

DENTAL ADVISOR™

Product insights you can trust.

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What's New in Digital Dentistry?

MAIN TOPIC

- 2 What's New
in Digital Dentistry?

EDITORS' CHOICE

- 10 Tokuyama Universal Bond
(Two-component Universal Bonding Agent)

CLINICAL ARTICLES

- 11 Super Fiber Posts
(Pre-primed esthetic fiber posts)
- 12 Univet® Loupes
(Ergonomically-designed loupes)

RESEARCH REPORTS

- 9 Tokuyama Universal Bond
Shear Bond Strength
to Dentin, Enamel and Zirconia





As most of you know, I recently opened my solo dental practice and had to immediately consider which digital options were a priority for me. I've had the privilege of using most every intraoral scanner on the market, had the ability to mill in-office, and like to stay on the cutting edge of technology. I realized that I've been lecturing on this topic for 11 years now, and so much has changed, but many things have not. I still use impression material. I enjoy digital scanning. I am currently considering Carestream, i7ero, or 3 Shape. I have not purchased a scanner yet, and I don't plan on milling in my office. I'll leave that to my lab. In fact, I donated my in-office mill for research. 3D printing is an area that intrigues me, but I'm not ready to invest yet. In this issue, we found that I'm not alone. Many of my colleagues have successfully implemented scanning, milling, and 3D printing in their offices. Each practice is different, and before you choose for yourself, read through this issue.

As always, I welcome your feedback and questions at drbunek@dentaladvisor.com

— *Sabiha S. Bunek*

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Restoration Workflow

Digital file made from one of the following:

Intraoral Scanner



Impression Scan



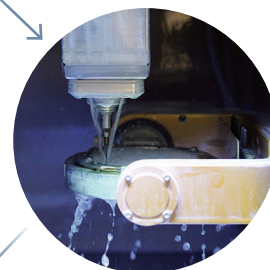
OR

Software Design

CAD



In-office milling



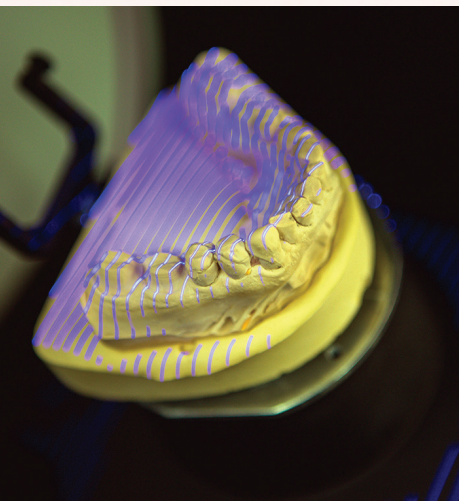
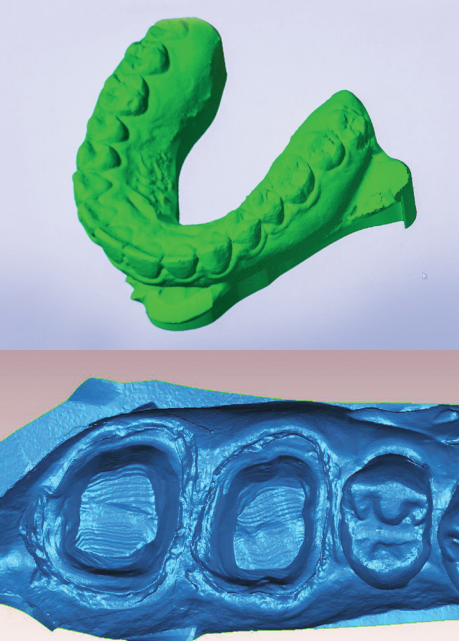
Lab milling

OR



Final restoration

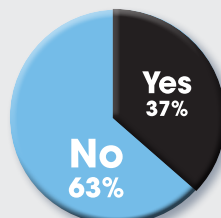
CAM



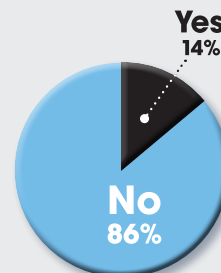
BY THE NUMBERS

We Asked Our Consultants Their Opinion on Digital Dentistry

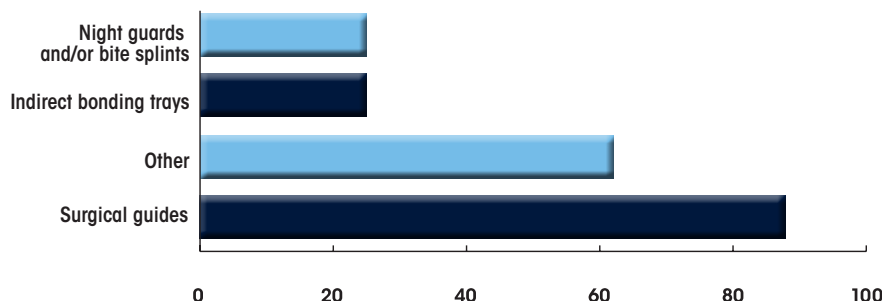
Are you currently using **intraoral scanners** in your office?



Do you currently use an **in-office mill**?



How are you using **3D printing** in your office?



