Dental imaging is a field that’s full of players and rife with emerging technology. Add to it the pace of change and the importance of better visuals for patient care, and you’ll understand why imaging is a hot topic for 2019.

What’s the state of dental imaging today and what can we envision for the future? How has this technology addressed the pain points in the dental practice and how can it improve the productivity of your practice? Perhaps, most importantly, what can we expect the investment of time and money to do for patient care and a practice’s bottom line?

We spoke with experts in the field about dental imaging. They shared their insight on the many tools available from loupes to video to digital imaging systems as well as the expanding areas of dental imaging that we can expect to see in 2019 and beyond.

How dental imaging improves the dental practice for clinicians

John Cox, vice president of technology for Henry Schein, has a specific definition he uses when he talks about excellent dental imaging. He sees it as the ability of any clinician to obtain the highest quality diagnostic images at the lowest possible cost to the patient. These images should be viewed for diagnosis and co-diagnosis benefit.

Cox explains that diagnosis refers to the fact that “you can’t diagnose what you can’t see.” Co-diagnosis means you share the image data with the patient for better case acceptance. However, sharing high-quality images has more implications too, including sending it to another clinical expert for referral or to a lab for design and fabrication. ...

SEEING IS BELIEVING

Start the new year with 20/20 vision in your dental practice. by Terri Lively

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Planmeca Viso™

Planmeca Viso™ is designed to surpass the expectations of industry specialists. It offers 2D, 3D and cephalometric imaging. The CBCT unit is said to incorporate the best of Planmeca’s 3D imaging technology to produce clear, diagnostically rich images by correcting motion, noise and distortion caused by restorations while substantially reducing patient radiation dose. With four integrated cameras and a live patient view, Planmeca Viso is engineered to improve patient positioning and image acquisition with freely positionable FOVs through a touchscreen interface.

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Planmeca
630-529-2300
planmecausa.com
CIRCLE RS #2

ZirClean™

ZirClean™ is a cleaning gel designed for the non-abrasive cleaning of the bonding surfaces of zirconia (and other prosthetic restorations) after intraoral try-in. The use of ZirClean will reportedly help to recover, improve and/or maintain the bond strength of zirconia restorations by neutralizing the phosphate contamination of zirconia (as well as ceramic and metal restoration surfaces) that occur during try-in.

How does ZirClean lead to improved patient outcomes?

ZirClean is a cleaning gel designed to optimize the bonding surfaces of zirconia and other prosthetic restorations. When trying-in a restoration prior to placement, the restoration can become contaminated with substances such as saliva. This contamination weakens the bond strengths of your cement and can cause restoration failures. After try-in, ZirClean helps to achieve reliable cementation results by removing this contamination, restoring the adhesive ability of the bonding surface and providing your restoration with the optimal cementation conditions for a successful restoration.

BISCO Dental Products
800-247-3368
bisco.com
CIRCLE RS #3

VOCO SolFlex

The SolFlex 170 is a compact desktop dental 3D printer custom-engineered for the dental office that’s said to excel thanks to higher printing speeds, more accuracy and the ability to print truly clear orthodontic appliances. An optional built-in laser sensor is engineered to measure the peeling forces to optimize the building speed. And with a wavelength of 385nm, the SolFlex 170 can print in the invisible spectrum of light, allowing for the production of truly clear ortho appliances without the yellow tint.

How will this 3D printer help to streamline workflows?

3D printing has dramatically enhanced workflow for dentists simply by providing them with the ability to quickly produce various appliances (models, splints, surgical guides, etc.), removing the wait time and hassle of sending an impression to the lab and waiting for the project to return — nevermind setting a second appointment for the patient. The SolFlex 170, VOCO’s advanced DLP dental 3D printer, delivers three important innovations: the patented Flex-Vat tray, Digital Light Processing (DLP) and optional Sensor Monitored Production (SMP). Combined, these features decrease material use while increasing resolution, accuracy and print speeds by up to 40 percent.

VOCO America
888-656-2564
vococareusa.com
CIRCLE RS #4
Start the new year with 20/20 vision in your dental practice.

We spoke with several industry experts to take a closer look at dental imaging possibilities in the new year and examine the technology’s effects on patient outcomes.

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Interested? Circle Product Card No. 05

Photo courtesy of Shannon Brinker, CDA, CDD

Shofu Dental Corporation | San Marcos, CA
SETTING UP YOUR PRACTICE FOR SUCCESS IN 2019

Continued from cover ... I recommend involving staff in the list making. Ask each staff member to come up with three areas in the office that need improvement. Then take their lists and narrow them down to the most important ones. Work on those really important ones and refer to the list down the road when you’ll likely want to make even more improvements.

Make staff buy-in
If you want to make a personal change, then you’ve got to really want to change. Otherwise you’re just paying lip service to the concept. In the office, you’ve got to make sure your staff is on board with you. If they aren’t “all in,” then the changes will be slow — if they happen at all. When people are in agreement, things happen. By getting everyone in the office pointed in the same direction and excited about where the practice is headed, success awaits!

Stay accountable
Like getting on a scale, we’ve got to figure out if we’re making progress when it comes to change. Often it’s a very measurable entity such as an increase in production or savings on supplies. The thing to remember is that a goal without accountability is called “hope.” Sometimes in the office this can mean holding someone’s feet to the fire, but if you’ve gotten staff buy-in, then they’ve already agreed to the change. That makes accountability easier.

Set timelines
Everyone likes to see progress, which is why timelines are critical. I’d much rather increase production by $5,000 per month in January than reach December and realize I wanted to increase production by $60,000 per year ($5,000 times 12, get it?). Life is like orthodontics. Gradual, low-pressure change is much easier on a system than rapid, high-pressure change. Make your goals attainable, and then frequently analyze them to see how things are going.

Expect the unexpected
One of my favorite quotes is from the military. It states, “No plan survives first contact with the enemy.” When you’re making changes, you’ve got to be fluid enough to roll with the changes they create or the changes that life throws at you that make your goals harder to attain. Expect that things may not go exactly as planned and devise ways to stay on course despite the obstacles thrown in your path.

This may even call for changing and rearranging the plan. However, know that every goal is attainable — it just may take a little hard work to get there.

Set realistic goals and stick to them
If January is your first month in private practice and you have zero patients of record, then a production goal of $3 million might be a bit optimistic. However, it is possible to get there in time by setting more reasonable goals for the short term. Setting goals that are currently out of reach and then becoming disappointed and angry with yourself or your staff members when they aren’t met won’t do a bit of good in helping to attain them. Instead, remember that “The journey of a thousand miles starts with a single step.”

Also remember that human beings love to default to the status quo. Often a goal is lost because we lose focus on that goal. Think of the gym on Jan. 1, and then think of that gym again on Feb. 1. The first month of change is critical. It takes human beings about 30 days to really settle into a change, making it part of their normal routine. Before that crucial 30 days, it’s much easier to just slide back to the old way. I tell my patients, “If I can get you to floss for one month, you’ll be a better flosser for life!” And when I say that, I mean it.

The road to mediocrity is paved with good intentions, but mediocrity means you’re just like anyone else. This year set some attainable goals and turn yourself and your staff loose on them. I bet you’ll be pleasantly surprised at what you can accomplish.

[ Dr. John Flucke ]
DPR editorial advisory board member and DPR’s chief dental editor 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.
Town & Country Dental Studios, has built strong lasting relationships with dentists across the country for over 50 years. As we say, we are “The Right Fit” for you and your practice. With Town & Country you get more than just a dental laboratory, you get a dedicated and experienced partner who will work with you to exceed patient expectations.

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5 tips for infection control precautions during flu season
These environmental hygiene tips will ensure your practice remains healthy for all patients throughout the winter. Learn more: http://bit.ly/DentalFluSeason

3 ways glass ionomers are changing restorative dentistry
Glass ionomers are perennial favorites for pediatric restorative dentistry, but these versatile materials have many uses in the dental office. Read more: http://bit.ly/GlassIonomers

Should you brush or floss first?
Brushing and flossing have long been touted as principle deterrents of gingivitis and periodontal disease, but the sequence of cleansing can result in greater plaque removal. Learn more: http://bit.ly/BrushOrFloss

Clicks & Picks
What dentists were searching and savoring in January @DENTALPRODUCTSREPORT.COM

3 MOST-VIEWED PRODUCTS
01 Rose gold Sonic Toothbrush Set
BURST Oral Care
02 MI Paste Plus®
GC America
03 TheraCal LC®
BISCO Dental Products

3 MOST-READ ARTICLES ONLINE
01 Top 10 worst states to be a dentist by Robert Elsenpeter
02 Are electric toothbrushes REALLY better than manual toothbrushes? by Renee Knight
03 6 emerging technologies that will change dentistry forever by Ryan Hamm

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Excellent resistance to marginal discoloration due to minimal water absorption

877.378.3548  EsteCemII.com

Interested? Circle Product Card No. 07
**CLEAR ALIGNERS**

**SureSmile Aligners**
The new SureSmile Aligners are designed and produced based on a digital impression scan and 2D or 3D imaging. The newly designed Elemetrix software is used, where all the data, including a photo of the patient’s face, is uploaded. An interactive diagnostic tool is engineered to register the digital treatment plan to the patient photo to ensure an ideal smile design. This end-to-end digital workflow is supported by CEREC Omnicam.

Dentsply Sirona
844-848-0137 | dentsplysirona.com
CIRCLE RS #8

**IMPRESSIONS**

**PowerMix™ Automatic VPS Dispenser**
Fast, effortless and portable, the new PowerMix™ Automatic VPS Dispenser is designed to deliver perfectly mixed, void-free impression material with the press of a button. Clinicians can reportedly fill a full-arch impression tray in 10 seconds or less. Weighing only two pounds, the PowerMix is easily transported between operatories. Fully charged, the PowerMix is said to dispense eight full 120mL cartridges.

CLINICIAN’S CHOICE
800-285-3444 | clinicianschoice.com
CIRCLE RS #9

**INSTRUMENTS**

**Sonic tips**
The Komet SonicLine instrument selection has been expanded to include two special Sonic tips for crown preparation, SF856.000 .018 and SF878K.000.018. After supragingival preparation has been achieved with the diamond rotary instrument of matched shape, the corresponding Sonic tip is employed to produce a precisely positioned and finished prosthetic margin and to enhance interproximal finishing. The tips reportedly create exceptionally fine crown margins.

Komet USA
888-566-3887 | kometusa.com
CIRCLE RS #10

**BONDING**

**KATANA™ Bonding Kit**
This kit allows for chemical bonding to zirconia by using PANAVIA™ SA Cement Plus Automix, with the option of CLEARFIL™ Universal Bond Quick. It reportedly allows dentists to follow the same protocol as resin-modified glass ionomer cement but with the added confidence of Kuraray’s legendary MDP monomer in the resin cement. KATANA™ is a multi-layered translucent zirconia, now available for chairside use with the CEREC® system.

Kuraray Noritake Dental
800-879-1676 | kuraraydental.com
CIRCLE RS #11
**[RESIN CEMENT]**

**EsteCem® II**
EsteCem® II, a dual-cured resin cement, reportedly doesn’t require light curing, etching (optional), surface agitation, additional primers or activators when used with Tokuyama Universal Bond. The quick application, 3-second tack cure and easy clean up is said to cut chair time, offering speed comparable to self-adhesive cements. The material is designed to have high bond strength in self-etch, light-cure or self-cure mode, offering flexibility to clinicians for all indications.

Tokuyama Dental America 877-378-3548 | estecemII.com
CIRCLE RS #12

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**[DRY MOUTH]**

**Moisyn™ Rinse**
Moisyn™ Rinse is designed to treat the symptoms of xerostomia, or dry mouth. The Moisyn product line is reportedly the first glycomics targeted therapy that has been shown in a clinical study to reduce pain and increase comfort for patients living with dry mouth. Moisyn products, including Moisyn Mist, a convenient spray formulation, are said to provide advanced relief from the symptoms of dry mouth while moisturizing and lubricating the oral cavity.

Synedgen 909-447-6858 | synedgen.com
CIRCLE RS #13

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**[HANDPIECE SYSTEM]**

**Integrated StarETorque Electric System**
The StarE Torque Integrated Electric System is said to combine the power and performance clinicians have come to expect from StarDental®, providing a user-friendly, 16-color display and a quiet yet powerful 200,000 RPM brushless motor for all procedures. With extreme versatility of e-coupling attachments and high-performance torque, the StarE Torque is engineered to reduce tooth structure, porcelain and metal much faster.

StarDental® 866-DTE-INFO | dentalez.com
CIRCLE RS #14

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**[TELEDENTISTRY]**

**Upgraded TeleDent™ platform**
The latest release of TeleDent™ is said to include an enhanced user interface, new task assignment capability, optimized synchronization, improved workflow, more efficient patient, provider and practice management, and new audio recording capabilities during appointments. TeleDent requires a MouthWatch intraoral camera for best results, and it can utilize virtually any Windows 10 tablet or laptop for local data collection and image capture.

MouthWatch 877-544-4342 | mymouthwatch.com
CIRCLE RS #15
Creating a strong bond

[ compiled by Kristen Mott ]

Thanks to recent advancements, cements and adhesives have made restoration placement simpler and stronger for dental professionals.

Whether dentists prefer a self-etch, total-etch or selective-etch technique, the latest innovations are making it easy for clinicians to find a product that works right for them. The formulas have also been updated to provide more consistent bond strength and to be more moisture-tolerant.

Over the next few pages, we’ve compiled some of the most popular bonding agents currently on the market. Whether you’re looking to switch to a new resin cement or you want to update your inventory with the latest universal adhesive, we’re sure you’ll find something in this roundup that piques your interest.

**ALL-BOND UNIVERSAL®**

- ALL-BOND UNIVERSAL® reportedly combines etching, priming and bonding in a single bottle.
- ALL-BOND UNIVERSAL® is designed to be used with both direct and indirect restorations, bond to all indirect substrates, and be compatible with all composite and resin-based cements without an additional activator.
- Available in a bottle or unit-dose delivery system.

**BeautiBond®**

- BeautiBond® is a HEMA-free, seventh-generation, self-etch, prime and bond all in one product.
- Unique dual-functioning monomers (phosphonic acid and carboxylic acid) are engineered to work independently to promote wetting and monomer penetration into the surface of hard tissue, achieving equal bond strength to dentin and enamel.
- With bond strengths similar to leading sixth-generation alternatives, BeautiBond® is said to be the one-step, self-etch adhesive for a wide range of clinical indications.

