because the software vendors definitely do.

The above examples are just a handful of concerning items in dental software contracts and agreements. There are many more to be aware of. Remember, software vendors aren’t necessarily your friends. They aren’t there to look out for your best interests. They want to make the best deal for themselves, as they should. You should be skeptical of what you’re presented with until you’re certain you’ve been thorough to get the best deal and contract for your DSO, group, or practice.

For more information on taking control of your software deal and contract, download the e-book “How to Survive Your Dental Software Contract—Tips from an Insider” at dentalsoftwareadvisor.com.

ABOUT THE AUTHOR
Mike Uretz is a nationally recognized dental software, IT and health Records (EHR) expert. He is the founder of DentalSoftwareAdvisor.com. As a leading industry consultant and educator, Uretz has helped DSOs and dental groups evaluate and select software vendors and solutions, structure and negotiate vendor contracts, and provide vendor management. He also has assisted dental clients with obtaining millions in technology subsidy payments through the EHR Incentive Program. Mike can be reached at mkeu@dentalgrouppartners.com or 425-434-7102.

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Is it time for your practice to run a network assessment?

As your network grows, the likelihood of hidden issues increases.

[ by Dr. Lorne Lavine ]

Most dentists I communicate with are very aware their personal computers literally have a life of their own. Like children, the older they get, the more prone they are to rebelling, which takes the form of a general decline in performance and often an increase in the frequency of crashes and frozen screens. That’s because your personal computer changes every single time you go online, create new documents, import new files, open an email, install or delete an application, run a patch or software update, or connect a new peripheral. Everything you do is additive to that computer.

Even if you’re running updated virus protection software and malware filters behind a solid internet firewall (you DO have a firewall, right?), you’re still going to need to give your personal computer a professional tune-up every so often to get it back into peak operating performance. It’s no different than putting a patient on a three- to six-month recall schedule; we do that so we can catch problems at an earlier stage and be more proactive in how we handle those issues. The recommended frequency of your tune-ups will vary depending on how active you are with your PC.

The same thing is true with your practice’s network, except multiply the complexity of issues by the number and types of devices you have attached to it. Even the most basic network these days has a firewall, a server or two, a few desktops and laptops, some mobile devices, tablets, sensors, cameras, and probably a couple different operating systems. Maybe you also have a wireless network for patient use, a network printer and a Voice-over-IP (VoIP) phone system. If you think a single PC changes a lot over time, think about all the “moving parts” that make up your entire network!

The bigger your network, the more users who are a part of it, and the greater the likelihood there are hidden issues lurking in the digital nooks and crannies where even seasoned IT pros rarely look. Think about how many people you’ve granted access to your network over the years. Are there any legacy security privileges still part of your network configuration for people who no longer should have access? When’s the last time you checked whether anyone opened an unsecured port to the internet, exposing your practice to potential attacks on your system or theft of proprietary data?

There are dozens of critical security and productivity problems that invariably develop as a network grows and ages. Most dentists have a hard time keeping up and an even harder time tracking down the issues. That’s why we recommend every practice that has a network, no matter how small or simple, regularly runs a simple network assessment scan at least on a quarterly basis. You should have your assessment performed by a qualified network technician who will be able to analyze the results and quickly cure any deficiencies, vulnerabilities and improper network settings. Of course, in the HIPAA era we now live in, it’s just as critical to ensure everything in place meets HIPAA requirements and you’ve taken proper steps to not only identify those deficiencies but to have a treatment plan in place.

When’s the last time you did a network assessment and what did you find? Speak with your IT provider, or feel free to reach out to me personally. It doesn’t really matter who does the assessment, but rather that it gets done on a regular basis by someone who knows what he or she is doing.

ABOUT THE AUTHOR

Dr. Lorne Lavine, founder and president of The Digital Dentist, has more than 30 years invested in the dental and dental technology fields. A graduate of USC, he earned his DMD from Boston University and completed his residency at the Eastman Dental Center in Rochester, N.Y. He received his specialty training at the University of Washington and went into private practice in Vermont until moving to California in 2002 to establish TDD, a company that focuses on the specialized technological and HIPAA needs of the dental community. He can be reached at drlavine@thedigitaldentist.com or 866-204-3398.
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6 steps to make any dental practice shine online

Here’s how to take the fear out of online patient reviews—and what to do when negativity happens.