60%
Cost

What is holding you back in making **a purchase?**

40%
Changes in technology and upgrades

22%
My technique works fine

21%
Confusion about how to incorporate into my office

15%
Making the right choice for my practice

51%

would purchase an **intraoral scanner** as a first step into digital technology.

Over the past **11 years**, we have surveyed our consultants and reasons for not investing **still remain the same.**

Intraoral Scanners

Although intraoral scanners have been on the market for over 25 years (CEREC was introduced in the 1980s), many dentists still hesitate to adopt the technology. What are some of the hesitations? And for those that have switched over from traditional methods, what are the advantages?

Advantages of intraoral scanning:

Allows clinician to scrutinize their preparation like never before. Margins are clear on screen, identifying anomalies and potential areas that may need refining.

Immediate delivery of a file to a laboratory or in-office mill cuts down on turnaround time.

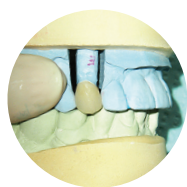
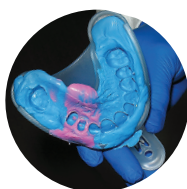
Patient experience is enhanced. Most enjoy seeing a computer screen image of the procedure completed, being part of their treatment planning, and are pleased not having to experience the traditional impression process.

Ability to work with your laboratory to deliver cases faster with less steps for error.



Why hasn't everyone purchased an intraoral scanner?

- **Concern about future upgrades.** As technology changes and improves, there is concern about devices becoming outdated and the need to replace them.
- **Cost.** Price points have not significantly changed over the last 10 years.
- **Change in office workflow.** Training is required as is a change in technique.
- **Traditional methods** are producing accurate results. Few adjustments are needed at delivery.



Tissue management remains the most critical piece of any good impression.

WHAT'S NEW?

Take 1 Retraction Paste (Kavo Kerr) kerrendental.com

Take 1 Retraction Paste is the first material of its kind to be offered in two viscosities. High Viscosity offers a thicker consistency that can be packed into place without using retraction cord. Low Viscosity offers a second layer in the dual cord technique. **Take 1 Retraction Paste** is a dual action paste with 15% aluminum chloride and kaolin to provide hemostasis while absorbing excess fluids and promoting gentle retraction. Included with the paste are unique compression caps to assist in material placement into the sulcus. Both viscosities are available in unit dose and fit into a traditional composite dispenser. **Take 1 Retraction Paste** is an excellent adjunct to any digital or traditional impression.



Digital Case Planning

Ortho Integration

When the original **iTero** was brought to market, it was the first to integrate with **Invisalign** and clear aligner cases. It remains popular with orthodontists and general dentists alike due to its seamless integration in case planning.

As scanners have evolved, each scanning company has a solution for dental practices who wish to integrate a digital platform into clear aligner cases. Most involve a digital impression, 3D printed models, and a case succession so that practitioners can make trays in their own offices or be provided with a set of trays.



iTero Outcome Simulator



Carestream CS9300

CBCT Integration

Many of the scanners on the market offer case planning for complex implant cases using software which overlays the CBCT scan with the digital impression. This assists in custom abutment and implant supported crown and bridge design. Some CBCT scanners offer the ability to scan a traditional impression and import into the CBCT software. This is especially helpful for interdisciplinary case planning.

Scanner Showcase

Straumann® Virtuo Vivo™

(Straumann) Straumann.com

Experience full-arch, powder-free scanning in real-color with the **Straumann® Virtuo Vivo™** intraoral scanner.

The remarkably small and lightweight **Virtuo Vivo™** handpiece is ergonomically designed to provide a pen-grip hold and comfort so you can conduct intraoral scans with confidence.



Wave goodbye to traditional touchscreen monitors. **Virtuo Vivo's** motion control technology allows touch-free manipulation of the cart screen imagery while wearing gloves. Additionally, you can use the air-mouse feature that enables movement of scan on the screen based on the tilt of the handpiece.

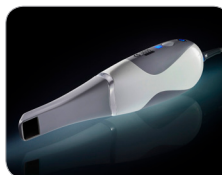
- Scanning in real color with an increased field and depth of view
- Removable and autoclavable sleeves improve patient turnaround time
- 3D scanning technology with two miniaturized 3D scanners
- Voice and a gesture control module
- Improved patient comfort and real-time digital treatment planning
- Scan and Send integration for design, chair-side milling, and outsource services

CS 3600

(Carestream)
carestreamdental.com

New enhancements to the **CS 3600** intraoral scanner's acquisition software take the technology from smart to genius.

Intelligent scanning features, such as color coding to indicate gaps in the data set and guide arrows that show the ideal direction for a re-scan, deliver helpful feedback to improve scans in real time. In restoration mode, users are alerted to possible undercuts, have the ability to lock retracted gingival to avoid collapse and can take measurements around the arch. The updated implant-borne restorative workflow includes the new scanbody area selection tool that allows users to select the region around the scanbody to prevent an image mismatch. New for the orthodontic workflow is the ability to use the **CS 3600** to capture HD 2D intraoral quadrant "snapshots," which can be extracted from the digital impression for the patient's file. All three workflows feature color-coded occlusion mapping.



iTero® Element 2®

(Align Technology) itero.com

iTero® Element 2® intraoral scanner delivers faster scan processing, enhanced ergonomics, high-definition color imaging, high-tech training, technical support and predictable restorative and orthodontic workflows.

iTero Element 2 communicates seamlessly with external treatment planning, custom implant abutment, chairside milling, and laboratory CAD/CAM systems. **iTero** digital scans can enhance the accuracy and precision of your downstream restorative process with open STL export and restorative file interpretation.