BISCO Dental Products
800-247-3368 | bisco.com
CIRCLE RS #16

Shofu Dental Corporation
800-827-4638 | shofu.com
CIRCLE RS #17
Cem EZ™
• Cem EZ™ is a dual-cure resin cement indicated for permanent cementation of crowns, bridges, inlays/onlays and posts.
• When luting restorations fabricated from zirconia, ceramics, resin and metal, Cem EZ is said to offer reliable bonding, long-term color stability, efficient adhesion with optimal viscosity and easy cleanup in a simple tack-cure procedure.
• It’s designed to be used with a self-etch, total-etch or selective-etch technique, and it’s said to be compatible with eighth-generation, universal bonding systems.

Zest Dental Solutions
800-262-2310 | zestdent.com
CIRCLE RS #18

CLEARFIL™ Universal Bond Quick
• This fluoride-releasing, universal adhesive with an MDP and amide-based chemistry is designed to provide a unique rapid bond technology.
• The new amide monomer rapidly permeates dentin and enamel, which reportedly eliminates waiting time and dramatically reduces water absorption.
• CLEARFIL is said to reduce technique sensitivity and application time without compromising bond strength, sealing or desensitizing.

Kuraray Noritake Dental
800-879-1676 | kuraraydental.com
CIRCLE RS #19

Ecosite Bond
• Ecosite Bond, a seventh-generation bond, is a light-curing, one-bottle universal bonding agent.
• The material is designed to be used as an adhesive on enamel and dentin with the self-etch, total-etch or selective-etch technique.
• Whether phosphoric acid etching is done beforehand or quick self-etch mode is used, Ecosite Bond reportedly demonstrates optimal bond strength in any situation.

DMG America
800-662-6383 | dmg-america.com
CIRCLE RS #20

EsteCem® II
• This dual-cure resin cement is said to build off Tokuyama Universal Bond’s quick application and compatibility to all restorative materials.
• It reportedly doesn’t require light-curing, etching (optional), or additional primers and activators when used with Tokuyama Universal Bond.
• With minimal water absorption, EsteCem® II is said to significantly reduce the risk of marginal discoloration and cracking.

Tokuyama Dental America
877-378-3548 | tokuyama-us.com
CIRCLE RS #21

G-CEM LinkForce™
• The G-CEM LinkForce™ system is said to feature strong adhesion to all dental substrates in all indirect restorations, including crowns and veneers.
• The system consists of three key elements: G-Premio BOND™, G-Multi Primer™ and G-CEM LinkForce™.
• G-CEM LinkForce™ is engineered to have excellent color stability and tooth-like fluorescence, and it comes in four shades and is available with four corresponding try-in pastes.

GC America Inc.
800-323-7063 | gcamerica.com
CIRCLE RS #22

Maxcem Elite™ Chroma
• Maxcem Elite™ Chroma is reportedly the first self-etch/self-adhesive resin cement offering a color cleanup indicator.
• It dispenses pink before fading at the gel state, telling dental professionals the optimal time to clean up excess cement.
• Maxcem Elite Chroma is said to be compatible with all indirect restorations.

Kerr Corporation
800-537-7123 | kerrdental.com
CIRCLE RS #23
Meron Plus QM
• Meron Plus QM is a paste-to-paste resin-modified glass ionomer cement, conveniently dispensed from VOCO’s QuickMix syringe.
• It’s designed to be tack-cured (five to 10 seconds), after which the excess material can be removed.
• Meron Plus QM is said to have a higher bond strength than its applications capsule version and exhibit nearly twice the bond strength as the leading brand in the paste-to-paste resin-modified glass ionomer cement category.

VOCO America
888-658-2584 | vocoamerica.com
CIRCLE RS #24

3M™ Scotchbond™ Universal Adhesive
• A single-bottle adhesive that’s said to provide uncompromising performance and bond strength whether used for direct or indirect restorations.
• It’s designed to be used in all etching techniques in both direct and indirect applications and on all dental surfaces without any extra primer.
• The formula is engineered to be moisture-tolerant and exhibit high bond performance and consistent bond strength on both moist and dry substrates.

3M
800-634-2249 | 3M.com
CIRCLE RS #25

ACTIVA™ BioACTIVE-CEMENT™
• ACTIVA™ BioACTIVE-CEMENT™ is designed to stimulate mineral apatite formation and the natural remineralization process at the material-tooth interface that knits the restoration and the tooth together, penetrate and fill micro-gaps, reduce sensitivity, and seal margins against microleakage and failure.
• It’s said to respond to pH cycles and play an active role in maintaining oral health with the release and recharge of significant amounts of calcium, phosphate and fluoride.

Pulpdent
800-343-4342 | pulpdent.com
CIRCLE RS #28

ONE COAT 7 UNIVERSAL
• ONE COAT 7 UNIVERSAL is a single-component, light-cured, universal adhesive that’s designed to provide exceptional bond strength to enamel and dentin.
• It’s engineered to be used for all application techniques, and it’s said to offer effortless bonding to materials such as gold, titanium, ceramics, zirconium oxide and composite without any additional primer or silane.
• The excellent marginal seal provided by ONE COAT 7 UNIVERSAL reportedly helps to minimize postoperative sensitivity.

COLTENE
330-916-8800 | coltene.com
CIRCLE RS #27

NATURAL ELEGANCE® UNIVERSAL ONE BOND
• This universal, single-component adhesive system is indicated for all etching techniques.
• It’s designed to bond composite resins to dentin, enamel, porcelain, zirconia, metals, alumina, lithium disilicate and composite restorations.
• It’s said to be compatible with light-cured, dual-cured and self-cured composites without the need for an activator.

Henry Schein
800-DSCHEIN | henryschein.com
CIRCLE RS #26

SpeedCEM® Plus
• SpeedCEM® Plus is a self-adhesive, self-curing resin cement with a light-curing option.
• With its optimized formulation and easy cleanup, it’s engineered to be suited for restorations made of zirconium oxide and metal ceramics as well as cementation of restorations on implant abutments.
• SpeedCEM® Plus is engineered to establish a reliable bond on dry and moist dentin after both light-curing and self-curing, and it’s said to be easy to distinguish from enamel and dentin due to its high radiopacity.

Ivoclar Vivadent
800-533-6823 | ivoclarvivadent.us
CIRCLE RS #29
Interested? Circle Product Card No. 30

High Ridge Brands

Firefly® BOYS Premium Travel Kit
Star Wars, Spiderman & Transformers
Kit Contains: Ziggy Suction-Cup Toothbrush, Holographic Cap, 0.85 oz Crest Kids Toothpaste, 4 CT Flossers & Reusable Pouch.
Item # 80326

Firefly® GIRLS Premium Travel Kit
Hello Kitty, My Little Pony & Secret Life of Pets
Kit Contains: Ziggy Suction-Cup Toothbrush, Holographic Cap, 0.85 oz Crest Kids Toothpaste, 4 CT Flossers & Reusable Pouch.
Item # 80311

Firefly® Light Up Suction Cup Toothbrush
Item # 40966N

REACH® TOTAL CARE
Floss Clean:
Reach Floss Clean helps remove plaque deep between teeth and along the gum line. The angled neck gets to hard-to-reach places while the floss bristles help in between teeth for a dual-action clean. This brush also has a tongue cleaner for a whole mouth clean.

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Using glass ionomers without a triturator

How GC Fuji® Automix LC is allowing more dentists to utilize glass ionomers in their practices. [compiled by Kristen Mott]

Information provided by GC America.
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- No need for etchant and adhesive resulting in less steps

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Saving time with a composite

How Ecosite Bulk Fill can be used to shorten procedure times yet maintain restoration integrity. [compiled by Kristen Mott]

Information provided by DMG America.

THE PROBLEM

Conventional composites require several layers to fill deep voids

When it comes to filling deep voids, most composites require several layers. This takes time to perform, making the procedure inconvenient and often uncomfortable for the patient.

THE SOLUTION

Ecosite Bulk Fill

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Achieving easy placement and long-lasting strength with an injectable composite

How G-ænial Universal Injectable can be used to create esthetic and durable restorations. [by Allison Halco]

G-ænial™ Universal Injectable is an injectable, high-strength, ultra-fine particle composite that’s said to have ideal viscosity, handling and adaptation characteristics to be used for long-lasting, esthetic restorations. The formula is designed to provide high flexural strength and wear resistance for durable restorations that retain their gloss for years after placement.

The injectable, shapeable material puts full control in the hands of the dental health professional, allowing him or her to create anatomy as he or she injects, with virtually no slumping or stringing. A clinician can place, shape and contour while injecting, providing a restoration that’s exceptionally strong and long-lasting.

“One of the first things I noticed about G-ænial Universal Injectable is how well this material handles and the ability of the resin to hold its shape while creating anatomy — a feature I would typically never consider with other flowable composites,” Dr. Cone says. “The nano-particle filler creates high flexural strength, ultra-high wear resistance and superior polishability. Incorporating G-ænial Universal Injectable into my daily routine just makes sense.”

G-ænial Universal Injectable provides excellent adaptation to the cavity for reduced occurrence of porosities and air bubbles, both of which could potentially compromise marginal integrity. With superb handling to the cavity preparation, it provides a clear solution for Class I, II, III, IV and V restorations.

“G-ænial Universal Injectable resin has so many applications. In regard to standard operative procedures, I am particularly fond of utilizing this material for Class I and II cavity preparations as well as Class V restorations. The viscosity of this particular composite also makes it ideal for small, esthetic Class III fractures and repairs of the incisal edge,” Dr. Cone says.

The injectable’s high-strength, ultra-fine barium-glass particles formula (150nm particle size, 69% wt filler loading) offers ideal viscosity as well as handling and adaptation characteristics that are optimal for use in long-lasting, esthetic restorations. The material is designed to be highly durable, exhibiting outstanding flexural strength and wear resistance.

The composite is said to be perfect for long-lasting esthetics, offering high gloss retention and resistance to discoloration. In addition, it’s engineered to protect against chipping and fracture, and it offers all-around excellent durability.

“One of the most notable features is the extremely high resistance to discoloration compared to other products I have used,” says Dr. Miles Cone, DMD, MS, CDT, FACP, of Nuance Dental Specialists in Portland, Maine. “This translates to high patient satisfaction and fewer remakes of long-term provisionals due to cosmetic issues related to staining.”

G-ænial Universal Injectable is designed to be stackable, easy to manipulate and, notably, to stay where it’s placed without risk of sticking to dental instruments.

“One of the benefits of G-ænial Universal Injectable that makes it unique is that even though it is a flowable resin, it really does not stick to my instruments,” Dr. Cone says. “This is really useful when I want to shape the material and recreate anatomy.”

The composite also features high radiopacity, making it easy to identify on an X-ray, a feature Dr. Cone says he appreciates.

“Another benefit of this material is the radiopacity — which of course enables easy radiographic visualization in deep cavity preparations,” he says.
Creating a strong bond with ZirClean™

How proper surface preparation can lead to optimal zirconia outcomes.  [by Robert Elsenpeter]

ZIRCONIA IS A POPULAR restorative material and dentists are using it more often. That’s because it’s a very strong material and its esthetics continue to improve, making the material even more prevalent. Unfortunately, zirconia presents a challenge for clinicians. After initial try-in, the surface becomes contaminated, and if not appropriately cleaned, it can lead to a poor bond or even restoration failure.

To address that issue, manufacturers have developed cleaning products geared toward zirconia’s specific demands. BISCO Dental Products’ zirconia cleaning agent is called ZirClean™, and it offers clinicians cleaning properties as well as exceptional handling and ease of use.

“The only surface that becomes contaminated by saliva during the try-in process is zirconia,” says Dr. Rolando Nuñez, DDS, clinical affairs manager, BISCO Dental Products. “Other surfaces just get dirty, but they don’t become contaminated — only zirconia does that — so ZirClean will remove the contamination that cannot be removed without specialized cleaners, and then it will allow the dentist to achieve optimum bonding to that surface.”

Decontamination

A specialized cleaning agent is only necessary because of zirconia’s unique material properties.

“When the dentist receives a zirconia restoration, he’s going to try it in the mouth to check on occlusion, check on fitting,” Dr. Nuñez explains. “And then the surface will immediately become too contaminated because the phosphoric lipids and saliva react with the zirconia surface. You’re going to have a depletion of the bonding sites.”

So the bonding mechanism will not be available,” he adds. “You don’t have any sites to allow bonding. Even if you have the proper primers and the proper cement, you won’t be able to bond to the surface, and that can lead to clinical failure — but only with zirconia. ... With zirconia, it is a must to use this material after try-in to make sure that you achieve proper bonding.”

Because of zirconia’s popularity, BISCO saw the need to create a specialized product.

“The reason why we developed this product is because zirconia has become a very hot restorative material,” Dr. Nuñez says. “It works well in the mouth. It has great indications, and now it’s become more esthetic than it was before, so the array of possible treatments are just massive. So if you have more people using the material, you have to make sure that you fill that gap where contamination is the main issue.”

Mechanism of operation

Previously clinicians didn’t have a specific agent just for decontaminating zirconia restorations. They were, of course, accepted methods, but none was perfect.

“Even though zirconia has got a good decade in the market, we’re still learning about it,” Dr. Nuñez says. “People were cleaning it with different things and it was not working properly. They were using water, then they were using some sort of acid. Then they were using sodium hydrochloride, then they were using stuff like sandblasting, which is mechanical cleaning.”

ZirClean goes beyond those decontamination methods, giving zirconia restorations the clean surface necessary for effective bonding.

“When it reacts with the surface, it does it via an alkaline pH,” Dr. Nuñez explains. “So the product is really a basic alkaline and it will react with that surface. That will remove that contaminated surface, exposing new bonding sites to do proper bonding. We have done all the testing; we did all the homework. It takes the zirconia surface back to where it’s supposed to be in order to achieve the bond.

“When [the surface is] contaminated, the bonding sites are depleted, and your bond strength is going to be very low,” he adds. “When you apply ZirClean, you have a pristine surface, and then you can achieve the proper bonding results.”

Improved capabilities

ZirClean isn’t the first product to address zirconia’s decontamination needs; however, BISCO sought to improve on what it saw lacking in other products, specifically handling and ease of use.

“Another product comes in a bottle, you have to put it in a mixing well, and then you need to use some sort of applicator to paint the surface and clean it,” Dr. Nuñez says. “We made it easier. We put it in a gel phase and put it in a syringe. Now all the doctor has to do is just squirt it onto the surface. It’s easier to apply. You don’t need to put it in a mixing well and use an applicator. You save a little bit of time, but I don’t think time is the issue. The problem is the convenience. With the syringe, you just put it on the zirconia surface, wait 20 seconds, rinse it away and you’re done. It’s a very, very easy material to use.”

ROLANDO NUÑEZ, DDS

CLINICIAN  TEAM MEMBER  INDUSTRY

ZirClean™

ZirClean™ is a cleaning agent designed for the nonabrasive cleaning of the bonding surfaces of zirconia, ceramic and metal restorations after try-in. It’s designed to help achieve reliable adhesive cementation results. The material is engineered for easy placement and cleanup.

*As compared to untreated samples. Data on file.

