

DENTAL ADVISOR™

Product insights you can trust.

NOV - DEC 2024

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3D PRINTING & DIGITAL INNOVATIONS

HOW CAN YOUR OFFICE
CURRENTLY USE 3D PRINTING?

HOW 3D PRINTING WORKS

FROM THE LAB: 3D PRINTING
RESIN MATERIAL PROPERTIES





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Digital technology continues to reshape dentistry in remarkable ways. At DENTAL ADVISOR, we have witnessed advancements in materials, intraoral scanners, milling machines, and 3D printers, all transforming our workflows and promising efficiency gains. Yet, successful integration of digital tools requires a thoughtful approach to training and investment.

In this issue, our Clinical Ambassador, Dr. Adam Hodges, shares his journey and insights into 3D printing, offering valuable guidance for those considering this technology. While 3D printing remains an exciting frontier, we still await substantial long-term data on 3D-printed restorations in real-world conditions. Until then, we rely on rigorous lab research to inform our recommendations.

As always, thank you for reading, and please feel free to reach out with any questions at connect@dentaladvisor.com, or contact me directly at drbunek@dentaladvisor.com.

— *Sabiha S. Bunek*

CLINICAL EVALUATOR PROFILE



Dr. Adam Hodges is the second of 5 boys born to Col. G.S. Hodges, DDS (ret). He graduated from Georgia Southern University in 1996 and graduated from the Medical College of Georgia in 2000, serving as class president. He did a one year General Practice residency at Palmetto Richland Memorial Hospital. He moved to Asheville, NC to join his father in practice. Early in his career he was exposed to incredible clinicians which prompted him to further his knowledge at the Pankey Institute, Spear Center and LSU cosmetic continuum. He has always enjoyed dentistry as his profession and hobby being compelled to refine his ability to provide treatment.

Dr. Hodges currently operates Hodges and Hodges Comprehensive Dental Medicine with his brother Justin. They are generalists with a specific emphasis on surgical and cosmetic dentistry. He has served locally through the executive committee of organized dentistry and continues to be active with the general practice residency at the Mountain Area Health Education Center.

Dr. Hodges has served on the 3M council for innovation in dentistry and is now a KOL for Solventum dental (formerly 3M). He has lectured internationally on topics including anterior composite veneers, digital technology, 3D printing, restorative dentistry, patient communication and cracked teeth. He is the initial user of the Solventum Filtek Matrix and has extensive use with it.

Dr. Hodges has been married for 28 years to Erica and has two daughters. Erica is a real estate agent in Asheville. Caitlin and Ainsley attend the University of Tennessee. Caitlin will graduate next year from the College of Law and Ainsley will graduate next year with her bachelor of science in project management.



3D Printing

A Clinician's Viewpoint

Every few years a new technology emerges in dentistry that sparks the imagination for advancement. You may have experienced this with items like CAD/CAM, CBCT, lasers, and most recently 3D printing. Each time we, as clinicians, are presented with new technology, we must consider the potential ROI associated with the product or material. We may be intrigued by the "fun new toy" or the comments made by some of our favorite product representatives claiming "this is the greatest material you will ever buy." Many others will shy away from new ideas and products because of the belief that "what I have works just fine" or "I simply can't afford the time or money to get into something new." It is acceptable to be in any of these situations mentally, emotionally or physically, but if you are to invest in these items, any clinician must understand that monetizing the purchase can be difficult and oftentimes the ROI is unknown.

So what do we know about 3D Printing in dentistry currently? We know the technology is advancing at a

blistering pace for what these machines can do and what they will be able to do in the future. We know it takes a different mindset than what we have had in the past regarding traditional procedures and even compared to products many of us mill in our offices now.

In a modern dental office, it is safe to say 3D printing is being used to make night guards, implant surgical guides, provisional restorations, dentures, interim partial dentures, trial hybrids, final restorations, and retainers, to name a few. As many of us have seen, dramatic advancements in any avenue of the dental field can be both exciting and draw reason for caution. New materials can mean new risks, but that does not necessarily mean you need to shy away from the positive potential of introducing these products into your office. It's an exciting time to be in dentistry and 3D printing is one of the many reasons why.



Adam Hodges, DDS
Clinical Ambassador

How Can Your Office Currently Use 3D Printing?