Innovative software applications such as **TimeLapse** and **Occlusogram** provide clinicians a streamlined user experience while simultaneously serving as a driver for patient treatment acceptance. With exclusive software solutions such as **Invisalign® Outcome Simulator** and **Progress Assessment**, patients are able to visualize their potential smiles, while doctors can track progress and plan faster.



In-Office Mills

As with intraoral scanning, in-office milling has existed since the 1980s. What has recently evolved is the **paradigm shift in terms of delivering a crown in a day**. Some dental practices have realized that shifting schedules and workflow isn't for everyone. However, offices that have **successfully implemented both scanning and milling** in the office do exist, and as materials and methods improve in ease of use, we may see a shift in practice mill sales. One other trend that seems to be growing is for **dental practices to hire a laboratory technician specifically for their office** that can manage their digital workflow and lab work, including design, milling, finishing, and even 3D printing.

In-Office Milling: What is Required?

Material Type	Mill	Fire	Finish
Resin Ceramics	Can be milled directly with no finish time	No firing necessary	Finish with polishers
Lithium Disilicate <i>e.max CAD</i> (Ivoclar Vivadent), <i>LiSi</i> (GC America) <i>nice</i> (Straumann)	Can be milled directly: Some require final firing	Depending on type of material, may require a porcelain oven	Stain and glaze
Zirconia	Can be milled directly: Requires a 5-axis mill and stronger burs	Requires a fast-fire zirconia sintering furnace*	Stain and glaze

*The only exception is **BruxZir NOW** (Glidewell Laboratories) which is a fully sintered zirconia. Most require stain and glaze for a final finish.

Zirconia: How it has changed the in-office milling process?



With the popularity of zirconia in recent years as an alternative to lithium disilicate, in-office mills have had to adapt. Previous mills did not have the axis nor firing furnaces to be practical. Five-axis mills and fast-fire furnaces offer quick turnaround, **keeping the promise of delivering a crown in a day**. Research is currently being done to investigate the **effects of fast firing introducing microfractures into zirconia**, so it should be noted that the **process is technique sensitive** and requires training.

In-Office Mills Showcase

fastmill.io™ In-Office Mill

(Glidewell) Glidewell.io

The **fastmill.io™ In-Office Mill** gives doctors the power to prescribe, mill and deliver single-visit crowns. As an integral component of the glidewell. **io™ In-Office Solution**, the **fastmill.io** is electric-powered and requires no external air compressor, making it easy to integrate into any workspace. Operation is simple, and on-call support from Glidewell is always available. The **fastmill.io** is the only in-office mill powerful enough to mill restorations from **BruxZir® NOW**. The material is fully sintered and requires no oven time — just mill and deliver. The resulting restorations are comparable to those made by the dental lab.

- Exclusive milling technology from Glidewell
- Electric-powered; requires no air compressor
- Simple operation and one-on-one support



CS 3100

(Carestream) carestreamdental.com

The **CS 3100** is ideal for the milling of full-contour crowns, full-contour bridges, inlays, onlays and veneers using hybrid resin and ceramic. For the ultimate restorative versatility, the mill offers four distinct milling options: Milling, grinding, carving and thrilling. High-speed, vibration-free milling creates sharp margins and smoother surfaces and significantly reduces the amount of chipping that can occur from the vibration caused by mills that use two-spindle, non-brushless technology. With the **CS 3100**, users also access state-of-the-art intuitive restorative design via exocad **ChairsideCAD** software, which is completely integrated into the **CS Solutions** platform. The **CS 3100** is part of the **CS Solutions** restorative portfolio; dentists can capture digital impressions directly using the **CS 3600** or **CS 3700** intraoral scanner, or create conventional impressions and digitize. They can then use the image data to design a crown with the integrated exocad software and mill the designed restoration with the **CS 3100**.



3D Printing

Most clinicians have heard the term and are excited about the possibilities. Many do not understand the process and how it fits into office workflow.

For the most part, dental practices that have integrated 3D printing into their offices are by and far specialists who are printing models or surgical guides for implants. But the landscape is changing rapidly. **DLP printers** are now marketing direct to **dental practices**, due to their speed and the ability to print small, unique jobs. **SLA printers** are also gaining popularity for those with **in-office laboratory technicians** or for full-service **dental laboratories**.

2 Types of Printers

• **DLP (Digital Light Processing) printers:**

Uses digital projection on to the entire platform at once.

- Printing splints
- Denture bases
- Custom trays
- Ortho models and planning clear aligner cases

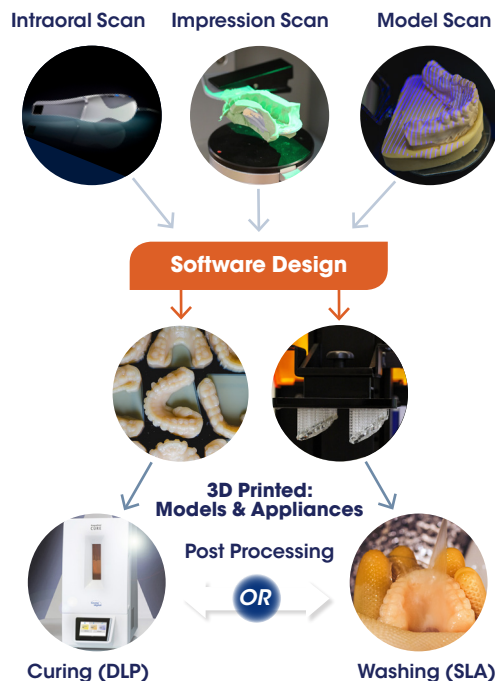
• **SLA (laser-based stereolithography):**

Uses laser to solidify the print layer by layer.