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Increase case acceptance with 3Shape TRIOS® MOVE

How this new system can be used to include patients in the treatment planning process. [by Nina McCollum]

COMMUNICATION WITH YOUR patients is one of the most important parts of presenting treatment options. You know an optimal path forward, and you can visualize the successful end result, but sometimes convincing a patient to proceed with verbal description alone can be a real challenge. 3Shape TRIOS® MOVE is a big step forward in patient communication and can help to increase case acceptance rates.

3Shape TRIOS is a high-tech intraoral scanner that transmits images to a nearby computer to allow for quick viewing and sharing of scans and images with patients. The old saying, “seeing is believing,” is even more relevant here, as patients can really see what’s going on inside their own mouths instead of relying on a verbal description or hard-to-read X-rays.

The new TRIOS MOVE takes sharing to the next level, with the computer and scanner positioned on a wheeled module that can easily travel to different exam rooms as needed. This apparatus has a flexible arm that allows the viewing screen to be brought down to each patient’s level and positioned at any angle to enable him or her to see what the dentist sees while suggested procedures are explained. Procedures play out on screen in front of patients via the TRIOS MOVE treatment simulator, showing patients the end result using their actual teeth and gums.

New York-based Dr. Dean Vafiadis, founder of the New York Smile Institute, has been using 3Shape TRIOS for years with great success. As a result, his practice is always one of the first to upgrade to newer and better options. What he likes best about the latest scanner is the wireless capabilities, which have been networked to allow images to be shared throughout all of the office’s computers. But there are many other improvements to the overall system in the new TRIOS MOVE model, and he and the others in his practice have noticed the changes.

“It’s faster and easier, and the menus are more intuitive,” Dr. Vafiadis says. “We can train a new person on this system in just a few hours.”

The system comes with a responsive touch screen, a swivel arm for custom positioning and long-lasting, rechargeable batteries for the scanner.

When patients can see the final results ahead of time, they’re more likely to accept a suggested treatment plan. Whether you focus your practice on orthodontics, cosmetic dentistry, or, like Dr. Vafiadis, use it for implants, temporaries and night guards for sleep apnea, the results are positive.

“We can scan a patient and send to the lab electronically,” Dr. Vafiadis says. “They’ll make a smile trial overlay on top of the patient’s teeth, and they can see it in 30 minutes. The patient might have come in just for a hygiene visit, but when we can show them the overlay, they’re convinced to go ahead with a whole smile makeover.”

It’s not just for cosmetic use though. Dr. Vafiadis goes on to describe how he uses the scanner for pre-planning for implant latents. Using the 3Shape TRIOS intraoral scanner and a CT scan, he and his team can merge the files in just a few minutes and plan the surgery right in front of the patient so that he or she knows what to expect.

“The technology is super-fast in terms of patient experience,” Dr. Vafiadis says.

What makes the 3Shape TRIOS MOVE system unique is not just the flexibility and movement afforded by the swivel arm and rolling unit but also the particular scanner used in the system. Dr. Vafiadis describes it as “the ideal tip size” for speed and accuracy of scanning over any other scanner he has seen. It’s also one-handed and can be operated by a single operator, instead of needing an assistant for retraction and multiple hands to handle the scanner and software.

“One-handed scanning is one of our favorite features of this system,” Dr. Vafiadis says.

Incorporating the cutting-edge 3Shape TRIOS MOVE into your practice can have a positive impact on patient communication and help to advance case acceptance rates.
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The reinvention of dental imaging software

Exploring new technologies that will enhance practice imaging capabilities.

You didn’t set out to build a dental imaging company. How did it happen?

It was 1995 and I had started a custom software company. Our major client had just released their first product, so we had some downtime while they developed the next set of changes.

My father, a dentist, was concerned with insurance companies destroying his radiographs, which, at that time, required him to submit the original X-rays with the claim. During my company’s downtime period, my father asked us to write a program to digitize conventional film, allowing for electronic transmission of copies to the insurance companies and other specialists. The insurance companies took notice and especially liked our format for saving and archiving the images in an unmodifiable format, which we patented. Later, equipment vendors asked us to modify our software for digital sensors, and we’ve spent the last 20 years refining our imaging products around that core technology.

What kind of trends are you seeing in the dental imaging arena?

For one thing, the role of hardware and software in the choice of dental imaging systems is shifting. Traditionally, the imaging platform decision has been hardware-driven. The strategy of many imaging vendors has been to provide “free” proprietary software that locks buyers to their equipment platform and future hardware upgrades. Other areas of medicine have insisted that equipment vendors adhere to open standards like the DICOM format and protocols. In contrast, dentistry has evolved into a fragmented landscape of hardware platforms that don’t work well together.

The costs of imaging equipment, including digital sensors, intraoral scanners and even CBCT, is coming down fast. When digital sensors were an emerging technology 10 years ago, it was “Doctor, you can buy a couple of digital sensors for your office or buy yourself a brand-new BMW.” Today you can get very capable digital sensors for a few thousand dollars. However, mixing and matching new equipment is complicated by closed legacy systems and proprietary data formats — especially when considering integration with practice management and clinical charting systems. As a result, there’s a much greater awareness of the importance of software in the dental practice imaging platform decision process.
What do you see for near-term innovation in dental imaging?

Even though it’s harder for imaging companies to separate themselves with equipment, there will be a lot of innovation, enhanced functionality and diagnostic tools coming from the software side. We’re on the verge of some significant advances in the areas of open integration, migration to the web and artificial intelligence applied to imaging.

While there has been a steady evolution of dental imaging in the last 20 years, the pace of change is going to accelerate with multiple major innovations that will come in the next few years.

I recently did a column on artificial intelligence (AI) for caries detection. Is that how you envision AI being used in imaging?

Caries detection is certainly an area in which we’ll see beneficial AI enhanced imaging software in the next year or two. There are several true AI applications for aiding diagnosis and doing other types of feature identification on images that are approaching commercial readiness.

We’re also very enthusiastic about incorporating AI into our imaging software from a clinical quality assurance standpoint. We foresee software that will help the dental office get good X-rays by using AI algorithms to analyze the image database and generate reports that highlight image quality issues and image acquisition issues. Let’s say a user has 50 percent more cone cuts than average. That might point to the need for additional training on positioning. If the X-ray generator is producing substandard images, then perhaps the settings need to be adjusted — or it may be time to buy new equipment. A range of quality assurance measures can be enabled with AI, which systematically analyzes huge image libraries for problems, associates them with potential causes and provides potential solutions.

You mentioned migration to web platforms as a coming trend. That migration has been slow in coming in the practice management space. What’s the situation in imaging?

There’s no question that migration to the web should be considered by practices of all sizes and types. The initial impetus is reducing costs such as purchasing local servers, IT support, maintenance contracts and time-consuming data backups. DSOs and large group practices are already moving to cloud-based imaging solutions due to the magnitude of these costs at scale and the need for platform standardization, data portability and central reporting across locations. Private practice owners often wind up doing a lot of DIY tech support. So in addition to cost benefits, moving to a cloud-based imaging system removes a source of frustration and distraction.

As importantly, migrating to the cloud facilitates gathering important practice data in one easily managed environment. A typical practice may start off with a 2D X-ray system. They later add an impression scanning system and then a cone beam. The vision is to overlay the 2D and 3D images for comprehensive diagnosis, treatment planning and appliance fabrication. Moving to a cloud-based platform makes it possible for us to provide the desired user experience and help dentistry realize the combined promise of these powerful imaging technologies.

Next-generation cloud-based imaging software provides secure off-site storage, eliminates manual backups and provides 24/7 accessibility from web-connected mobile devices.
Streamlining practice management with Eaglesoft 20

Why one dental office has been a loyal user of Patterson Eaglesoft software for 20 years. [by Nina McCollum]

Eaglesoft 20

Eaglesoft 20 is designed to empower dental practices to further streamline their efficiency and simplify their daily processes. The improved user interface features a fresher, more modern tooth chart, while the New Notes History functionality includes the ability to increase font size and change the color of note types.

VIRGINIA FAIRBROTHER

CLINICIAN  TEAM MEMBER  INDUSTRY

PATTERSON EAGLESOF

practice management software has been a top choice of dental offices for more than two decades. Version 20 is their latest, which was released in the summer of 2018. It offers significant upgrades that enhance and streamline all aspects of clinical and practice management.

At Fairbrother Premier Dentistry in West Hartford, Connecticut, Virginia Fairbrother had been part of Eaglesoft’s beta program, testing out version 20 before its release.

The Fairbrother practice has been using different versions of Eaglesoft since the late ’90s. The new version includes a number of new features that make the software well worth an upgrade.

Many offices are already familiar with the advantages of Eaglesoft, including multi-patient accounting for families, a one-button click from the scheduling window to open DEXIS to view radiographs, and the ability to create station-specific, custom views that are remembered on each computer within the office to suit individual preferences. But the free upgrade to Eaglesoft 20 with a support plan makes the initial investment in the software really pay off.

The new version adds enhancement and customization to Eaglesoft’s clinical platform, including broadened notes functionality, enabling users to add notes to the patient’s note history in a variety of font sizes and colors as well as adding notes more efficiently. Tooth charting has enhanced visual effects as well. “The look has improved, giving the user a 3D effect, so you can see multi-surfaces on the tooth,” says Fairbrother, who serves as practice administrator at Fairbrother Premier Dentistry. “The tooth chart change is subtle but is a definite improvement.”

Major gains come in the form of a “patient toolbar,” which includes picture icons to take you to any part of a record from tooth history to insurance to benefits. If you elect to include e-services in your software package, then you get additional functionality such as real-time benefits eligibility, e-claims, electronic statements and credit card processing — all from within the software. This helps to make all operations centralized and seamless.

There’s also an RSS feed for instant access to training, tips, resources and customer service at the Patterson Technology Center. “Even people unfamiliar with working in a dental office can be brought up to speed with the in-program training and tips available instantly in the RSS feed,” Fairbrother says.

In addition, you can start a customer service chat session from a link in Eaglesoft, linking you directly to actual employees based out of the company’s tech center in Illinois. “Patterson Eaglesoft wins in the area of customer support,” Fairbrother says. “There are free webinars, phone support, or you can use the chat feature. It’s very intuitive software and is updated twice a year to ensure continued compliance.”

If you’re unsure about your practice’s ability to upgrade to the newest version, Eaglesoft can do an audit of your systems to determine capability. The company will thoroughly handle all aspects of the upgrade to ensure a completely smooth transition with every facet of patient information being brought together.

“We have a holistic approach to our dental practice here,” Fairbrother says. “The all-in-one nature of Patterson Eaglesoft 20 is a great partner to how we run our practice here. It’s an excellent product that improves workflow and practice management functionality.”
Intuitive digital imaging with the CS 3600

How this intraoral scanner from Carestream Dental is streamlining digital workflows. [by Jo Donofrio]

WHETHER HANDLING RESTORATIVE, orthodontic or implant cases, the Carestream Dental CS 3600 intraoral scanner puts smarter scanning and easy digital impression capture in the dentist’s hands. With high-speed, intuitive and accurate scanning, dentists now have the power to create full HD 3D images, resulting in improved treatment planning, a streamlined workflow and outstanding clinical results.

“We listened to customer comments about intraoral scanning and learned that many felt it was too difficult to use and too time-consuming,” says Joe Andrasko, director of regional product management at Carestream Dental. “So the main benefits we wanted to emphasize with the CS 3600 were speed and ease of use.”

**Intuitive features, improved clinical outcomes**

The CS 3600 prompts the user at every stage, resulting in images that are fast and clear, whether it’s a quadrant or full arch. High-speed continuous scanning allows for an uninterrupted pattern of scanning, making dual-arch and quadrant scanning accurate, fast and easy and greatly reducing the time it takes to capture a digital impression.

“Our goal in creating a digital scanner is to enable not just our workflow but to digitalize any of the workflows that would have traditionally been done with an impression,” Andrasko says. “When you send a case to the lab digitally, they could be designing it within five minutes and ship it back the same day.”

With the CS 3600, the user doesn’t have to follow a designated scan path. Rather, the scanner recognizes where it has been and picks up very quickly where it left off, automatically removing soft tissue as it scans.

The simple user interface minimizes the number of clicks and helps to reduce the amount of training needed. Powerful features and smart tools like the Scan History Check, online soft tissue removal and the 3D margin line tool help refine the scan as needed. Live scanning warnings provide feedback in real time, indicating areas of the scan that lack detail and require additional scanning, which significantly increases scanning efficiency.

**Workflow integration**

The strength of the CS 3600 is fully integrating the data into the dental office workflow.

“With fast, accurate and easy digital impression capture, both dentists and patients are said to benefit from improved treatment planning and a streamlined workflow.”

A customer can plug the CS 3600 into his or her system and save the data directly to his or her server or network storage, making the scan accessible from any computer in the office, unlike a self-contained system that has to be wheeled from room to room.

The CS 3600 is also designed around patient comfort. For instance, users can choose the best scanner tip to fit the patient’s mouth, including a normal tip for general scanning and an interchangeable and unique side-oriented tip specifically designed to help scan in difficult-to-reach areas like the buccal, occlusal and posterior region. A posterior tip supports scanning the posterior region in children and adults with smaller mouths.

According to Andrasko, digital impressions are the gateway to enabling additional workflows.

“We offer more than just one product; we offer workflows and ease of use,” Andrasko says. “In particular, implant workflows and how the scanner technology integrates with cone beam computed tomography (CBCT). The question is how else can we use the data and merge it with other programs to improve patient results?”

**CS 3600**

The CS 3600 intraoral scanner is designed to put smarter scanning in clinicians’ hands. With fast, accurate and easy digital impression capture, both dentists and patients are said to benefit from improved treatment planning and a streamlined workflow.

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How to get more from your loupes

Why Catapult Education gave the Custom TTL Prism Loupes from Q-Optics its vote of confidence. [by Chad C. Duplantis, DDS, FAGD]

If a dentist was to hear the name Quality Aspirators, he or she would most likely think of a company that provides aspiration and vacuum equipment for the dental office. While this is a fair assumption, there’s much more to this dental company from Duncanville, Texas, that has been serving the dental business for more than 40 years. In that time, they’ve become an industry leader in manufacturing of dental surgical aspirators, fiber optic lights, endodontic aspirators and various other products.

Another area where Quality Aspirators excels is in dental vision technology. They’re the manufacturers of Q-Optics Prismatic Loupes and LED lighting technology. Most recently, they were the 2017 recipient of the Cellerant “Best of Class” Technology Award. With multiple players in the dental vision market, Quality Aspirators wanted to seek some expert knowledge regarding how their Q-Optics line of loupes performed in comparison to the other industry leaders.