[by Naomi Cooper, CEO, Doctor Distillery]

Let’s talk about one of every dentist’s favorite topics: online reviews. No matter how hard you’ve tried to ignore them, online patient reviews play an important role in marketing your dental practice. To understand why dentists have such a distaste for the topic of online reviews, let’s look at a strong parallel—why patients dread their
dental visits.

Patients are afraid of pain. They’re afraid of costs. They’re afraid of the unknown. Yet we all know when patients start taking care of themselves by seeing the dentist regularly, dental visits often become less invasive, expensive and intimidating.

The same logic can be applied to dentists and online reviews. Dentists might not know how to ask for reviews. They don’t want to come across as cheesy and salesy to patients. They’re afraid of potential fallout from a negative review. Yet the dentists who are proactive in managing their online profiles and actively ask for reviews on a regular basis find their practice in a less precarious and potentially more profitable place.

In the spirit of spring—and fresh starts—let’s clean up and beef up your online profile and attempt to take a more active role in managing your patient reviews.

1. Get started
You have to know where you’re starting from, and that means conducting an online audit of your online reviews to get a baseline. Take a few minutes to Google your name, any associates’ names and your practice name. What sites come up in search engine results?

If you’ve never done this before, you’ll find a host of online directories and websites have created a business profile for your practice. It’s completely up to you to keep track of where and how your practice is listed online.

At the bare minimum, each profile should be updated with the correct practice name, physical address, telephone number and website address. This is to establish consistency and to make sure you can easily be found by people who are already searching for you.

Pro Tip: Make sure every site is listed under the same name. You may understand that Dr. Joe Molar is the same as Molar Dentistry and Joe Molar, DMD, but prospective patients—not to mention search engines—may not be able to make the connection.

2. Sharpen your focus
Decide how to direct the majority of your efforts. It’s up to you as the practice owner to ultimately determine which web directories deserve the bulk of your attention. However, Google should be one of the top sites you focus on.

Google is still the most popular search engine of choice, and it only makes sense it will show their Google My Business (GMB) listings most prominently on every search engine results page. It’s imperative you optimize your GMB profile, including lots of positive patient reviews, to attract more customers.

After Google, choose at least one or two more sites where you’ll build out your profiles and direct patients to write reviews. Several of the most popular among patients are Face-


**Pro Tip:** It may take up to a week to verify your business on Google My Business, as they typically mail a postcard to your physical location to validate you are indeed the business owner. This is a safeguard to help prevent the wrong person from claiming a business on Google.

### 3. Set your practice apart

Once you’ve decided which sites you want to focus on, build out your profiles as far as each site will allow. Upload the practice logo and photos of the doctor(s) and pictures of the practice. Photos don’t have to be professional quality—clean, well-lit photos taken on your smartphone are perfectly fine.

Add hours of operations, choose services offered and highlight your business description. This is all in the effort of providing patients and Google itself with as much information about your practice as possible.

**Pro Tip:** Businesses with photos receive 42 percent more requests for directions and 35 percent more clicks to their websites than businesses that don’t include photos.¹

### 4. Get the team involved

Now, it’s time to start gathering reviews. This is where the office team comes in. The front desk staff and hygienists often have more time for one-on-one interaction with patients than the dentists do, so it’s crucial to get them on board.

Explain to them the critical importance of garnering positive reviews to the practice’s ongoing success (perhaps have everyone read this article!) and have each team member plan in advance to choose one patient each day who they ask for an online review.

**Pro Tip:** Gamify it! While offering patients incentives to post reviews is out of the question, creating a reviews-oriented challenge for your staff to meet can be a fun way to help motivate the team.

For example, set a goal of getting five new reviews on Google per month and when the practice hits that mark, lunch gets catered in one day from everyone’s favorite local restaurant. The whole team can then write reviews for the restaurant to support another local business.

### 5. Set expectations

In today’s digital world, everyone favors immediacy, but slow and steady wins the race when it comes to online reviews and reputation management. Online patients are savvy and expect consistency. It takes time to build momentum.

Collecting one to two good reviews a month over the course of a year is much more beneficial than getting 10 one month and none for the next six months.

**Pro Tip:** To automatically prompt patients to complete post-appointment surveys and write online reviews as well as to be alerted every time a review gets posted online, dentists should explore online reputation management service providers with strong track records in the dental industry such as Digital Air Strike (digitalairstrike.com), DemandForce (demandforce.com) and PatientPop (patientpop.com).