3D printing has gained popularity because it has been found to be less expensive than more traditional methods, and clinical appliances and restorations can be produced in-office. Printing uses a streamlined process to produce high-quality end results.



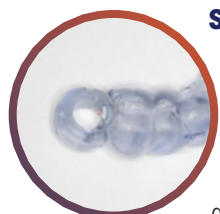
Wax-Ups/Diagnostic Casts

Diagnostic wax-ups and casts can easily be created to visualize and articulate a patient's current and potentially future dentition. If traditional provisionalization is desired, a matrix can be made on these casts allowing for intraoral fabrication.



Nightguards

Printed guards allow for quick, repeatable guard construction which is not limited by acrylic shrinkage, leading to better fit and precision. As these devices can wear down over time, depending on the aggressive habits of our patients, it is very useful to have a resource to create a replacement device in-house.



Surgical Guides

Surgical guides are made for precise placement of dental implants by merging a tooth scan with a CBCT. This makes your implant procedures faster and much more predictable.



Retainers

Resins that can be used for the printing of retainers are now available and can be created during an office visit.



Dentures

Printed dentures and partials allow for a cost effective way to transition the dentate patient. Resins are continually being improved to stand up to the harsh conditions of the mouth.



Temporaries

Provisional restorations can be made from a digital design to test occlusal and esthetic schemes. These materials can also be refined for durable, long-term provisionalization procedures which assists in creating predictable final results.



Permanent Restorations

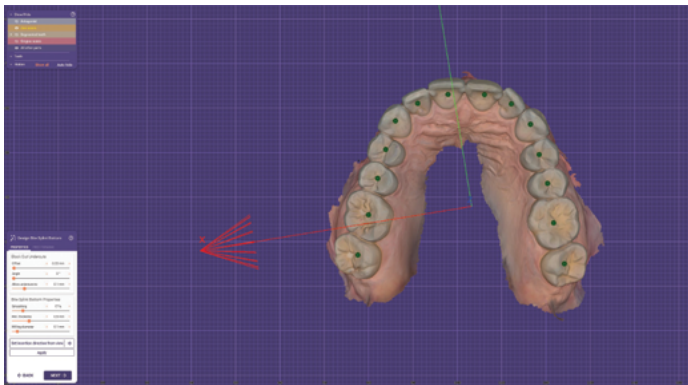
Current resins have properties allowing for long-term cementation. Data will be needed to show how these restorations mature in the mouth but flexural strength properties of these materials are already impressive and improving.

How Does 3D Printing Work?

The workflow for 3D printing consists of four different parts: Data Acquisition, Data Manipulation, Printing, and Post-Processing.

1. Data Acquisition

This refers to the raw data that is captured and later manipulated to fabricate a desired product. This is typically acquired by an intraoral scanner or a digitized analog model. The data is in its native state and not yet ready to print.

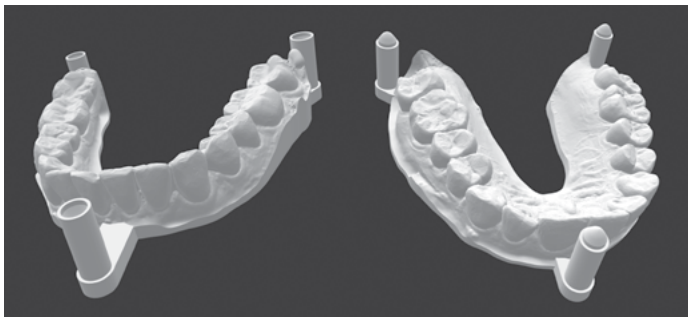


2. Data Manipulation

In this stage, the acquired data is formatted and manipulated to provide a result suitable for printing. The file type is a stereolithograph or ".stl." There are a variety of ways to create files in dentistry:

1. Send to a lab for design and fabrication, or have the file returned for in-office printing.
2. Design in-office with the same or similar software the laboratory uses.
3. Leverage artificial intelligence to design and create - as is the case with many routine prostheses such as night guards.

How the data is managed, controlled, and subsequently designed is a personal preference and may also be case dependent.