Brent Downs, director of sales at Quality Aspirators, reached out to Catapult Education for its unbiased review of their product. Catapult Education, formerly known as Catapult Group, was founded by Lou Graham, DDS, in 2013. The group is comprised of various key opinion leaders (KOLs) and teaching professionals throughout the United States and Canada. These professionals are well-versed in many aspects of dentistry and have extremely unique interests in their individual practices. There was no compensation to these professionals for their evaluation of this line of products.

About the product
Q-Optics offers many options when it comes to dental vision. They have

Custom TTL Prism Loupes
Custom Through the Lens (TTL) Prism Loupes are precision-made to align to the user’s facial features. The True-Fit™ Digital Measurement System is said to take customization and alignment to the next level. Working distances are set to the nearest half inch, or centimeter for international customers, so that each loupe reportedly conforms to the user’s normal working position without forcing him or her to adjust to an off-the-shelf focal distance. All working distances are 10 to 26 inches, customized for each person.

Q-Optics
800-858-2121 | q-optics.com
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two main lines of dental loupes: the Custom Through the Lens (TTL) Loupes and the Flip-Up Loupes. For the purpose of this review, Catapult Education was engaged to review the Custom TTL Prism Loupes. More information can be found on the other lines at www.q-optics.com.

The entire line of Custom TTL Loupes is designed uniquely to perfectly fit the user’s facial features through a proprietary measurement system. The True-Fit™ Digital Measurement System builds upon traditional measuring systems to ensure optimal loupe placement, thus creating a better ergonomic fit. Working distances are customizable between 10 and 26 inches.

Although several levels of magnification are available, the prism loupes are available in 3.5x, 4.0x and 4.5x with an expanded field of vision. The loupes are constructed from advanced materials to produce a lightweight, ergonomic and comfortable design. The magnification mechanism is contained in a titanium unibody housing, which is designed to align the lenses and prisms in a unique optical cage. Carbon fiber is utilized on the exterior of the housing for weight reduction and nose relief.

The evaluation
For this evaluation, 10 KOLs participated. Each of the participants has used magnification in his or her practices; however, only three participants had any experience with a “prism” loupe. In addition, only one of the 10 participants had any previous experience with the brand Q-Optics.

The fitting process was impressive, as agreed upon by all reviewers. It was noted that the steps for fitting were different from any the reviewers were used to in the past. The fit was performed and then verified prior to fabrication of the loupes. The fit was also verified using a digital camera for reference during the manufacturing process. All reviewers received precise-fitting loupes.

The initial impression of the product was extremely favorable. The loupes were rated above average by all 10 participants, with eight rating them as “excellent.” They were referenced as “wonderful,” “best frames” and “so crisp and clear.” The weight and comfort was rated “excellent” by all reviewers. It was found that, in comparison to other brands, the weight was so favorable that the strap wasn’t needed for the majority of the users.

Once again, an extremely favorable (100 percent) response was given for the clarity of vision. It was noted that the vision was crisper than loupes worn in the past. It was also noted that the field of vision was wider and entirely clear compared to competitors. It should also be mentioned that most of the reviewers chose a higher level of magnification than previously worn.

Conclusion
Dentists are striving to provide conservative and minimally invasive dentistry on a daily basis. One of our most valuable assets to providing this quality of dentistry is our vision. It’s imperative that we have a clear and magnified field of vision to achieve our goals. The Q-Optics Prismatic Loupes are a great adjunct to our practices. Their advancements have placed them in a league of their own. Q-Optics has been given the Catapult Education Vote of Confidence.

ABOUT THE AUTHOR
Chad C. Duplantis, DDS, FAGD, maintains a restorative group practice in Fort Worth, Texas. He is a member of Catapult Education and consults with various companies in the dental industry. He received no compensation for his participation in this evaluation.
OMNICHROMA: One Shade to Match All Patients

As increasing costs continue to place pressure on dental practices, Tokuyama’s newest composite saves doctors time and money in their day-to-day operations.

by Sharon Dowd, Director of Sales and Marketing

Tokuyama Dental America is an award-winning Japanese manufacturer that is recognized for its innovative and high-quality products. We have developed products ranging from resin composites to denture relining materials, all focusing on handling capabilities, increased longevity and improved esthetics.

With many dentists now facing increasing overhead costs and insurance companies cutting into margins, thriving in the dental industry has become increasingly challenging. With an eye on innovating tomorrow’s dentistry today, we at Tokuyama have utilized 35 years of research and development to design a product that can aid dentists in their practices, saving them both time and money.

Tokuyama has leapt forward in composite technology with the development of our latest universal composite, OMNICHROMA, the first dental composite that matches every tooth with a single composite shade.

Color and composites

In the current restorative composite market, dentists can choose among a plethora of composite shades and options in order to match every patient’s tooth. However, the cost of composites can add up quickly. According to a recent survey we conducted, approximately 62 percent of dentists say that composite inventory expires because the materials are rarely used. The excessive waste when these unused shades and materials expire is just more money down the drain.

And beyond the costs, shade matching takes extra time and effort in order to achieve a perfect match. At Tokuyama Dental America, we are well aware of this burden that shade matching can cause for dentists and their practices.

OMNICHROMA changes everything

Our newest, ground-breaking product, OMNICHROMA, solves this problem for good. OMNICHROMA is the first dental composite that matches every tooth shade, from A1 to D4, with a single composite shade.

As a universal composite, OMNICHROMA can be used with almost every restorative class and for the same indications as most universal composites, ranging from direct anterior and posterior restorations to diastema closures.

Beyond its unprecedented shade-matching ability, it has exceptional handling, polishability and strength, all of which have been inherited and improved upon from Estelite Sigma Quick. OMNICHROMA offers countless benefits to doctors, including a reduction of excess inventory, minimized chair time and a reduced need for shade-matching procedures. OMNICHROMA saves dentists time and money in their day-to-day lives through its innovative technology and capabilities.

Inside the technology

After 35 years of research and development, Tokuyama Dental has mastered our spherical filler technology. Through these spherical fillers, OMNICHROMA is able to utilize structural color technology in order to match every tooth shade.

The phenomenon of structural color occurs when the structure of a material, rather than the dyes or pigments of the material, amplifies or weakens different wavelengths of light. Through this process, colors are expressed that may differ from what the actual color of the material is. From morpho butterflies to peacocks, some of the rarest and most beautiful colors in nature are the result of structural color.

OMNICHROMA’s fillers are uniformly sized and shaped, allowing the material to interact with the exact wavelengths of light that make up the color of human teeth. With no added dyes or pigments, this Smart Chromatic Technology enables OMNICHROMA to generate the exact color of the surrounding tooth, ultimately producing the perfect match.

Universal procedure

OMNICHROMA can be used in a standard universal procedure for most posterior and anterior cases. Simply prepare the tooth (we emphasize adding bev-
els or chamfers to eliminate margins and aid in shade matching), apply a bonding agent such as Tokuyama’s Universal Bond, fill the tooth with OMNICHROMA, light cure, and finish and polish. OMNICHROMA starts out more opaque-white before curing, enabling dentists to more easily see the manipulation and shaping of the material according to the anatomy of the tooth. After curing, OMNICHROMA perfectly matches the surrounding tooth color.

For the majority of cases, OMNICHROMA can be used by itself as described in the procedure above. However, for particularly large Class III and IV cases, OMNICHROMA can experience shade-matching interference due to a lack of surrounding dentition. To overcome this limitation, Tokuyama has developed OMNICHROMA BLOCKER, a supplementary material to be used with OMNICHROMA to prevent shade-matching interference. The procedure for these cases is almost identical to OMNICHROMA’s standard universal procedure. Simply prepare the tooth (again with an emphasis on bevels or chamfers), apply BLOCKER as a lingual layer, light cure, apply OMNICHROMA, light cure, and finish and polish.

Every shade, one choice

OMNICHROMA will save doctors time and effort by serving as a single composite shade that matches every patient’s tooth. Moreover, OMNICHROMA can offer financial benefits to doctors by reducing excess inventory and therefore reducing the chance of unused excess composite being thrown away. We are beyond excited to introduce this innovative composite to the market and hope that it will have a hugely beneficial impact on dentists’ lives and in their practices. OMNICHROMA samples can currently be reserved at OMNICHROMA.com/us. After the launch in February 2019, the samples will begin shipping and the product will be available for purchase.
SEEING IS BELIEVING
How to start the new year with 20/20 vision in your dental practice. [by Terri Lively]
DIGITAL IMAGING TECHNOLOGY IS GOING TO BE A HOT TOPIC IN THE DENTAL INDUSTRY IN 2019. WE SPOKE WITH SEVERAL EXPERTS TO TAKE A CLOSER LOOK AT DENTAL IMAGING POSSIBILITIES IN THE NEW YEAR AS WELL AS EXAMINE THE TECHNOLOGY’S EFFECTS ON THE DENTAL PRACTICE AND PATIENT OUTCOMES.

Continued from cover...

“The acquired images are used to educate the patient and move them forward to accept what the clinician believes is the optimal treatment solution,” Cox says. “That, to me, defines the result of what excellent dental imaging would be.”

Dr. John Flucke, DDS, chief dental editor and technology editor for Dental Products Report, thinks dental imaging is essential for patient education. The ability to take excellent images and share them with patients is essential.

“There was an old Canon commercial on several years ago where they were showing some camera and saying, ‘Image is everything.’ I would take that one step further and say, ‘Image is everything, but perception is reality,’” Dr. Flucke says.

Dr. Flucke also says dental imaging technology and the ability to see better than before makes him a better clinician. He believes in recording his work for a couple of reasons, including to have a record when he needs to refer to it and also to analyze his technique.

“If you see things magnified, it encourages you to do better. You can see the mistakes you made or the things you need to touch up or anything like that,” Dr. Flucke says. “I always think that dentistry is like being a pilot. Even a good landing, you are supposed to evaluate to see what you did right, what did you do wrong, etc. Having that at your disposal makes you better at what you do.”

When “evaluating his landing,” Dr. Flucke wears 5.5x loupes, rather than the average 3.75x. He examines if he has adequate reductions, if the fit is lining up, or if his margins are right at the height of the gingiva, if possible.

With the 5.5x magnification, Dr. Flucke can see the tooth and half a tooth on either side, which provides him with reference points. It’s usually enough magnification for him, although he says that for cosmetic work he might wear higher magnification if he could.

“The only reason that I am working at 5.5x on cosmetic stuff is that I haven’t found a pair of glasses that will go higher than that and that I am comfortable with,” he explains.

Devon Thormodsgaard, territory sales manager for DenMat’s Peri-Optix® loupes, says that excellent dental imaging increases esthetics, enhances diagnostic capability and improves ergonomics. Loupes magnify the surgical site, so doctors can see a level of detail that typically would require them to compromise their posture.

“Loupes give them the surgical precision they need without climbing into the patient’s mouth,” Thormodsgaard says.

Brian Forth is vice president of sales and marketing for Futudent, a company that specializes in incorporating video imaging into the dental practice. Forth believes excellent dental imaging with video allows for other kinds of communication that clinicians can’t achieve with still images alone.

Futudent has three cameras optimized for different uses. The two newest cameras, the proCam and microCam, are designed for mounting on the chair light or loupes, respectively. They’re designed to capture everything from outside the mouth, allowing the clinician to do a mini-consultation, highlight key findings and explain the treatment suggestion. Then, without editing, the doctors can send the video to the patient’s email via the cloud.

“We can send that before they even leave the office. They are getting an email from the doctor with their personalized treatment plan made while they were in the chair,” Forth explains.

Forth says the benefits of video for practitioners go far beyond patient care and acceptance. Practitioners who use video every day have better documentation, an easier time communicating with insurance companies and enhanced team-improvement discussions.

“You can’t do that with still shots. You have to capture the whole context of the procedure and see how the team worked together. If a doctor wants to teach a new assistant how to use suction better, he or she can say, ‘Well, let’s review the video together.’ You can’t do that with the still photo,” Forth explains.

What to think about before incorporating digital imaging technology

Clinicians should consider a few different things when deciding on dental imaging technology. The most important is what you want the imaging technology to do for your practice. Cox starts at a 10,000-foot view and works backward from there:

- How will the practice use the images?
- What image will be best to help diagnose the problem at hand?
- Do you want to document current states, as in the progression of treatment, or progression of an untreated diagnosis?
- Will the patient benefit from the images or will it help him or her understand his or her current situation and make an informed decision?
- Is this modality the least invasive to the patient?
- Will this image be sent to an insurance company for procedure approvals?

Henry Schein takes pride in finding the right solution for the practice.

Henry Schein takes pride in finding the right solution for the practice.

Cox says it’s a big part of Henry Schein’s deliverable and why their customers rely on them.

“It’s important we identify what the business outcome is. There is a clinical outcome that the practitioner is expecting to receive from this technology, like diagnosing things they cannot see without 3D imaging, such as an entangled root. But there is also the business outcome. What are some of the business things they expect? What does that look like?” Cox says.

First, Henry Schein will identify the job the practitioner is trying to do and then match technology features and benefits to the solution that practice needs. Next, they ensure the practice is prepared to adopt and maintain the technology. They also want to ensure that the technology makes sense from a business standpoint for the practice. Finally, Cox says they look at whether the dental imaging solution will disrupt the workflow or require onboarding training for the clinician and staff.

“Obviously with technology, you want to train your clinical staff how to use it effectively so that they not only understand how to use it but also are ‘power-users,’ if you will,”
Cox says, “All of this is part of the equation for success.”

Thormodsgaard’s expertise on loupes indicates that clinicians should consider the following four aspects:

1. Comfort and fit: The frame should fit their face and the weight should be well-distributed.
2. Depth and width: The higher quality the loupes, the more depth and width they’ll see. 3. Service warranty and support: Ensure that you understand what is and isn’t covered.
4. Prescription accommodations: All loupes companies can’t accommodate all prescriptions; the dentist should find a loupes company that fits his or her prescription requirements, if needed.

Forth says that clinicians should also analyze how easy the technology is to use. The story of the intraoral camera that a dentist bought but never uses is a common one. Forth says that has a lot to do with how simple the product is to use.

“If taking an image adds five minutes of time to the procedure, that’s a problem if they do it five to 10 times a day. That’s a lot of chair time,” he says.

Dentists should also consider the benefits when they can present their advice and information outside of the practice walls. This can improve patient acceptance rates.

“Most of the decisions are not made in the chair — doctors know that,” Forth says.

The technical side of dental imaging

Dr. Lorne Lavine, owner of The Digital Dentist, consults with practices on their IT integration. He says one of the biggest mistakes a practice makes is not preparing their IT infrastructure to support the dental imaging technology they wish to incorporate.

“They spend a fair amount of time researching the imaging systems, whether it’s cone beam, CAD/CAM, sensors or cameras, but they don’t give enough thought to the IT infrastructure that supports all of that,” he says.