### 6. What to do if and when the inevitable happens

One of the reasons dentists shy away from online reviews is the potential for negative comments. This is completely understandable; everyone has heard the horror stories about dentists who have suffered serious business losses and others who even sued former patients over negative reviews. However, those stories are the exceptions, not the norm.

The truth is online negativity can happen to even the best dentist; however, it’s all about how you prepare and respond. Accumulating a treasure trove of positive patient reviews doesn’t only make you look good, but the practice’s repository of positive reviews actually serves to protect your reputation in the event a patient posts something less than ideal.

“Many dentists are afraid to respond to reviews, and rightfully so,” says dental marketing opinion leader Fred Joyal. “The wrong response can make matters worse, which is why online reputation management should be outsourced to a professional service.”

What do you do when and if you do get a negative review without a reputation management pro in your corner? Ignoring a negative review is certainly easier but can also be perilous. Online patients are discerning and fickle. They’re watching to see how businesses respond to negativity.

Take the high road by posting a positively framed response that demonstrates your practice is committed to righting any (perceived or actual) wrongs. Don’t go tit for tat with the reviewer about the facts represented in the post, even if the story doesn’t add up.

Simply acknowledge the patient’s comment and state you’re sad to hear about his or her experience. Offer the appropriate contact information, including a specific name and phone number, for the patient to discuss a positive resolution of the matter offline. It’s that simple.

**Pro Tip:** Keep your communications HIPAA-compliant by training the team to respond in generic ways that don’t reveal any identifying patient information. Refrain from mentioning or acknowledging names, vital information, appointment times, diagnosis and treatments.

No one likes to hear negative comments about themselves or their practice. Often, disgruntled patients just want to be heard. It’s up to you as the dentist and business owner to determine if one patient’s grievance will make or break your online reputation.

Start taking a more proactive role in managing your online reputation this summer—and see where it leads you and your practice for the second half of this year and beyond.

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**about the author**

Naomi Cooper is CEO and co-founder of Doctor Distillery. With nearly 20 years in the dental industry, Naomi is a respected dental marketing executive, consultant, author, speaker and industry opinion leader. A former VP of marketing for 1-800-DENTIST and chief marketing consultant for Pride Institute, she currently serves as a strategic branding and lead generation advisor to some of the most successful companies in the dental industry. Naomi blogs regularly about dental marketing at www.minoamarketing.com. For more information about Doctor Distillery’s services to the dental industry, visit www.doctordistillery.com or send an email to naomi@doctordistillery.com.

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Answering the question of dental chair armrests

Should dentists use a chair with armrests? Our ergonomics expert says yes and explains how to adjust them.

[ by Dr. Bethany Valachi, PT, DPT, MS CEAS ]

**QUESTION: Should dentists have armrests on their chairs?**

This is a great question and one I’m quite passionate about.

Studies support the use of armrests in the prevention of neck, shoulder and low back pain. Armrests have been shown to decrease muscle activity in the neck and shoulders of dentists, especially in the upper trapezius on the handpiece, or dominant side—areas where dentists tend to report a high incidence of pain!

Armrests will be more effective in resolving neck pain for some dentists than for others, depending on the etiology of the pain. However, in my live lectures, I perform a test on audience volunteers to determine if armrests would be helpful in decreasing neck pain. From the lecture test results, approximately 75 percent of dentists report decreased or eliminated neck pain when the arms are properly supported.

**Choosing the best armrest type**

Because the incidence of neck and back pain are so high among GPs, I consider armrests mandatory for them.

There are several styles of armrests on the market today: fixed, movable, swiveling, pivoting and telescoping. The style I’ve found that works best for most GPs is the 2D telescoping armrest (also called the “Relax” armrests by some vendors). This style of armrest moves in two planes: in/out and forward/backward with the operator, and it can be set at a specific height and resistance.

Pictured above are 2D telescoping armrests, an example of a popular armrest style for general dentists.

**Making correct adjustments**

Proper adjustment of the armrests is essential in preventing neck/shoulder problems. Adjusting the armrests too high can actually worsen neck pain, as it puts the levator scapulae muscle on slack and can cause neck stiffness and pain at the crook of the neck and shoulder. Muscle activity is lowest when the elbow rests are set slightly low.

Proper width adjustment (between armrests) also is important because armrests set too far apart will cause abduction of your arms. Positioning the armrests too far forward can encourage the dentist to lean forward, compromising operator posture.