- Larger project loads that require small detail, such as models.
- Larger project loads that require small detail, such as surgical guides, custom trays.

3D Printing Workflow

Digital file made from one of the following:



WHAT'S NEW?

Whip Mix is the first company to validate both their material and method with FDA, ensuring accuracy.

VeriSplint OS 3D Print Resin (Whip Mix)

First FDA Cleared 3D Printable Hard Splint Material

Whip Mix has developed a 3D printed resin that is rigid and durable for dental splints. The additive manufacturing of splints provides a high level of efficiency by removing several lengthy steps and lowering the cost of materials. It also brings a greater degree of digital design flexibility into the process, which improves both the lab's and the patient's experience.

- The highest mechanical bending and breaking strength (without brittleness)
- Wear/scratch resistance
- Color stability
- Resistance to staining
- Transparency
- Biocompatibility
- Polishability
- Cost effectiveness
- Two-year shelf life



cara Print 4.0

(Kulzer) kulzerus.com

cara Print 4.0 (Kulzer) is a 3D printer designed specifically for the production of high-quality, polymer-based dental appliances. Many other 3D printers on the market are laser-based (SLA) 3D printers, but **cara Print 4.0** leverages Digital Light Projection (DLP) technology. This allows it to create restorations layer-by-layer versus pixel-by-pixel, making it much faster, more accurate and more economical—in fact, most dental appliances can be printed in just one hour or less! **cara Print 4.0** has an open system, and uses STL files compatible with most CAD programs. 18 different dima Print materials (also from Kulzer) are currently offered—including 4 denture base and 6 denture teeth shades that are FDA-cleared for long-term intraoral use.

- Quick and easy: print most appliances in one hour or less!
- 3D-DLP technology—for precise, accurate results every time
- More cost-effective than most 3D printers
- Open STL files work with most CAD programs, such as 3Shape
- Backed by the US-based Cara Support Team, comprised of dental professionals



Digital Decision Making: What's right for your practice?

Dr. Yaser Shaheen, DDS

Clinical Consultant,
Private Practice: Berkley, MI



Why did you choose to purchase a 3D printer in your office?

I decided to purchase the 3D printer because it is the future of dentistry and I believe it is an important tool in my office just like a high-speed hand piece or extraction forceps.

What are you using the printer for and what brand did you decide on?

I use the printer mostly for implant surgery and some times for other surgical procedures. I purchased FormLabs 2.

What is exciting to you about digital dentistry?

Digital dentistry is exciting because of the high predictability and time saving. I can evaluate the assumed results in advance and we can share everything with the patients to educate them and have them fully knowledgeable about any treatment plan.

Prior to purchase, consider the following:

- **What is working well in your practice** that you don't want to change?
- **What are some of the efficiency challenges** you are experiencing? Time? Patient discomfort? Accuracy? Lack of skill or training?
- **How will the piece of technology be integrated** in your office? What are your expectations after you purchase?
- **Will additional training be required** to master the technology? Have you set time aside in your schedule for it?
- **Is your team as excited** as you about the technology?
- **Have you performed a return on investment** calculation and are you willing to invest and wait for return?

Dr. Anthony Valentine, DDS

Editorial Board Member,
Private Practice: Ann Arbor, MI



You decided not to invest in an intraoral scanner when you opened your practice. Why?

Large cost for initial investment and possibly cost for each case to be sent to the lab and software upgrades. Currently, any scanner would be on my "wish list" as I am digital and could integrate at any time. Also, I have had CE courses state polyvinyl siloxane (pvs) is still the standard of care for accuracy.

What would be the feature(s) that would motivate you to purchase one?

I would love an affordable scanner that is wireless, does not require powder (but can scan through or air dry saliva), is able to fit in the posterior with room to spare, scans in color for patient "wow factor", can be used for crown, bridge, inlay, onlay, provisionals and denture fabrication all compatible with a variety of practice software and accepted by all labs for file transfer at realistic to no fee.

Opening the door to a digital solution:

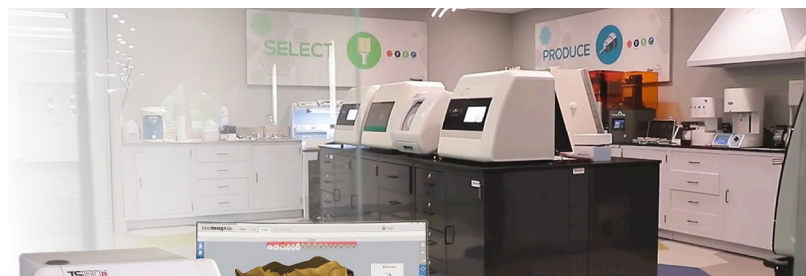
Many doctors question the need for digital impressions and milling in office, and are confused about where to turn to learn about varying options. In the past, companies sold products as a system, and although doctors purchased the system, it often did not allow for integration with their laboratory, file or case editing, or working with products unapproved for the system they had purchased. In short, systems were closed and proprietary.