In many cases, the new technology requires more advanced video cards, advanced processors, and a certain amount of RAM or memory to run it. Also, Dr. Lavine says the image sizes are larger than the practice management software, so they need more hard drive space and will need to change how the practice backs up data.

Moreover, the data must be encrypted to comply with HIPAA because imaging is electronic-protected health information. Practices need to take extra steps to protect and secure that data, meaning encryption, backups, management systems and staff training are mandatory. Many practices don’t emphasize this area enough in Dr. Lavine’s experience.

“They think of imaging as a separate entity than practice management software, and it’s not,” Dr. Lavine explains. “If it has any identifying information on it — a patient name or a chart ID or anything like that — it’s considered electronic protected health information. It needs to be protected like any other patient data.”

In 2013, with the passing of the Omnibus Rule, which strengthened the privacy and security protections for health information, the U.S. Department of Health and Human Services (HHS) began random audits for HIPAA compliance. Dr. Lavine says he’s seen a considerable increase in audits for his clients over the past five years.

Dr. Lavine adds that a data breach is devastating to a dental practice. They would have to notify the local news media. The HHS would list the practice’s breach on their website. Also, the practice would have to inform every patient in writing about the information that was involved.

“Typically that is going to cause a significant loss of your patient population. You don’t want to mess around here,” Dr. Lavine says.

Another common mistake Dr. Lavine sees is a practice established within a company’s infrastructure that invests in incompatible new technology. They spend thousands of dollars on a system that doesn’t work with what they have.

“Surprises are good on your birthday, but not so good when it’s your IT that isn’t doing what it was supposed to do,” he says.

Dr. Lavine says dental imaging components can be challenging to mix and match because, for the most part, the different systems are proprietary. The companies encourage you to buy within their ecosystem, which is understandable from a business perspective.

“They don’t make money when you buy a cone beam from somebody else,” Dr. Lavine explains.

Dr. Lavine adds that quality dental IT integrator consultant can help avoid these challenges, along with the manager of the practice’s IT system. Another way to prevent problems is by consulting with the company whose product you want to buy.

“Sometimes the sales rep might not have the information that an office would need to make an informed decision,” Dr. Lavine says, adding that doctors have to get the information, even if they do it on their own.

Dr. Lavine recommends that practices do a full analysis of their current system and decide if any upgrades are necessary before investing in new dental imaging technology. Most companies have minimum specs required for their technology.

However, Dr. Lavine cautions dentists to remember that minimum specs often translate into minimum performance. Having the minimum now means you’ll have to update within three years because it will quickly become outdated.

“The basic rule of thumb is that if your computers are more than four to five years old, you will be significantly better off replacing them versus trying to upgrade them to be able to handle the newer systems,” he says.

After ensuring new technology integrates with your existing system, consider the support the company provides. Dr. Lavine recommends talking with a current user of the technology.

“Most of these systems have hundreds, if not thousands, of users all over the place, so it’s not hard to find someone to talk to,” he says.

Dental imaging can solve common practice problems

Dental imaging has changed over the past several years with the addition of several new modalities. A few examples include caries detection, or transillumination technology, LED-powered cameras that are used to detect periodontal disease in the early phases and digital impressions.

Cox says these technologies can be used for so much more than they’re being utilized for today. 3D images can be taken year after year for comparison purposes. The images overlaid can identify things that can’t be captured just by looking at the patient, such as periodontal recession. Cox says this information is valuable to the dental practice.

“It empowers the dental team to
explore the root cause of the situation well in advance of it getting to a point where it’s advanced, and it could be catastrophic if it is left untreated,” Cox says.

Dr. Flucke agrees that adding 3D dental imaging will continue to permeate the dental practice because it makes things easier for the doctors and the patients. He sees a future where a 3D cone beam scan becomes a baseline image that your work integrates with through the years. For example, a digital impression for a crown will incorporate with the cone beam image in the patient file.

“There is already a lot of virtual treatment planning and modeless impressions because of how good and accurate our digital impression systems are,” Dr. Flucke says. “It’s just a short hop before somebody figures out how to extrapolate all that and allow you to have a database in the office of the patient that updates.”

Dr. Flucke envisions that soon you can hold the patient’s head in your hands and see what it looked like 10 years ago and compare it to what it looks like today. “At the rate this stuff is expanding and evolving, I don’t think it’s that far away,” he says.

One thing dental imaging can’t help practices with though is the organization of images — at least not yet. Dr. Flucke describes a situation in which pictures don’t make it into the patient file, and then later no one knows whose teeth are in the photos on the camera’s storage disc.

He recommends putting a staff member in charge of patient images and updating patient files. Train this person to take extra photos and put them in the patient chart as soon as possible. It not only solves the problem, but it can benefit the practice’s productivity as well.

“It gives the team member more expertise and more job satisfaction, plus it can free up the doctor to do other things,” Dr. Flucke says. “You can do a lot of this imaging in a practice without really taking a lot of time away from the doctor.”

Forth says that imaging can improve trust and communication too.

“Dentists have a lonely profession. You have one set of eyes looking down a dark hole, 20 or 30 inches away. It’s hard to explain what you are seeing,” Forth says. “Patients are nervous and worried about pain. They aren’t very receptive to learning in that environment.”

With video, dental imaging can help dentists deliver their message when a patient is more receptive. It also can do the same thing with the dental team. Video technology allows the dentist to collaborate with peers more easily.

“These are the most commonsense problems our technology addresses,” Forth says.

**How dental imaging technology has changed the dental practice so far**

Dr. Flucke thinks visual caries detection has changed how patients react to treatment plans. Caries detection has always been visual, but today special cameras show the decay on the screen. The doctor displays this on the monitor, so patients can see it and understand it right away.

“It’s so much easier to teach the patients,” Dr. Flucke says. “People who are educated and well-informed make good decisions.”

When the treatment might involve some out-of-pocket expense, Dr. Flucke says it’s easier for the patient to understand why. It helps overcome the objections patients might have to the cost. Instead of hearing, “Is this necessary?” from patients, you might hear, “When can we get this fixed?”

Cox says seeing things in 3D versus seeing them in 2D gives dentists a “whole new set of eyes” to see things they’ve never been able to view before when using 2D. Whether it’s endo, ortho, TMD, sleep and airway analysis, or implant planning, dental imaging allows a dentist to craft a precise and sophisticated treatment plan.

“It’s just changed the game so radically and given clinicians a third set of eyes to deliver arguably higher quality dentistry as a result of this information,” Cox says.

Thormodsgaard adds that dental imaging can improve margins on crowns. He says many times his clients see their old margins through loupes and are surprised; they’re dissatisfied with what they thought was good dental work before.

“If someone is getting a crown, the margin on the crown is so important. And if the dentist is not using loupes, those margins may look clean with a naked eye, but with magnification, they are not,” Thormodsgaard explains.

Moreover, loupes have become the standard of care for many practices. Many schools require loupes, and the schools that don’t require them strongly recommend their use. In medical practice, loupes are standard of care also from general surgery to complex neurosurgery.

“All medical surgeons wear high magnification. In many cases, dentists operate on an area just as small as these surgeons. They should be wearing magnification as well,” Thormodsgaard says.

**If someone is getting a crown, the margin on the crown is so important. And if the dentist is not using loupes, those margins may look clean with a naked eye, but with magnification, they are not.”**

Thormodsgaard says that loupes can also serve as a practice management tool. Loupes can help them diagnose things they might’ve missed without magnification. “You can’t diagnose what you can’t see,” he says.

The dental imaging provided by loupes improves ergonomics too. Loupes allow dental professionals to sit up straight and achieve an optimal working distance. When clinicians don’t wear loupes, they often compromise their posture and strain their eyes to see better. This puts pressure on the spine, back and neck. Thormodsgaard explains that this can lead to injury in the lower back, neck and wrist.

“If they get hurt and they can’t work, that’s hundreds of thousands of dollars that they don’t make and quality of life that they can never get back,” Thormodsgaard says.

Forth says when Futudent started, most of their customers wanted loup-mounted cameras. However, today their customers are moving toward chair-mounted cameras. When installed in the light, anyone in the practice can use the camera.

“So it’s not just the doctor. It’s everyone who is visiting and whoever is in the room can use it,” Forth says.

Hygienists can make customized videos for patients that demonstrate techniques or areas that need special attention. Chair-mounted video also allows the practice to create instructional videos for kids.

“Kids are fascinated. They like to stick their tongues out and everything. Then, they get a video that they can watch when they are in front of the mirror and brushing their teeth at night that shows them how the doctor taught them to brush their teeth. This is a new type of service you don’t have a way of doing without video,” Forth says.

**How dental imaging will change the dental practice in the future**

The future is bright for dental imaging. The improvements are innovative and intuitive and will have significant implications for a dental practice.
A picture can be worth 1,000 words, but can it also be worth a $1,000? It can to a dental practice when it comes to increasing patient acceptance rates after presenting with dental imaging products.

“The old expression of a picture being worth a thousand words is really true with dental imaging,” says Dr. John Flucke, DDS, chief dental editor and technology editor for Dental Products Report. “Showing the patients gives them a better understanding of what they need and why they need it. You don’t have to spend nearly as much time trying to educate them because they can see it and they understand it.”

John Cox, vice president of technology for Henry Schein, says one of the common challenges most practices share is case acceptance.

“Dental imaging technology, whether it be a dental impression or a 3D CBCT device or a digital sensor, all of these tools absolutely without question help with increasing case acceptance if the modality and the technologies and the diagnostic tools are used effectively by the dental team,” Cox says.

For special situations, some of these alternative imaging solutions, such as transillumination, allow a dentist to see things like fractures without using X-rays. Cox says this is ideal for people who can’t be exposed to radiation, such as pregnant women or patients currently undergoing chemotherapy. Another alternative imaging solution is carries detection devices, which can enhance the discovery of bacteria in the oral cavity.

Dr. Flucke says dental imaging gives a patient an unbiased second opinion. Patients can see on the monitor a deteriorating filling or a crack. He also finds dental imaging makes it much easier to explain and encourage a co-diagnosis with the patient.

“It’s one thing to tell them your diagnosis and another to take a picture and show them,” he says.

“Often the things we are trying to talk to patients about are not necessarily things you need a complicated dental degree to understand. They can see there is a hole here or a chip there.”

Cox says a common source of patient dissatisfaction today is that patients don’t feel adequately informed. This situation is compound when the decision involves thousands of dollars, like a full-mouth restoration, dental implants, or a denture solution with implants.

Case acceptance suffers when patients hesitate, stalling the decision. However, Cox says dental imaging allows the patient to be part of the treatment decision by making him or her feel informed.

“This whole concept of shared decision-making, where patients are involved with and partner with the dental team allows them to feel good about moving forward. That is exactly what these dental images help make happen,” Cox explains.

However, Cox thinks too few dental practices with advanced imaging technology leverage the power of the digital images that come from all these modalities to educate, motivate and help patients feel confident enough to move forward with treatment.

The dentist sees intuitively what’s wrong but doesn’t explain it to the patient because it takes valuable chair time.

Cox would like to see more practices use dental imaging to promote understanding of the diagnosis and the reasons for the treatment plan at a higher level. If not the dentist, then someone on the dental team could go over the images with patients.

“Technology continues to evolve and make things easier. The goal of technology is to do the job better, more efficiently and make somebody’s job easier, including the patients,” Cox says. “People are visual creatures, whether it’s a digital X-ray or an extraoral or intraoral photo, cone beam, or digital impression. When you show patients, it’s much easier for them to understand what’s going on and why there are problems. I want them to see what’s going on.”

Forth thinks that video will continue to improve and become the standard of care for dental offices. He also says that the technology could integrate into the chair light itself.

“The trend in the past 18 months to two years is the adoption of the chair light,” Forth says.

While Thormodsgaard says that loupe companies are tight-lipped about new products, he believes the technology will continue to go wireless, move to smaller batteries, and add wavelengths and patient information filters to the glasses.

“I wouldn’t be surprised to see different filter wavelengths of light. A smart loupe that changes the filter color on your lens, so you can see plaque or calculus. Or a display with X-rays or patient vitals.”

Cox says he’s excited about Optical Coherent Tomography (OCT), which is like an ultrasound but instead of sound, the technology does the same activity with light. He also likes the automated workflow coupled with big data and artificial intelligence (AI). He sees this combination bringing some exciting changes to dentistry, particularly in insurance claims.

For example, an insurance company gets millions of claims every year. Cox says AI can look at thousands of images quickly and determine the approval claim, the approval code and whether there was fraud because the system saw the picture before.

Smart learning with software will change dentistry as well. The future software could look at an impression and know the best crown for the tooth indicated based on the opposing occlusion. The data collected from all the dental laboratories will also help to determine what material to use for the restoration. The software could then automatically design and build a crown and send it to a mill or 3D printer to fabricate the restoration.

“The whole play with AI and big data is going to be where dental imaging is going to accelerate, maybe even more than the technology itself,” Cox says.

Dr. Flucke also envisions a dental practice aided and fueled by the power of AI and dental imaging.

He’s working with a company called Dentistry.AI that analyzes bitewing X-rays using AI to help find decay.

The plan is for the system to help doctors make decisions about treating tooth decay.

“You upload the software to your database and it analyzes the X-ray,” Dr. Flucke explains. “The X-ray pops up on the screen with boxes drawn around areas and says, ‘This looks like it might be decay.’ It’s like an unbiased second opinion. That is really cool.”
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We don’t believe in the saying, “don’t sweat the small stuff” and neither do you. At Planmeca, we obsess about image quality, excellence in diagnostics and patient safety. Our Planmeca ProMax® line of imaging systems offer:

• True extraoral bitewings for faster image acquisition, greater diagnostics, and a more comfortable patient experience

• Planmeca Ultra Low Dose™ provides increased patient safety by reducing radiation dose up to 77% without statistical reduction in image quality*

• Planmeca Romexis 4D™ Jaw motion offers the ability to analyze mandibular jaw motion and view TMJ during patient movement

• Planmeca CALM™ allows our CBCTs to analyze and compensate for slight movements to provide improved diagnostic quality images - virtually eliminating retakes

The small things form the big picture – delivering dentistry your patients deserve.

*According to “Dosimetry of Orthodontic Diagnostic FOVs Using Low Dose CBCT Protocol" by JB Ludlow and J Koivisto.

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HISTORICALLY, POLYETHER materials have been a bit of a tradeoff for me when deciding to use them on my patients. While they deliver the beneficial hydrophilic properties that allow for accurate impressions, the extended working time inhibited handling and wasn’t ideal for single-unit restorations or smaller cases. Additionally, the taste and smell often associated with polyether didn’t work for many of my patients with high gag reflexes, nor those who simply didn’t want to experience the strong taste. I’ve recently been excited by a new polyether formulation that has been introduced to the market and that I find reduces the negative aspects of the tradeoff.