Most companies will offer a two-week trial of armrests with your chair, so there’s no reason not to give them a try. Some companies, such as Crown Seating, can retrofit armrests to your existing stool. However you choose to do it, it pays to give your muscles a rest!

**ABOUT THE AUTHOR**

Dr. Bethany Valachi, PT, DPT, MS, CEAS, is author of the evidence-based CE video package “The Wellbody System for Dental Professionals.” Team members can earn 6 CEUs with this video training that addresses all the risk factors that contribute to work-related pain in dentistry to ensure a long and healthy career. Dr. Valachi is recognized internationally as an expert in dental ergonomics and has provided over 700 lectures worldwide. She has published more than 70 articles in peer-reviewed dental journals and offers additional dental ergonomic resources on her website at www.posturedontics.com.
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Infection transmission at the dental practice can occur through any number of methods, but perhaps the most frightening is via a sharps injury.

These injuries aren’t just limited to those directly working with patients. Whoever might come in contact with the potentially contaminated sharp instrument is at risk.

“One of these injuries expose workers to bloodborne pathogens that can cause infection. The most important of these pathogens are HBV, HCV and HIV. Infections with each of these pathogens are potentially life-threatening—and preventable,” states The National Institute for Occupational Safety and Health (NIOSH).

There are, of course, costs associated with sharps injuries—both tangible and intangible. According to the Center for Disease Control and prevention (CDC), costs can range from $71 to almost $5,000, depending on the treatment provided. Costs that are harder to quantify include the emotional cost associated with fear and anxiety from worrying about the possible consequences of an exposure, direct and indirect costs associated with drug toxicities and lost time from work.

Preventing needlesticks and other sharps injuries is avoidable, but, like so many other infection prevention efforts at the practice, it requires education, effort and diligence.

Safer medical devices
Environmentally speaking, practices should evaluate how and where sharps are handled and managed.

“Place sharps containers in the treatment rooms rather than in a central area, such as sterilization, to avoid transporting them and handling them any more than necessary,” says Mary Borg-Bartlett, president of SafeLink Consulting. “The CDC considers this the best practice for avoiding sharps injuries. The placement of the sharps container at point of use is essential.

In an effort to reduce needlesticks, the Occupational Safety and Health Administration (OSHA) further directs practices in workplace safety.

“As all employers should know, OSHA requires annual training in bloodborne pathogens (BBP),” says Karen Daw, a speaker and consultant. “Yet few are familiar with the Needlestick Safety and Prevention Act modifying OSHA’s BBP standard with a requirement for employers to ‘identify, evaluate and implement safer medical devices.’

Currently, OSHA’s BBP standard requires the use of engineering controls in the practice to prevent exposures from occurring. What the new act did was define engineering controls to include safer devices. Even if the practice has never experienced a needlestick, the standard was implemented to prevent injuries from contaminated sharps. The annual evaluation must include representatives from nonmanagerial positions and is documented as part of the practice’s exposure control plan.”

Even though the Needlestick Safety and Prevention Act dates back to 2000, many practices may simply be unaware of it.

The less contact employees have with sharps, the better. Mechanical methods are best to avoid physical, human contact.

“Use engineering controls to recap needles,” Borg-Bartlett says. “There are a number of devices available that are designed for this purpose. If the needle is to be recapped manually, then work practice controls such as the one-handed scoop technique should be used. Other work practice controls recommended by the CDC can include not bending or breaking needles, not passing a syringe with an unsheathed needle by hand, using instruments and not fingers for tissue retraction or palpation during suturing, and administration of anesthesia.”

3 steps to take to avoid sharps injuries
Sharps injuries can be stressful and costly, but a little due diligence and teamwork can go a long way toward creating a safe environment. [by Robert Elsenpeter]
Education
The best place to start a sharps injury prevention initiative is by ensuring that everyone in the practice is adequately educated.

“Just as my realtor once told me, it’s all about ‘location, location, location,’” Daw says. “I tell my practices that preventing sharps injuries comes down to ‘education, education, education.’ If the team doesn’t receive the proper information on how sharps injuries occur and how to prevent them, we can almost guarantee one.”

Understanding what instruction has already been provided, and then where incidents have resulted, reveals any training gap.

The CDC offers a resource to help practices develop their own sharps injury prevention program in its “Workbook for Designing, Implementing and Evaluating a Sharps Injury Prevention Program.” The workbook can be found online at cdc.gov/sharpsafety/pdf/sharpsworkbook_2008.pdf.