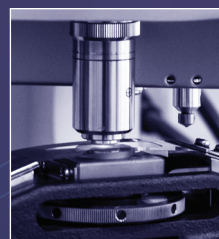
As digital options grow for dental professionals, most systems have now changed to open their software and architecture to accept a universal file type, .stl. What this means for the end user is that different brands can be used together successfully, and allows for new materials and methods to be more universal in terms of equipment it can be utilized on.

Benco Dental is a family owned dental supply company and offers customers the ability to visit their Centerpoint Showroom to utilize digital scanners, learn the design and manufacturing process of crowns, bridges, and removable appliances, and understand how equipment can successfully work together without being locked in to a specific brand. Whether you are seeking a one visit solution of crowns made in a day, wanting to move into digital impressions, or begin to 3D print in your office, Benco offers a drive down the digital highway in an approachable and informative way.

Benco | **ONEVISIT**

BENCO DENTAL CENTERPOINT EAST SHOWROOM





Tokuyama Universal Bond Shear Bond Strength to Dentin, Enamel and Zirconia

M. Cowen, J.M. Powers

Experimental Design:

MATERIALS:

Bonding Agent: *Tokuyama Universal Bond* (Tokuyama Dental America, Inc.)

Composite: *Estelite Sigma Quick* (Tokuyama Dental America, Inc.)

Substrates: Self-etched Superficial Dentin and total-etched Ground Enamel, IPS e.max ZirCad

Storage: 24 h in 37°C deionized water and 5000 thermocycles between 5-55 °C with a 20 s dwell time

Replications: n=8

METHODS:

Pretreatment of Surfaces: Human, adult molars extracted within the last 2 months and sterilized in a 10% ethanol solution, were embedded in acrylic resin discs and ground through 600-grit SiC paper to form bonding substrates of superficial dentin and ground enamel. IPS e.max ZirCad specimens were ground through 600 grit diamond abrasive, and air abraded with 50 µm alumina oxide at 30 psi pressure. Specimens were ultrasonically cleaned in deionized water for 5 minutes. Tooth specimens were preconditioned to 37°C for at least 1 hour before use, and rinsed with 37°C water after application of the 35% phosphoric acid etchant (3M) in the etched enamel group. *Tokuyama Universal Bond* was applied for 5 seconds with a micro-brush and immediately dried with 5 seconds weak and 5 seconds medium air. *Estelite Sigma Quick* was then placed on top of the substrate utilizing the Ultradent Shear Test mold and jig according to ISO 29022 to produce a 2.38 mm diameter, 2 mm in height shear test cylinder. The cylinder was light cured for 20 seconds with an *Elipar Deep Cure-S* (3M) while in the mold. The specimens were then transferred to a 37°C water bath until testing or thermocycling and testing. Specimens were tested using an Instron 5866 universal tester with a 1 mm/min crosshead speed.

Results:

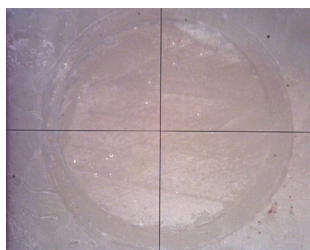
Failure mode was adhesive to zirconia substrates. There were two dentin specimens in both 24 hour and thermocycling groups which had mixed failures through the dentin. Etched enamel specimens showed predominately adhesive failures with some stress lines evident on the enamel surfaces in specimens over 38 MPa, and two specimens with small edge failures (<20% area) through the composite-adhesive interface.

This bonding agent has exceptional wettability and can produce a glossy even surface after 3-5 seconds of mild air drying. There may have been a small amount of continued polymerization after 24 h of storage resulting in a higher bond strength to tooth structure. The bond strength to zirconia showed a moderate drop after thermocycling which is similar to most other universal bonding agents.

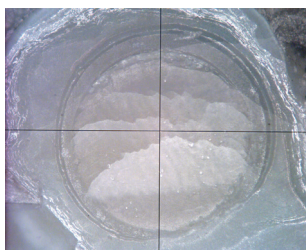
<i>Tokuyama Universal Bond Shear Bond Strength, MPa</i>		
Substrate	24 hours	5000 Thermocycles
<i>Self-Etched Dentin</i>	28.9 (3.4)	36.0 (5.2)
<i>Total-Etched Enamel</i>	34.6 (3.0)	38.4 (4.7)
<i>Zirconia</i>	33.6 (4.3)	26.9 (1.7)

Means with Standard Deviations in Parentheses

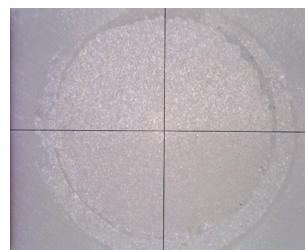
Typical Interfaces of Tested Substrates



Self-Etched Dentin



Total Etched Enamel



Sandblasted Zirconia

Conclusion:

The bond strength of *Tokuyama Universal Bond* to tooth structure after thermocycling was excellent. All average bond strengths were above 25 MPa and is comparable to other universal bonding agents on the market, but with a fast application time and no light curing needed.