The new 3M™ Impregum™ Super Quick Polyether has a unique set of benefits that I haven’t experienced with any other polyether. The material’s inherent hydrophilicity promotes excellent wettability with remaining oral fluids and supports the accurate capturing of essential details within the preparation margin. This exact detail reproduction is supported by the material’s ability to flow into the sulcus. While retaining hydrophilicity, it also sets very fast — in two minutes, similar to that of many VPS materials — so it’s well-suited for crowns, implants and other smaller case procedures. I appreciate that I can take my time a bit more with it, as the flow behavior remains unchanged throughout the entire working time, which is followed by an immediate “snap set” reaction. This is different from VPS materials and helps limit inaccuracies that may result from premature setting.

I recently completed a procedure for partial dentures on a patient with very low tolerance for the taste and smell of impression material, as her gag reflex can be easily triggered. The Impregum Super Quick polyether was both a good fit for her and a material I find produces accurate, reliable impressioning results.

The case
The patient was a healthy, 49-year-old female with no medical or dental contraindications to treatment. Initial examination of her current state showed extensive wear on her anterior teeth due to a lack of stable posterior occlusion. Her request was for a partial denture and composite restorations as an interim until she can afford to do more extensive crown and bridge work. This patient had a history of gagging during impressions, which became evident when taking diagnostic models.

After the partial denture was placed and the patient expressed that she was quite comfortable with the partial denture, she took out a mortgage on her home in order to restore her remaining teeth. Due to her limited budget, the partial denture was used to stabilize and open her bite, and her treatment plan consisted of translucent 3M™ Lava™ zirconia crowns on the anterior teeth, with monolithic zirconia for her posterior occlusion. She understood the limitations of not placing implants on the mandibular teeth, although she plans to complete this treatment in the future.

Preparation area
An implant was placed in the area of tooth #5, and following periodontal treatment and clearance for further treatment. Teeth #3, 4, 6, 7, 8, 9, 10, 11 and 12 were prepared for zirconia crowns.

Impressioning
Impressions were taken using 3M™ Impregum™ Super Quick Polyether due to the patient’s severe gag response. This material has a two-minute setting time and was tolerated well by the patient. Due to the number of units being impressed, it was essential that my assistant and I be well coordinated during this procedure. Its inherent hydrophilicity...
1. Pre-operative facial.
2. Pre-operative right side.
3. Pre-operative left side.
4. Pre-operative incisal.
5. Teeth prepared and retraction cord placed for impression of implant and crowns.
6. Heavy body polyether final impression; two-minute setting time.
7. Impression for crowns and implant.
8. Stone model used to prepare crowns.
10. Final result after one week post-operative.

resulted in an accurate impression, and contrasting colors offer good readability.

**Material**
Temporary crowns were fabricated using 3M™ Protemp™ A1 shade. 3M™ Lava™ Plus High Translucency Zirconia was used for all teeth with the exception of tooth #3, where monolithic zirconia was used in anticipation of eventually restoring all of the posterior teeth.

**Crowns**
Teeth were luted in using 3M™ RelyX™ Unicem Self-Adhesive Universal Resin Cement. Excess cement was removed and occlusion checked. The patient was extremely happy with the final result.

**Whitening**
Following delivery of the crowns, the patient’s lower teeth were whitened using the Philips Zoom in-office system, and she was given a lower take-home tray for completion of whitening and future touchups.

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**AT A GLANCE**

- 1. Pre-operative facial.
- 2. Pre-operative right side.
- 3. Pre-operative left side.
- 4. Pre-operative incisal.
- 5. Teeth prepared and retraction cord placed for impression of implant and crowns.
- 6. Heavy body polyether final impression; two-minute setting time.
- 7. Impression for crowns and implant.
- 8. Stone model used to prepare crowns.
- 10. Final result after one week post-operative.

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**Case summary**
A 60-year-old female patient presented to the practice with complaints about the appearance of her front crown. After full consultation, it was determined that she wasn’t only dissatisfied with the color and contour of the existing crown but also the overall gingival architecture that framed her smile (Fig. 1).

The patient had defective restorations on the MFL composite of tooth #10 and the PFM on tooth #8. There were also poor contours and asymmetry of the gingival zenith of tooth #9; however, she didn’t want to undergo an invasive gum surgery.

**Treatment plan**
Because the patient requested a noninvasive procedure, the clinical objective was to obtain an esthetic restoration and gingival architecture on tooth #9 while utilizing a noninvasive closed crown lengthening surgical approach. This was to be achieved using the Solea® 9.3μm CO2 all-tissue dental laser (Convergent Dental.)

*Note: The full coverage restoration on tooth #8 and partial coverage on teeth #7, 9 and 10 were prepped immediately following the crown lengthening.*

**Technique used**
To start, a gingivectomy was performed with Solea on tooth #9 in order to ablate the gingiva to the desired height. The 1mm spot size was utilized with cutting speed between 20 and 40 percent and 20 percent mist to remove the excess tissue.

The bone was then sounded with a periodontal probe to determine the amount of crestal bone necessary to reduce while maintaining adequate biologic width for the final restorations and soft tissue (Fig. 2).

The alveolar bone reduction was completed by directing the laser beam down the long axis of the tooth (slightly toward the facial) using the 0.5mm spot size with cutting speed between 20 and 40 percent and 100 percent mist. Sulcus depth was checked periodically to verify how much bone had been removed.

Once adequate probing depth had been achieved, the teeth were then prepped and temporized. One carpule of four percent articaine with 1:100 epinephrine was utilized during the treatment as all four teeth were immediately prepped at the same time.

**Results**
Solea’s precision enabled complete control of the tissue with outstanding clinical results. The procedure was finished quickly and there was almost no bleeding (Fig. 3).

With Solea, the crown lengthening and tooth preparations could be completed in a single visit. This allowed for proper tissue healing around temporaries, fewer appointments for the patient and less chair time for the clinic.

The patient noted absolutely no post-op discomfort. She said the final restoration and process exceeded her expectations.

**Solea® advantage**
With traditional methods (e.g., a scalpel and sutures) the entire surgical procedure would’ve been a separate 60-minute visit, compared to less than 10 minutes with Solea®.

The dentist was able to perform this procedure in-house rather than refer it out.

The patient was thrilled not only with the esthetic outcome, but also the speed and lack of the more invasive “traditional surgical approach” needed to complete the procedure.

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**AT A GLANCE**
1. Pre-operative image.
2. Bone sounded with periodontal probe.
3. Immediately post-op.
4. Final post-op.
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USE MULTIFUNCTIONAL TEETH TO CREATE NEW DENTURES

How proper denture selection ensures affordability and functionality.

[ by Daniel Lavrin, RDT, CDT, and Laurie Lauletta-Boshart ]

Information provided by VITA® Zahnfabrik H. Rauter GmbH & Co. KG.

DENTURE PATIENTS OFTEN ASK for cost-effective solutions that simultaneously offer individual esthetics and proper function. Practitioners desire simple and reproducible setups that accomplish efficient workflows and offer their patients economical solutions without any issues. In order to fulfill all these expectations, choosing the right denture teeth is essential. In this case report, denturist and dental technician Daniel Lavrin (London, England) demonstrates how VITA® Multifunctional Teeth (VITA® MFT, VITA® Zahnfabrik, Bad Säckingen, Germany) can be used to create new dentures in the upper and lower jaw.

Clinical situation
A 52 year-old male patient presented in the clinic with a fractured upper denture. During his first clinical visit, it became obvious that the old dentures had extreme functional deficits, including poor esthetics. The denture in the lower jaw presented with missing teeth in regions 22 and 27 (in the lower cuspids), after the extraction of the patient’s natural teeth. No occlusal contacts on the right molars or a general substantial loss of the vertical dimension were visible. The Class III setup didn’t offer functionality and stability. The denture teeth were severely abraded and looked dull. The patient didn’t use his lower denture because it didn’t offer stability when he talked or chewed. The upper and lower alveolar ridge presented signs of atrophy, resulting from extractions and a missing load. It was determined to rehabilitate the patient with new dentures. The goal was to switch the bite to Class I in normal occlusion and to give the patient functional security. Denture fit and comfort as well as esthetics needed to be re-established.

Clinical pre-treatment
Alginate impressions were taken and anatomical models fabricated to create individual trays. The mucodynamic impression on the tray rim took place with rigid Impression Compound (Kerr Dental, Biberach, Germany). In a second step, the bony anatomy was molded with low viscosity A-silicone using Virtual® Light Body (Ivoclar Vivadent, Schaan, Liechtenstein). Master models were poured out and light-cured plates with a wax bite block were fabricated on them. The intraoral bite registration in centric position was realized with the A-silicone CADbite (Ivoclar Vivadent). The articulation of the master models was configured according to the bite registration, followed by the creation of the wax try-in.

Set-up and try-in
The set-up took place with VITA® Multifunctional Teeth. The anterior teeth were chosen in accordance with the patient. In the esthetic zone, different shades were used to increase individuality. The gingival anatomy was simulated meticulously in the wax set-up.

AT A GLANCE

1. In addition to the fracture of the upper denture, the old rehabilitations presented functional and aesthetic deficits.

2. The alveolar ridges presented bone resorption following extractions and a missing load.

3. The gingival anatomy was simulated meticulously in the wax set-up.

4. The wax set-up looked very natural and individual.

5. The patient felt very comfortable during the try-in and agreed to have the rehabilitation transferred into polymer.

6. The finished dentures showed a lifelike gingival anatomy and a natural play of light and colors with VITA MFT.

7. The upper incisors in different colors established individual esthetics.

8. The overlapping and irregular positioning of the incisors provided a custom, natural appearance.

9. The patient was very pleased with the final outcome of the rehabilitations.
Due to the natural tooth axis and coordinated angle characteristics, the front teeth could be matched quickly. The occlusal design of VITA® MFT Posterior offered an easy and reliable centric with buccal contacts during the set-up. The lingualized occlusion provided optimized denture stability. Extreme care was taken during the wax-up for the full contour of the anatomical gingiva. Based on the clinical situation, the bite registration was taken with the set-up during try-in order to check static and dynamic occlusion in the articulator.

**Finalization and outcome**

The final set-up was duplicated with hydrocolloid for flasking and transferred into polymer with the auto-polymerizing and pourable Castdon Resin (Dreve Dentamid, Unna, Germany). To establish an individual and lifelike gingival architecture, internal colors of the DentureArt System (Dreve Dentamid) were applied into the flask before the pouring technique took place. After the polymerization, excess sprue, bubbles and small defects were removed with a rotating instrument. Polishing was conducted with pumice and shine on a polishing wheel. A handpiece and a bristle brush were used to finish the teeth around their necks and margins. The functional aspect of switching from a Class III to a Class I bite was successful. The optimized fit of the new dentures provided stability and comfort, the esthetic zone presented an excellent esthetic play of light and colors, and the patient was extremely satisfied with his new economical rehabilitations.

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A NEW AND INNOVATIVE APPROACH TO TREATING XEROSTOMIA

Why the time is now to initiate conversations with patients suffering from dry mouth. [by Jo-Anne Jones]

Xerostomia, or dry mouth, if not effectively managed, can significantly impact oral health and subsequently overall health. For a patient suffering with xerostomia, it’s so much more than simply a “dry mouth.”

Incidence in the US population
Unfortunately we’re not talking about a small segment of our population that’s affected by xerostomia. It’s estimated that as much as 65 percent of the population suffers from xerostomia, with the loss of saliva resulting in a devastating cascade of symptoms.

Saliva is essential to the protection, lubrication and preservation of the oral cavity. Like a number of issues we experience in life, the benefit of adequate saliva isn’t fully appreciated until there isn’t enough. Subsequent oral discomfort can range from mild to severe and affect every facet of day-to-day living. The challenges of xerostomia can also present social implications by altering the ability to speak, swallow, chew and digest food. Furthermore, xerostomia has a negative impact on dental caries, plaque accumulation, gingivitis, periodontitis, candidiasis, oral infections, mucositis, burning mouth syndrome and oral lesions.

Etiologic pathways
There are a number of etiologic pathways that initiate a xerostomic condition. One of the most common is medication-induced xerostomia. “Nearly 70 percent of Americans are on at least one prescription drug, and more than half take two,” say researchers at the Mayo Clinic and Olmsted Medical Center. “Twenty percent of patients are on five or more prescription medications,” according to the findings.

There are more than 1,100 drugs, both prescription and over-the-counter (OTC), that contribute to or induce xerostomia. A number of these xenogenic drugs are the most commonly prescribed medications such as antihypertensives, antidepressants, antihistamines, antacid, antianxiety, muscle relaxants and opioid analogs. We see patients every day in our dental practices who are taking some of these commonly prescribed drugs.

Head and neck radiation is also a contributing cause of xerostomia. Gray (Gy) is the unit used to measure the total amount of radiation the patient is exposed to. Typically, head and neck radiation for treatment of oral and oropharyngeal cancer is in the range of 45-70 Gy. In the majority of cases, Intensity-Modulated Radiation Therapy (IMRT) is practiced, delivering a precise dosage of radiation to the tumor with the objective of minimizing collateral damage to the surrounding tissue or salivary glands.

A mold of the head and neck area is made prior to the start of radiation therapy, referred to as a radiation mask (Fig. 1). The mask ensures that the head is held in the same position, so the radiation targeting can be exact. Despite best efforts, the end result is severe depletion of saliva — and that which remains becomes thick and ropey.

Another etiologic pathway is systemic disease, and in particular, autoimmune diseases.

Autoimmune disease affects 5 to 8 percent of the U.S. population, 78 percent of whom are women. It’s the third most common disease category following cancer and heart disease.

Sjögren’s syndrome, a chronic inflammatory autoimmune disease, is characterized by dry mouth and dry eyes. The disease is precipitated by lymphocytes leaving the bloodstream and infiltrating into the acinar glands. This migration results in degradation, atrophy and necrosis of the acinar glands, impeding the flow of saliva and tears.

“With upwards of 4,000,000 Americans suffering from Sjögren’s, it is one of the most prevalent autoimmune diseases, with nine out of 10 patients being female,” says the Sjögren’s Syndrome Foundation.

Sjögren’s syndrome can affect any age group, but most patients are diagnosed in their early 50s. One of the first recognizable symptoms of Sjögren’s syndrome is xerostomia, which often precedes the actual diagnosis of the disease.

Diabetes is yet another disease we see almost daily in private practice. With one in four Americans currently diabetic, it’s forecasted that “prediabetes will climb from 90.6 million in 2015 to 107.7 million in 2030.”

This increased prevalence means that 30 percent of all Americans and 51 percent of all seniors would have prediabetes. Not dissimilar to a number of other systemic diseases, one of the first clinical manifestations of diabetes is xerostomia, often present prior to the diagnosis of the disease.

Moreover, diminishing saliva may simply be a sign of physiological aging. The U.S. Census Bureau estimates that by 2050, 54.8 million people will be over 65 years of age, and by 2035 there will be 78 million people — with one in five at retirement age. We clearly have a silver tsunami approaching.