Culture
Maybe the most important component in preventing sharps-related injuries is embracing a culture of safety. This involves factors that influence overall attitudes and behaviors. A safety culture starts at the top with the leadership’s example, which is then passed on to the employees.

Safety culture shouldn’t be confused with environmental safety, however. Environmental safety is the physical, hands-on measures taken to ensure safety. Safety culture, on the other hand, is an overall attitude toward embracing safety.

There is, of course, a value to engendering a safety culture.

According to the CDC, “Some industrial sectors have found that having a strong safety culture is positively associated with productivity, cost, product quality and employee satisfaction. Organizations with strong safety cultures consistently report fewer injuries than organizations with weak safety cultures, not only because the workplace has well-developed and effective safety programs, but also because management, through these programs, sends ‘cues’ to employees about the organization’s commitment to safety.

While the idea of systematically adopting a safety culture is relatively new for the healthcare industry, there are some published studies of its effects in some healthcare organizations. Safety culture has been linked with both employee compliance with safe work practices and reduced exposure to blood and other body fluids, including reductions in sharps-related injuries.”

Creating or enhancing the practice’s safety culture involves influencing employee attitudes and behaviors, along with reducing environmental hazards.

Sharps injuries can be traumatic, stressful and costly. But, like so many other infection prevention efforts, approaching the issue with thoughtfulness, diligence and teamwork can help to prevent such incidents.
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NEXT MONTH: 5 habits of highly successful dentists

TOP 6
MISTAKES
DENTISTS
MAKE ON
PERSONAL
FINANCES

[ by Colin Nabity ]

Whether you’re an established dentist running your own practice or a sleep-deprived student closing in on your white coat, balance is vital to your success. Just like the treatment you provide, finding the proper balance in your personal finances is key.

Here are six mistakes we see dentists make on their personal finances and how you can avoid them.

01
Failing to adequately insure your income
The average person should at least consider purchasing disability insurance. But for a highly specialized medical professional, a disability insurance policy with a true own-occupation provision is a must have. It will protect your income if injury or illness prevents or limits your ability to perform the specialty you’ve dedicated your life to perfecting.

The same goes for term life insurance. If you have loved ones who depend on you, a term life insurance policy is crucial. It will cover outstanding debts, funeral costs and more if you pass unexpectedly.

02
Wasting money on insurance you don’t need
Chances are you’ll hear a pitch for permanent life insurance at one point or another. And chances are, you’ll never need it—or the higher premiums that come with it. Also known as “cash value life insurance,” these policies are far more expensive than term life.

As many doctors near retirement, they owe little to nothing on their mortgage, and their children are typically grown and no longer dependent on their income. For these reasons, locking in to whole life insurance policy that lasts a lifetime simply isn’t necessary.

03
Trying to manage it all by yourself
Doctors face two common realities that make it difficult to properly manage their wealth: a lot of assets to manage and not enough free time to do the job well.

Trying to manage every aspect of your finances is similar to a patient trying to treat oneself. You need a team of trained professionals who understand the products that best fit your needs. Often, this means separate individuals for investments, debt consolidation, insurance and taxes. The key is to leverage your professional resources to make smart financial decisions that are in your best interest.

04
Following bad advice from the wrong people
As a licensed medical professional, you expect patients to trust your judgment—but only to a certain degree. You should employ the same attitude toward financial professionals. Given their credentials, you should be able to trust their judgment. But once again, only to a certain degree.

Unfortunately, doctors are a common target for unscrupulous financial advisers. That’s why you need a reputable professional who values your needs above all else. To pinpoint your ideal adviser, ask for referrals from colleagues you trust. Then, thoroughly vet them yourself before signing on.

05
Depleting your wealth too quickly
Make a habit out of living below your means. Set aside a fair amount of your income to invest, save and pay down debt. By prioritizing your long-term and short-term goals up front, you’ll ensure you continue to build your net worth over time.

06
Doing nothing to grow your wealth
Overspending isn’t the only way to endanger your financial future. Plenty of risk also lies in doing nothing with your money. Simply setting it aside in a low-interest account may actually set you up to squander your assets down the road.

Instead, focus on steadily building wealth over time. This will help you to finance valuable endeavors in the future. From your child’s college education to your own retirement, long-term investments take time, patience and balance. It’s never too early to get started saving for your future self.
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