33 CLINICAL EVALUATORS

686 TOTAL USES

92% CLINICAL RATING

Key features: Universal bonding agent • No separate primer or activator required • Self-curing • Two-component

Description

Tokuyama Universal Bond is a universal bonding agent that:

- Can be used with self-etch, selective etch, or total etch techniques
- Provides high-bond strength and reliable bonding for direct and indirect restorations, core build-ups, and for the intraoral repair of restorations
- Has no wait time after application, as it is self-curing

Indications

- Bonding of direct anterior and posterior composite restorations
- Intraoral repair of composite restorations, porcelain-fused-to-metal, metal, and all ceramic restorations
- Cementation of indirect restorations and veneers when combined with light-cured, dual-cured or self-cured resin cements
- Bonding of core build-ups and opaque resin-to-metal during fabrication of resin-faced crowns
- Bonding of denture resin to a metal base, clasp or attachment

Unique Attributes

- Compatible with light-curing, dual-curing and self-curing composites without use of additional activators.
- Suitable for use as a primer for silica-based, zirconia-based and metallic restorations.
- Self-cured chemistry provides reliable bond in deep preparations, posts and core-build ups that are difficult to reach with a curing light.
- 25-second application and no wait time after application.



Clinical Tips

- The color helps to ensure the bonding agent is placed exactly.
- Make sure the area is dry.
- Use a different bonding agent to "wet" your plastic instrument when placing composites.

"GREAT PRODUCT. EASY TO APPLY, FAST, AND NO WAIT TIME."

Evaluators' Comments

"I like that you don't have to light-cure."

"Good viscosity with minimal film thickness, making it easy to apply."

"A wonderful material for deeper preparations and post and core build-up placement."

"Fantastic spread of flowable restorative composite across the bonding agent."

"Excellent for intra/extra oral repair of porcelain and great for hard-to-reach places."

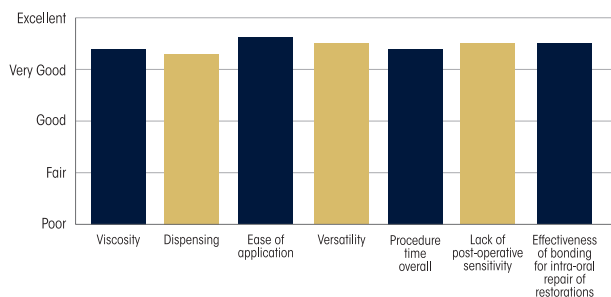
"I liked that I could use it as the primer for zirconia and lithium disilicate crowns."

"Great versatility and the flexibility to use in any etching mode."

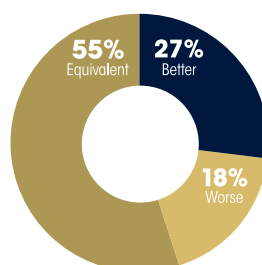
"I didn't like having to refrigerate it."

"It was difficult to dispense perfect drops from both bottles."

Evaluation Summary:



Compared to Competitive Products:



Percentage of Consultants Who Would:

67% Recommend in addition to product they currently use

55% Purchase in addition to product they currently use

24% Purchase instead of current product



31 CLINICAL EVALUATORS

218 TOTAL USES

93% CLINICAL RATING

Key features: Esthetic fiber post • Available in six sizes • Pre-primed
• Matching drills

Description

Super Fiber Posts®:

- "Total internal reflection" provides excellent light transmission for effective curing
- Elasticity similar to dentin with low modulus of elasticity
- High radiopacity
- Color-coded stopper indicating size of post
- Pre-primed surface
- Packaged individually in blister packs

Indications

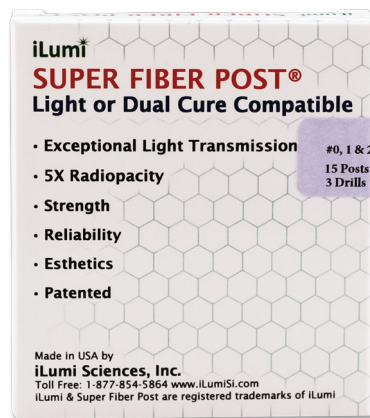
- One-step post and core buildup procedures
- Use with light-cured or dual-cured core-buildup material

Clinical Tips

- Use other post drills to just smaller than post you will use, then use coordinating drill from kit.
- Remember to remove 2 mm of the coronal dentin per the instructions.
- On some occasions I removed the stoppers as they were in the way.

Unique Attributes

- Pre-primed surface
- Hygienic packaged in blister packs



"THE
RADIOPACITY
WAS THE BEST
I'VE SEEN!"

Evaluators' Comments

"Love the ease of use and individual packs, it makes placement quick and easy."

"Cutting excess was super easy."

"Cementation was easy since the posts are pre-primed."

"The post prep drills were easy to use and left a clean surface."

"The posts adapted very well to the canals and were very radiopaque."

"I liked the posts a lot but was disappointed in the drills."

"The coronal portion of the post was substantial in size compared to others."

"I liked the blister packs and the color coding."