Treatment approaches
The goal of today’s dental professional should include comprehensive assessment of salivary flow, possible identification of causative factors, elevating the comfort level of the patient and the administration of preventive measures to avoid further oral complications. There are a number of conservative lifestyle changes that will assist the xerostomic patient who’s struggling with mild to moderate discomfort. These include reducing the intake of caffeine products, sucking on ice chips, sipping water throughout the day and with meals, avoidance of sticky, salty, spicy or hard foods, limiting alcohol intake, avoiding mouth rinses containing alcohol, chewing xylitol gum, or sucking on xylitol mints (Fig. 2), use of fluoridated or amorphous calcium phosphate toothpastes, using a humidifier at night while sleeping, and the use of lubricants on lips. Of utmost importance is regular preventive dental care and the use of fluoride varnishes proactively or extended contact varnishes on any vulnerable white spot lesions or exposed root surfaces (Fig. 3).

An innovative solution
As dental professionals, we want to ensure that our recommendations are not only effective but scientifically supported. A 2011 Cochrane Review began with the following
The authors noted that “patient preference is an important consideration, together with consideration of the potential adverse effects.”

The initial results of the Cochrane Review left the dental community with a sense of defeat in being able to recommend a product that would in fact deal with xerostomia effectively.

Of further note, and of great importance in the same Cochrane Review, was the statement observing that “oxygenated glycerol triesters (OGT) saliva substitute spray shows evidence of effectiveness compared to an electrolyte (or water-based) spray.”

Oxidized glycerol triesters (OGT) have a unique ability due to a lipid formulation to adhere and protect the oral cavity through increased substantivity. There are also studies published in professional journals that scientifically support the OGT technology and its elevated efficacy when compared to water-based solutions. A multicenter controlled parallel-groups trial to evaluate the efficacy, safety and acceptability of OGT spray versus a saliva substitute in the treatment of psychotropic medicines-induced xerostomia resulted in the following: after two weeks of use, patients reported that the OGT spray significantly decreased the initial: • severity of feelings of dry mouth • speech difficulties • impaired taste

The vast majority of subjects attested to the fact that the spray had improved their dry mouth symptoms and their quality of life, and they wished to continue using the spray.

3M Xerostomia Relief Spray (Fig. 4) employs a lipid-based approach to lubricating and moisturizing the oral mucosa with the aforementioned, innovative OGT technology. The lipid-based formulation is insoluble in water, meaning it provides a protective film or barrier that moistens and lubricates with better adherence to the oral mucosa. The prescription-strength spray demonstrates much longer lasting relief, up to four hours, when compared to many other xerostomia prescription medications. The streamlined ordering process is accomplished through the online pharmacy, Transition Pharmacy (TPS), which is registered in all 50 states. The prescription is initiated in the dental practice by completing a downloadable form available on the 3M site, followed by TPS contacting the patient for additional insurance and payment information. After the claim is processed, the product is shipped directly to the patient within one day-to-day practice success. It’s assured of efficacy is integral to our clinical psychopharmacology, 27(5).

OGT spray provides lasting relief, up to four hours, and payment information. After the claim is processed, the product is shipped directly to the patient within one day-to-day practice success. It’s assured of efficacy is integral to our clinical psychopharmacology, 27(5).

you speaking up for your patients who are suffering from xerostomia by initiating the conversation? A proactive conversation about the symptoms and the impact of xerostomia on both oral and systemic health stands to accomplish a great deal. It may be the initial awareness of a systemic illness that otherwise may have gone undetected or the proactive treatment of an oral condition that would have deteriorated quickly without intervention. We have the solutions to effectively elevate the comfort level of the xerostomic patient, so no one needs to continue to suffer in silence. It’s time to take action!

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ABOUT THE AUTHOR

Jo-Anne Jones is an international award-winning speaker and the president of an educational and clinical training company. Jo-Anne was selected as one of DPR’s Top 25 Women in U.S. Dentistry. The Elizabeth Craig Award of Distinction was presented to Jo-Anne in recognition of her exceptional and ongoing commitment to promoting the dental hygiene profession. Jo-Anne may be reached at jojones@joannejones.com.
The best tech to enhance your practice

Dentists can benefit from devices that increase magnification, improve visibility during procedures and alleviate some of the stress of the common workflow.

This year I’m throwing down the gauntlet to those of you who are in the “perspiration category.” No matter how long you look at something, think about it and consider it, there will always be another point to factor into the equation. Eventually great leaders make decisions and live with those consequences. No amount of planning can account for everything.

One of my favorite quotes is “If you want to fish, that’s great. If you want to cut bait, that’s fine too. However, if you can’t ever make up your mind whether to fish or cut bait, you’re never getting fish for dinner.” This year, let’s incorporate some amazing tools into your practice and watch it succeed like never before.

**Magnification and illumination**

Current statistics show that about 85 percent of clinicians are using some type of magnification. That’s an amazing increase of about 35 percent in the last 20 years. However, this year I’m challenging you to see even better. The majority of doctors are working in the 3.25x to 3.75x range. Stop for a moment and imagine how much better you could see at 4.5x or even 5.5x. Trust me when I tell you that improving your visualization will not only enhance your clinical skills but also improve your health.

When you can see better and clearer, you not only do better work, but you can also work more efficiently. Seeing better simply allows you to complete preps faster. The added benefit of that is you spend significantly less time in clinical posture and doing so decreases stress and strain on your neck and back. I was stunned to learn a while back that about 65 percent of dentists who declare full disability and retire from clinical practice do so because of neck and back issues. A lot of those issues are created by the hours we spend in clinical posture with a fixed and static muscle position.

Properly fitted surgical telescopes help provide the doctor with the proper focal length to sit up straight and decrease stress on the neck and back.

The other great thing about today’s choices in surgical telescopes is that the days of one pair of glasses with only one magnification are over. The doctor now has choices that allow one comfortable set of frames to be a delivery system for multiple degrees of magnification. Both Orascoptic EyeZoom and Orascoptic OmniOptic systems provide multiple levels of magnification on a single frame.

The other technology that goes hand in hand with magnification is illumination. As the barrel of the telescope increases in mag, the tube gets longer. This means less ambient light is able to enter the tube of the scope. The result is as one increases magnification, the target decreases brightness. Track lights rectify this effect; however, with proper auxiliary lighting, track lights are no longer needed, which can save
serious funds when equipping a new treatment area.

To avoid this, it’s imperative that the user also has a bright LED light source that can be mounted on the scopes. For these auxiliary lights, I recommend a range of 65-70 lumens. This is what I consider the “Goldilocks zone” for lighting — not too bright, not too dark.

Using a light constantly that’s too bright increases eye fatigue and can also create a loss in depth perception; however, for some clinical needs such as endodontics, a very bright light can make the difference between a clean and efficient treatment instead of hunt and peck.

Most light systems have enough battery power to go all day on one battery and all come with at least two batteries to prevent you from ever working in the dark. The only true question concerns brightness, battery weight and whether or not you want a battery or cord.

There are many options that exist today, including some frames that actually contain the batteries needed. The Orascoptic X61™ frame is a system that does just that. The X61 provides light with the brightness of 68-42 lumens and can be switched between those settings depending on the clinical need.

Digital impressions

I’ve sung the praises of this incredible technology a lot over the last couple of years. However, rather than focus on ease of use and digital workflow, this time I’d like to focus on the simple fact of the imaging of these systems.

Studies conducted over the last 20 years have frequently found that analog impressions sent to a lab frequently suffer from clinical defects that can actually affect the long-term prognosis of the permanent prosthesis.

The combination of the highly magnified preparation and the technology of measuring reduction digitally results in cases that are created with significantly fewer defects and substantially less “fudge factor.”

Digital radiography and artificial intelligence

The last topic I’d like to cover in this month’s column is something that’s not yet available in the mainstream but that you need to keep on your radar screen for the near future.

There has always been an art and a science to reading radiographs. Despite the market penetration of digitization, that art and science remain. Many doctors I speak with tell stories of multiple doctor practices that appreciate having more than one set of eyes to check radiographs with “tough call” images. No one in our profession wants to cut through a healthy marginal ridge to find out that the carious lesion was some type of image artifact and not truly a caries. While this doesn’t happen on every set of bitewings, it does happen a few times a day in busy practices.

Conservative doctors often put these into “watch” status, only to find that 12 months later, at the next bitewings, there’s now a significant area of caries that could’ve been treated with a much more conservative preparation the previous year. Then there are the areas that don’t appear to be carious but show up significantly 12 months later.

How can we prevent these situations from happening?

The answer to this paradox is artificial intelligence. A company called ParallelDots is currently working on a system that analyzes bitewings and then suggests areas that should be further evaluated by the doctor. As the doctor reviews the suggested areas and determines whether they’re carious or not, the program learns from the doctor’s decisions and uses this information to make predictions even more reliable.

On the rare occasions that the system fails to identify an area, the doctor can then use software tools to mark the area as a positive lesion, which the system subsequently learns.

Artificial intelligence will never replace the human factor in the diagnosis flowchart, but utilizing a system such as this could make diagnosis more efficient, more accurate and more reliable. It’s an objective second opinion that operates silently and continuously in the diagnostic background.

Wrapping up

With humans deriving about 85 percent of what they perceive about their environment through their eyes, enhancing our vision can easily be accomplished using tools that are readily available to practices today. I look upon the three technologies discussed here as amazing extensions of my own visual sense, allowing me to assess and address clinical situations with incredible tools that make me a terminator when it comes to dental disease.

There’s a great scene in “Terminator 2” where the Arnold Schwarzenegger character is driving on a country road with no headlights into a pitch-black countryside. His young passenger says, “Can you see?” The camera cuts to the view from the Terminator’s night vision system, which shows the scene in almost daylight, “I see everything,” he replies. Now with digital technologies, you can see everything too.

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John Flucke, DDS, is technology editor for Dental Products Report and dentistry’s “Technology Evangelist.” He practices in Lee’s Summit, Mo., and has followed his passions for both dentistry and technology to become a respected speaker and clinical tester of the latest in dental technology, with a focus on things that provide better care and better experiences for patients. He blogs about technology and life at blog.denticle.com.
How a Business Associate Agreement can save your practice

Invest in these documents at the onset of a cooperation to protect patient information and potential liabilities. [ by Dr. Lorne Lavine ]

As most dentists are aware, the data we collect on patients is rarely limited to the practice. Many different professionals have access to our patient information, including:

- A practice management consultant;
- The company that provides your practice management software (if they provide remote access support);
- Your accountant;
- The company handling your data backup;
- Your IT provider;
- The company handling the emails you send to patients and other providers.

All of these people are referred to as business associates. According to the U.S. Department of Health and Human Services, “A business associate is any person or entity that performs activities or specific functions for the dental practice which would involve the use or disclosure of patient information.” It is important to understand that anyone who is involved in the ongoing treatment of the patient is not considered to be a business associate. For example, labs, other practices you refer to and janitorial staff are not business associates, nor is any company that acts as a conduit for information, (excluding FedEx, UPS, USPS, etc.).

Dental practices are required to have a written and signed agreement in place with each one of their business associates. The HIPAA Privacy Rule requires dental practices to have written assurance that its business associates will safeguard all patient information it receives or creates for the practice. The rule also allows the government to impose penalties on the business associates and their subcontractors, which was not the case previously.

The final Omnibus version of the HIPAA rule requires that covered entities (i.e., you) enter into contracts with business associates to ensure that the business associates will appropriately safeguard protected health information. This Business Associate Agreement (BAA) also serves to specify the permissible uses and disclosures of protected health information by the business associate, based on the relationship between the parties and the activities or services being performed by the business associate. A business associate may use or disclose protected health information only as permitted or required by its Business Associate Contract, or as required by law.

“A business associate is directly liable under the HIPAA Rules and is subject to civil, and sometimes criminal, penalties for making unauthorized disclosures.”

Invest in these documents at the onset of a cooperation to protect patient information and potential liabilities.
A business associate is directly liable under the HIPAA rule and is subject to civil, and sometimes criminal, penalties for making uses and disclosures of protected health information that aren’t authorized by its contract or required by law. A business associate also is directly liable and subject to civil penalties for failing to safeguard electronic protected health information in accordance with the HIPAA Security Rule.

To protect your practice, you need to find a Business Associate Agreement (BAA) template that was written after the Omnibus Rule went into effect in 2013 (contact me at drlavine@thedigitaldentist.com and I will gladly send you one). Send it to all of your business associates and keep a copy of the signed agreement with both signatures on it. Many larger companies (i.e., Google) won’t sign your BAA but will provide you with one that they’ve created. If possible, have an attorney review this with you — the BAAs you create are designed to protect you; the ones they create may only protect the other party.

Also, be aware that some companies may not sign a BAA at all and you should re-evaluate your relationship with said companies. Using Google as an example, the free version of Gmail will definitely not sign a BAA, but if you’re on the paid G Suite, then they’ll provide you with a BAA. If a company doesn’t provide a BAA, or is unwilling to sign one, then you must consider the potential consequences to you and your practice should you ever be audited.

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Dr. Lorne Lavine, founder and president of The Digital Dentist, has more than 30 years of experience in the dental and dental technology fields. Dr. Lavine has vast experience with dental technology systems. As a consultant and integrator, he has extensive hands-on experience with most practice management software, image management software, digital and intraoral cameras, computers, networks and digital radiography systems. He also writes for many well-known industry publications and lectures across the country. Dr. Lavine can be reached at 866-204-3838 or by email at drlavine@thedigitaldentist.com.

“The HIPAA Privacy Rule requires dental practices to have written assurance that its business associates will safeguard all patient information it receives or creates for the practice.”
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5 ways to improve your digital marketing

H appy New Year! As you think ahead to the coming year, what goals have you set for yourself? For your practice? If nothing else comes to mind, then let this year be the one you simplify. Practicing dentistry and running a practice can be difficult as it is — why make it any harder than it has to be?

This is especially true when it comes to patient communication. When there are open lines of communication using the technology that your patients find valuable and convenient, the dentist-patient relationship is stronger, patient outcomes improve, treatment acceptance increases and loyalty becomes unwavering. Nothing can replace the valuable face-to-face interaction that takes place while the patient is in the office, but as the practice typically only sees the average patient twice a year, there’s a ton of opportunity in two areas that commonly present marketing challenges for many dentists: pre- and post-appointment communication.

Today there are tech tools designed specifically to assist dentists in creating meaningful connections with patients all year. Here are five innovative ideas to help streamline and simplify your patient communication tactics this year.

1. Don’t overlook your website
I’m not sure I’ve ever seen someone born after 1990 actually pick up a phone to make a call. Millennials now make up the majority of young families, as they’re now in their 30s, but their communication habits couldn’t possibly be more different than their Gen X and Baby Boomer counterparts. That’s why nothing in a dentist’s marketing arsenal is more important than the dental practice website.