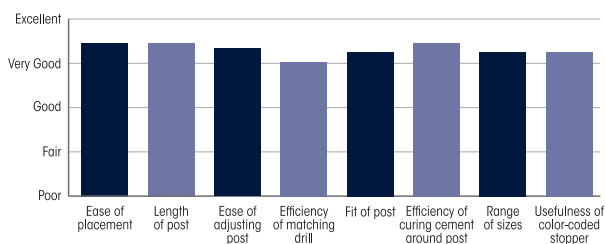
"Great light transmission and the instructions for use are good."

"The drills did not cut dentin very well."

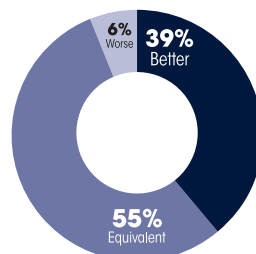
"The packaging is not very convenient or sturdy."

"I would like longer posts."

Evaluation Summary:



Compared to Competitive Products:



Percentage of Consultants Who Would:

58% Recommend in addition to product they currently use

32% Recommend instead of product they currently use

10% Not recommend

Description

Univet® Loupes are designed to offer an ergonomic declination angle, with 2.0x to 5.0x magnification, a large field of view, and optical clarity. Each set of **Univet Loupes** is custom fitted through a 6-tier measurement process for optimal ergonomics - Italian designed to be comfortable, lightweight, and attractive. **Univet Loupes** are available with and without headlights.

Unique Features

- Ergonomically designed for comfort
- 6-tier measurement for an ergonomic custom fit
- Ergonomic declination angle to match the pupillary height of the clinician
- Wide field of vision and optical clarity to minimize optical abrasions supported by patented achromatic technology
- Attractive Italian design
- Local customer service for Canadian and US clients

**91%
overall
rating**

"FITTING
PROCESS WAS
THE BEST I'VE
EXPERIENCED."

Evaluators' Comments

- "Dealing directly with a highly trained **Univet** representative added significant value to the overall process."
- "Larger field of view than my previous loupes which made only a 0.5 difference in magnification seem much larger."
- "Crisp detail and perfect precision."
- "Very ergonomic, light frame."
- "Great headlight that is superior to others I have used."

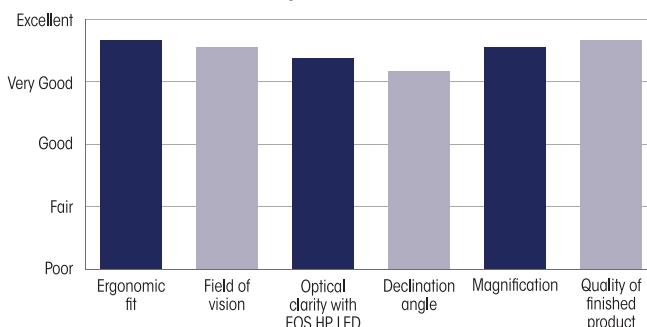
Evaluation Highlights

Univet Loupes were evaluated by five consultants, with a total of 208 uses.

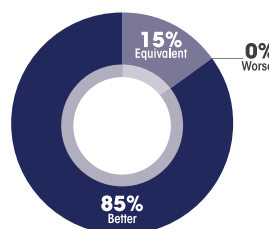
- Ergonomic design
- 6-tier measurement process
- Crisp optical clarity
- Wide field of vision



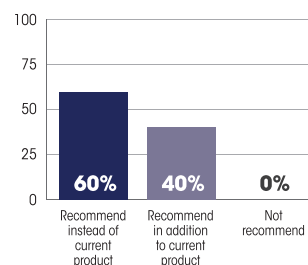
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



SPECIAL THANKS TO:

Select Senior Clinical Consultants (Over 20 years):

R. Fisher, OH · E. Katkow, MD · J. Lockwood, MI · G. Poy, MI · R. Trushkowsky, NY · P. Yaman, MI · K. Baker, TX · F. Berman, PA · J. Bostic, OH · L. Brimhall, MT · M. Briskin, NY · W. Brownscome, MI · R. Ciocone, MI · C. Colbert, MI · M. Conrad, PA · R. Dost, VA · J. Doueck, NY · M. Eannaccone, NY · K. Fairbanks, MI · M. Feinberg, NY · K. Fischer, IN · G. Franco, NY · N. Garlisi, OH · S. Graber, IL · P. Grandsire, NY · E. Gutman, NY · D. Haas, Ontario · K. Hamlett, TX · G. Hart, OH · R. Henwig, KS · J. Kaminski, MI · R. Kaprielian, NJ · M. Kostner, OH · D. Keren, NY · M. LaMarche, WA · J. Leitner, MI · S. Lever, MD · R. Lezell, MI · M. Man, NY · B. Manne, FL · N. Mansour, MI · N. Markarian, CA · C. McLaren, MI · J.W. Mikesell, IL · R. Mizrahi, NY · G. Mosso, PA · E. Mosso, PA · J. Nash, MI · A. Nazarian, MI · R. Oshrain, NY · J. Paris, TX · D. Parris, GA · M. Patel, MI · D. Peterson, MD · T. Pieper, WY · D. Pitak, MI · V. Plaisted, NY · D. Qualliotine, NC · G. Raichelson, Ontario · C. Reed, MI · G. Reskakis, NY · K. Schwartz, FL · J. Shea, MO · B. Shumaker, NJ · B. Sims, NY · P. Symeonides, NY · H. Tetelman, OH · C. Trubschenck, CA · S. Ura, NH · W. Walcott, MI · M. Waranowicz, MI · L. Wee, MI · H. Yeung, CA · P. Zanetti, MI · S. Zimmer, MI

Clinical Consultants (19 years or less):

D. Aaron, Matatiah, CA · A. Albright, NY · B. Argersinger, NC · R. Arif, OH · P. Arsenault, MA · G. Ash, MI · S. Baker, GA · M. Bannan, NC · B. Barricklow, OH · L. Bartoszewicz, MI · B. Bauer, IL · J. Bechtel, MI · C. Bhatti, MI · L. Bishop, MI · T. Bizga, OH · G. Bloomfield, MI · G. Bonior, MI · C. Brown, LA · E. Brust, MI · S. Bunek, MI · J. Bunek, MI · J. Bush, PA · H. Cadorette, MI · M. Capalbo, RI · M. Caligiuri, CA · P. Campo, NY · P. Cracchiolo, MI · D. Chacko, TN · P. Chaiken, IL · R. Cherry, FL · R. Chuang, CA · M. Connelly, MI · S. Crawford, MI · J. Curley, NC · W. K. Dancy, GA · S. Dillingham, NY · K. Dobracki, MI · S. Doniger, IL · J&E Duski, MI · A. Dufko, MI · M. Egbaria, IL · M. Elford, MI · O. Erdt, MI · K. Evanoff, MI · M. Evers, OH · F. Facchini, MI · F. Falcao, FL · L. Feldman, NJ · G. Fink, DE · M. Frankman, SD · M. Glovis, MI · C. Goldin, MI · M. Grant, MI · A. Green, MI · R. Green, MI · B. Greenwood, UT · J. Griffin Jr., MO · K. Grindling, MI · P. Gronet, KY · R. Grossman, PA · H. Gulati, MA · F. Haddad, MI · G. Haddad, CA · J. Haddad, MI · A. Hakhamian, CA · J. Hamerink, MI · W. Hanna, MI · J. Hastings, CA · A. Hodges, NC · C. Huang, CA · M. Huberty, WI · J. Ireland, MI · S. Irwin, NJ · C. Jaghab, MI · J. Jaghab, MI · W. Jenkins, MI · T. Jolly, TN · R. Juluri, IL · M. Kachi-George, MI · D. Kapp, NY · J. Kane, MI · Y. Kang, MA · J. Karam, MI · G. Karacouzas, MI · E. Kelly, GA · J. Kelly, GA · L. Kemmet, MN · M. Koczarski, WA · L. Knowles, MI · B. Kolb, MI · GA Krishnan, CA · E. Kuns, OH · C. Laird, OR · T. Lam, CA · R. Le, NC · I. Levine, NY · E. Lowe, BC, CAN · J. Lue Yen, GA · A. Malkis, NY · C. Manduzzi, MI · J. Mangutz, MI · K. Mantzikos, NY · B. Mayday, MI · T. McDonald, GA · J. McLaren, MI · M. McMullin, MI · G. Meylan, MI · M. Migdal, MI · J. Mills, MI · J. Minsky, CA · L. Montes, NY · A. Moore, NC · L. Motyl, MI · M. Murphy, MI · M. Murrell, MI · L. Musgrave, MI · M. Nasif, MI · N. Nealis, IL · B. Neren, NY · J. Neuman, MI · J. Olitsky, FL · J. Olsen, MI · E. O'Neil, MI · F. Orlando, NY · S. Owens, MI · A. Paal, TX · P. Panchal, NC · R. Parikh, IL · J. Parrott, MI · U. Patel, CA · D. Perkins, MI · N. Pelachy, MI · W. Phillips, MI · S. Picazio, NJ · B. Picot, NC · C. Pike, MI · C. Plonkowski, MI · B. Pittsley, MI · J. Poskocim, IL · B. Pourmaras, SC · A. Prince, UT · D. Radtke, MI · G. Ramos, NY · C. Ramsey, FL · G. Rashall, TX · S. Reddy, MI · N. Rego, CA · J. Riggs, MI · M. Rojas, IL · J. Rowe, AR · J. Rubin, DC · D. Ruhlig, MI · A. Saddy, MI · S. Sahnadar, MI · P. Saurer, OH · P. Scalia, MI · C. Scanlon, MI · J. Schau, MI · K. Schier, MI · A. Schraner, NY · V. Scioia, CA · L. Seluk, MI · R. Selvan, NJ · Y. Shaheen, MI · M. Shapiro, MI · A. Shemesh, IN · E. Simonian, CA · qS Simos, IL · J. Slattkoff, FL · J. Smith, MI · C. Stevens, OK · B. Stevenson, MI · B. Stieper, MI · R. Surana, CA · G. Sutton, CA · S. Tamber, MI · G. Tarantola, FL · T. Teel, IN · C. L. Thorpe, MI · L. Trost, IL · S. Uchil, MI · A. Valentine, MI · H. Vann, MS · K. Vaughn, MI · C. Vinkovich, OH · J. Weinfield, MI · B. Wilk, PA · K. Wilson, MI · D. Wolf, MA · W. Wright, CA · Y. Yi, MA · D. Young, MI · S. Yun, MI · M. Yurth, WA · J. Zanetti, MI · A. Zucker, OH

Laboratory Consultants:

Apex Dental Milling, MI