Your practice website is only as useful as the information it provides patients, and if users can’t find the information or features they’re looking for, then the website isn’t living up to its potential. For example:

- Finding contact information: Ensure that your phone number, email address and physical address are easily accessible on the website, particularly when viewed on mobile devices, so patients never have an excuse to put off contacting your office.
- Making appointments online: At the very least your website should have a web form where patients can request an appointment on the “Contact Us” page. The ability to actually schedule appointments online via a company like PatientPop (patient-pop.com), Zocdoc (zocdoc.com) or LocalMed (localmed.com) is a highly valued feature for many tech-savvy patients. Many patients in their 30s and 40s today won’t choose a dentist unless they offer this feature, and this kind of patient-friendly technology is one of the major advantages that large DSOs and dental chains have over the independent dentist.

2. Refocus your attention on Google
Considering the enormous power of Google, a dentist’s Google My Business profile is arguably one of the most important to have online, especially in terms of reaching prospective patients. And as of November, Google has enhanced features by rolling out the Google My Business app. Now customers (patients) can follow, leave reviews and message businesses directly, while business owners (dentists) can respond easily from within the app. The new mobile app also allows businesses to post images and content, rivaling other platforms like Yelp, Facebook and Instagram.

3. Invest in front desk technology
Most practice management systems come standard with some type of rudimentary patient communication software. As patient communication technology has evolved, there are several trusted companies in the dental space that offer enhanced communication solutions, like Weave.

Incorporate new software and analytics programs to innovate patient interactions and improve perceptions.

[ by Naomi Cooper, president, Minoa Marketing and CEO, Doctor Distillery ]
With features like real-time texting with patients straight from the desktop computer and an algorithm that can identify and contact recall patients in order to seamlessly fill holes in the schedule, dentists can boost the efficiency at the front desk with just a few simple clicks of the mouse. But let’s be honest, while these systems seem impressive and flashy, what they truly do is make the workflow in the front office much more streamlined, allowing the staff to focus on other productive duties.

4. Explore the option of online chat
Online chat has taken real-time communication with patients to a new level. It’s widely used in the consumer space; you’ve likely utilized online chat to resolve a customer service situation yourself. Patients love the speed and anytime access, and dentists who have adopted this technology love the fact that their office is reachable by prospective patients 24/7 via a HIPAA-compliant, online communication method.

5. Always follow up with a survey
Do patients agree that your office runs as efficiently as you believe it does? Would they like to give a particular team member a shout out for a job well done? Post-appointment surveys provide a wealth of insight into the overall patient experience. They also demonstrate your commitment to patient satisfaction and even provide a natural segue into asking happy patients to post an online review. They can be automated to be sent out after every appointment and can provide an anonymous channel for patient feedback. While it’s true that no one likes to hear criticism, surveys provide a unique opportunity to identify and correct any weaknesses that may exist in the practice.

One final note: Many dentists are hesitant to automate patient communication out of fear that the messaging will come across as cold and impersonal, but take a moment to consider what all of the technologies above have in common — your valued patients like them. The benefits of these tech tools can not only help you run a more productive practice, but they can also simplify communication from the patient’s perspective. And anything that makes it easier for patients to interact with the office is a tool worth exploring in 2019.

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. She currently serves as a strategic branding and lead generation adviser 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.
Why dental memberships are growing in popularity

New cloud-based software systems like Kleer are innovating subscription-based dental payment models.

[by Mary-Theresa Watson]

With the ever-increasing complexity and limitations of dental insurance, modern-day dentists and practice-support staff often struggle to navigate the intricacies of exclusions, pre-approvals and proper documentation as they work to provide patient care and to receive reimbursement for care already provided. Likewise, patients often feel confused about their dental coverage, wondering if the seemingly mounting category of exclusions and limitations precludes them from accessing the care they desire. Annual dollar limits determining how much treatment is covered add to the frustrations, particularly when a patient must pay for non-covered treatment while continuing to pay monthly premiums. Consequently, countless patients put off or opt out of treatment, leaving many dentists with outstanding collections and an unprofitable business model. It’s a system that, in the eyes of many, isn’t working.

In response, many dental practices are changing the way they do business. With dentists and patients alike seeking clarity, transparency and simplicity when it comes to payment for dental care, many are turning to insurance alternatives like dental membership plans that operate on a subscription basis. Not unlike the membership model seen at buying clubs such as Costco, Sam’s Club or Amazon, dental membership plans aim to hand treatment control and profits back to the dentist while making dental care accessible to all patients. The basic model sees patients paying a monthly or annual subscription directly to the dental practice, and in return, they receive a full year of preventive care as well as discounts off additional treatments.

As the concept has gained traction over the last several years, many dentists have begun implementing membership plans into their practices by independently creating and setting up their own subscription-based dental care options. In establishing such a plan, a practice sets its fee structure; plan inclusions, discounts and sometimes credits; renewal benefits; and extra discounts if partnering with...
Different in that we enable practices in designing and managing their own membership plans so that each practice defines its own prices, discounts and inclusions.

Kleer assists practices in designing and managing their own membership plans so that each practice defines its own prices, discounts and inclusions.

Basically we’re seeing three groups of consumers switching over: uninsured patients, patients with poor dental plans that cover very little or have many limitations and exclusions, and patients whose insurance has very low caps so patients are paying premiums and not getting the care they need. A membership plan simply makes more sense for them,” Monahan says.

Monahan likens the system to Uber, mentioning that practices are providing unlimited guidance, training sessions and assistance. In addition, Kleer provides all of the marketing materials a practice needs to promote the plan from email and social media templates to signs and buttons.

In describing what inspired him to create Kleer, Monahan — who hails from a dual background in dentistry and technology, with a particular interest in connecting the two — explains how a friend who works in dentistry lamented to him about the difficulties faced by today’s dentists. Intrigued by this conversation, Monahan initiated market research to study the habits of dentists and consumers, both insured and uninsured. It became clear to him that, overall, while dentists were struggling, uninsured patients wanted dental care but weren’t getting it because they were afraid of the costs. “They didn’t know what the costs were,” he recounts, “and they were afraid to go to the dentist and lie in the chair wondering what it was going to cost them. But membership plans remove that worry because they are clear, open and transparent.”

That ease and transparency are resonating well with dentists and patients, as evidenced by the more than 1,000 practices who have joined in fewer than 12 months. While initially conceived as an option for uninsured patients, Kleer has found fans among insured patients as well.

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Dr. Richard Yarbro of Yarbro Family Dentistry in Spokane, Washington, implemented the plan into his practice in March 2018, less than three months after Kleer debuted. He and his staff are very happy with the program and patient response has been exceptional. Citing his practice’s history of working with uninsured patients, Dr. Yarbro is quite pleased with the streamlined and transparent way Kleer facilitates those efforts, making everything easier for patients and staff.

“Dentists are under siege right now and people just don’t seem to realize that,” he says. “In general, people have this perception of the dentist as a millionaire, but that’s just not the case. When you realize that $75 billion dollars are spent on dental insurance every year and that only 60 percent of that goes toward care, it’s nice to be doing something that puts the control and the money back where they belong.”

With both practice and patient acceptance running high, dental treatment plans will continue to grow and evolve. While each plan is unique to each practice, the underlying theme remains the same. Working hand-in-hand with platform-providers like Kleer, dental teams take matters into their own hands to make treatment uncomplicated, affordable and accepted.

FINANCE

BEST PRACTICES
Healthy habits require routine foundations

Follow these three steps to increase your health and wellness in the new year.

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

One of the most popular New Year’s resolutions is exercise, and research highly supports it:

• Live longer: People with the lowest levels of fitness suffered more than twice the death rate of those with a moderate level of fitness.
• Get happy: Exercising three to five days a week reduced depression among a group diagnosed with “major depressive disorder.”
• Sharpen your edge: Stop shrinkage of your brain and increase memory with at least three hours of brisk walking per week.
• Get creative: During exercise, the areas of the brain most filled with blood and oxygen are those associated with creativity and memory.
• Chill out: The rhythmic nature of aerobic exercise stimulates the relaxation-response effect, which reduces stress.
• Slim down: The more muscle mass you have, the more calories you burn, which is why resistance training is a great way to lose weight.

How many of your New Year’s resolutions did you keep last year? One of the main reasons that people don’t keep their resolutions is that they don’t make the resolution a habit. Once something becomes a habit, it’s very easy to continue. Here are the three secrets to successful resolution-keeping.

1. Do something every single day — no matter how small
In order to develop a habit, your actions must be consistent and regular. This means doing an activity daily — every day of the week. Most people fail when they feel defeated after missing a couple of days, and their new routine is often a downward spiral from there. However, when we realize that we can succeed in rewiring our brain with only a five-minute “action item,” we’re much more likely to experience success and continue onward toward the goal. So if you’re not feeling well, you’re tired, or you’re short on time, remind yourself that you’re still succeeding and effectively retraining your mind with only five or 10 minutes of exercise. Most importantly, you aren’t dreading the activity, since you know that you can still succeed in creating the habit with minimal effort. You also don’t regularly experience failure since you know that if you do anything at all — no matter how small — you’re succeeding.

2. Have a cue
In the book “The Power of Habit,” Charles Duhigg reveals studies showing that people are more likely to stick with a new routine if they pair it with a specific cue.

In other words, my morning exercise routine starts after I down a cup of coffee. My cue: the cup of coffee. What will your “cue” be in the new year to begin your exercise/stretching/yoga routine? When you pull into the garage after work? When your feet hit the floor in the morning?

Write down your cue and put it on the calendar. Isn’t your health
as important as picking up Maddy after her soccer practice? One study showed that in a group of total knee rehab patients, those who wrote down their action plan and/or goals started walking almost twice as fast as the group who hadn’t written any goals. It’s possible to boost one’s willpower through such a simple action.

3. What’s your reward?
You’re more likely to stick with a routine if you have a reward. Will it be a new pair of designer jeans (that’s one size smaller than your current ones)? An aromatherapy bath? A refreshing drink after your workout?

One famous example of the cue/reward cycle is the development of Pepsodent toothpaste. To get people to buy the toothpaste and brush their teeth, the “cue” was to get people to run their tongue over their teeth, and the “reward” was the minty freshness of the toothpaste. It was wildly successful, as demonstrated by all the companies that have developed minty toothpastes in their wake.

When it comes to exercise, research shows that when people habitually start exercising, even as little as once a week, other unrelated patterns start developing in their lives. They started eating better, became more productive at work, smoked less, and were more patient with friends and family. They found that exercise is a habit that triggers an overflow of good changes in other areas of one’s life.

Strengthening the wrong muscles is the most common mistake dentists make, and it can throw you into a vicious pain cycle. I developed a customized exercise program specifically for dentists. This program fuses the latest research on exercises that prevent low back, neck and shoulder pain with elements of biomechanics in the dental operatory, pilates, yoga and exercise physiology to create a highly specific and effective exercise routine that corrects the unique muscle imbalances that tend to develop in dental professionals.

My evidence-based CE video package, “Home Exercise for Dental Professionals,” helps dentists:

- Correct painful muscle imbalances
- Prevent neck and low back pain with research-based, proven exercises
- Work more comfortably
- Increase productivity
- Reduce fatigue

Make this the year that you’ll keep that New Year’s resolution, realize your goals and reap the benefits of good health.

Here are two exercises to prevent low back pain and get your year started off on the right foot.

**Lower abdominals**

Lie on your back with knees bent, feet on the floor and head on a small pillow. Place your hands under your low back and pull your navel toward your spine. You should now feel your back pressing into your hands. Be sure that you maintain this contraction throughout the exercise and don’t arch your back.

Lift one leg until the hip is at 90 degrees, then slowly straighten the same leg. Lightly touch the floor, hold, then return the leg to a 90-degree position. Repeat with the same leg five to 10 times. Make sure your neck stays relaxed. Repeat the exercise with the opposite leg.

**Mini-rotations**

Sit in neutral posture on the exercise ball, placing the door anchor at elbow level. Grasp the band with both hands at elbow level. Grasp the band with both hands and then slowly straighten the band. Pull your navel to your spine and hold the contraction. Bring your hands/arms to the sternum and rotate your arms and trunk together away from the door, then return. Perform 10-20 repetitions. This should be a slow, controlled and comfortable movement and there should be very little resistance. This is an excellent exercise for individuals with chronic low back pain. Turn and repeat in the opposite direction.

**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.

[ Figs. 1-3 ] Dr. Bethany Valachi’s CE video package. Enter discount code OTB2019 upon checkout to receive a Dental Products Report special discount (Fig. 1). Lower abdominals exercise (Fig. 2). Mini-rotations (Fig. 3).
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TOP 6 NEW YEAR’S RESOLUTIONS YOUR DENTAL STAFF WISHES YOU’D MAKE

[ by Lisa Newburger, LISW-S ]

01 I will not yell at my staff.

It’s that time of year again when we all make promises to change or work on certain aspects of our life in the coming year. While many people have good intentions, most resolutions are broken before January is even over. Rather than making the same resolutions for yourself this year, let’s try something different. Here are six New Year’s resolutions your dental staff wishes it could make for you.

02 I will not schmooze with patients, resulting in the schedule getting backed up.

Tensions can run high in a dental practice, but yelling or raising your voice won’t make your employees listen to you.

03 I will take responsibility for what happens in the office.

Mistakes happen. But as a business owner, you need to figure out how to resolve issues. Don’t try to scapegoat an employee. Remember that you’re the boss and how you handle issues impacts not just your employees but your patients too. It’s better to have teachable moments with your staff so that the same mistake isn’t repeated.

04 I will not gossip with my staff.

The line between gossip and information is a moving target. Do you need to know if your employee just learned that her spouse wants a divorce? If this news is impacting her work, then the information might be useful. But would you want your boss to know your personal business? If the information isn’t impacting your job or practice, then you don’t need to know.

05 I will listen to my employees’ solutions.

The mark of a good leader is having the ability to listen. Without strong communication between you and your subordinates, nothing will change. You need to value your employees and ask them for their ideas to solve problems. I once had a boss who told me not to come to him with a problem unless I had some suggestions as to how to fix it. It empowered me to realize that I can solve problems on my own.

06 I will try to talk to my employee in person before sending an email.

Technology is a wonderful thing, yet it can also be a big problem. People hide behind their computers instead of communicating directly with their colleagues. If there’s an issue in the office, then talk to your employee in person. It can be damaging to staff morale if you give instructions via email instead of just addressing the situation in person. Do the right thing and have a face-to-face conversation.

Your dental practice is a service-oriented business. Your office is about people — both your staff and your patients. Start your year off right by listening to your employees and encouraging them to share their ideas and solutions to problems. There’s no better time than the present to start the conversation.
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