Photos courtesy of Dr. Adam Hodges

3. Printing

3D printers come in a variety of types but dentistry predominantly uses Stereolithography (SLA), Digital Light Projection (DLP), or Liquid Crystal Display (LCD) technology. They utilize UV light and photoreactive resins to polymerize a series of layers to create a print. The layers are manufactured on a build platform which is raised and lowered into the resin as layers are appositionally applied. How the layers are formed differentiates how they print. SLA printers use a laser to essentially trace each layer. These types of printers are known for accuracy and smoothness but take more time to create and print. DLP printers print a layer at a time using a light projector that is similar to a projector used in a home theater.

LCD uses a panel similar to an LCD television to also project a layer at a time. DLP and LCD typically are faster than SLA printers, but they trade accuracy and smoothness for speed. Build platforms can also range in size, from small to large. Generally the larger the platform size is, the less accurate and more rough the printed product is; however this can vary from printer to printer and may be an advantage or disadvantage depending on what is being fabricated.



4. Post-Processing

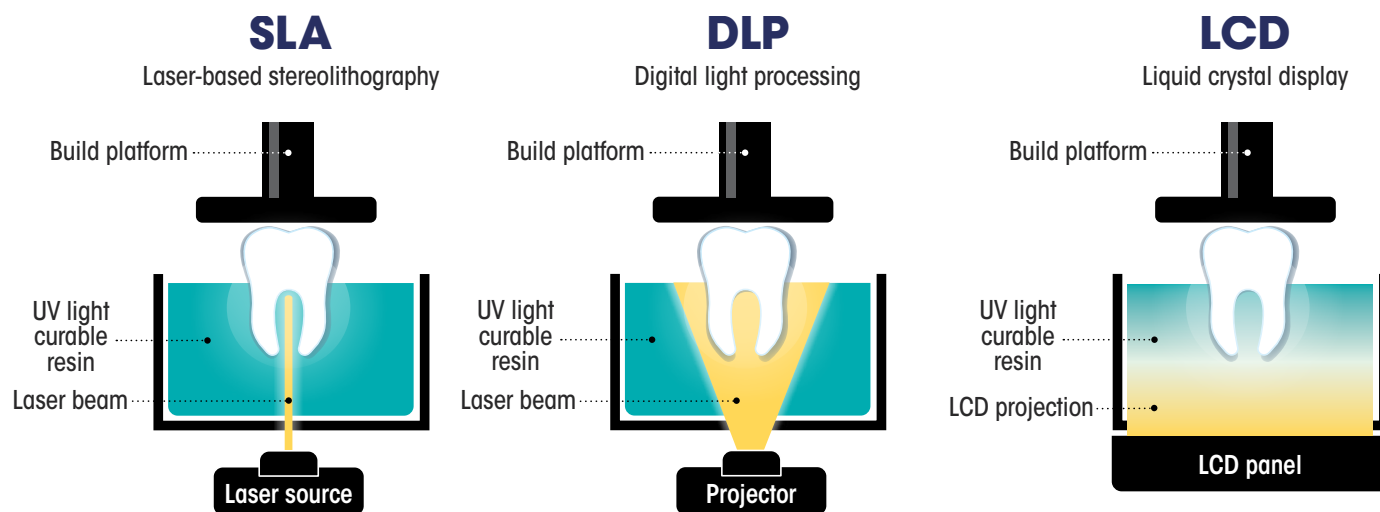
As 3D printers use photopolymerizable resin, they are prone to some of the shortcomings of resin. Most notable is oxygen inhibition and final curing. Oxygen inhibition is resolved using isopropyl alcohol to wash the uncured resin from the print. Afterwards, the print is post cured in a light chamber which has differing cure times based on the resin. Many 3D printer manufacturers have built an ecosystem that allows for printing and post processing using their branded products. After curing, the print should be cleaned with soap and water to remove any residual residue.



Types of 3D Printers

Many 3D printer options are available on the market, offering a range of capabilities to meet various needs and demands. Some printers are limited in their offerings, and can do basic print jobs such as study models; while others are more sophisticated and can fabricate a myriad of prostheses.

Some of the more common 3D Printers found in dental practices are DLP and SLA printers. Accuracy coupled with lower cost and smaller footprint make them attractive options. Dental laboratories opt to choose printers having larger footprints and bigger build platforms to allow for volume production.



SLA: Stereolithography

SLA printers are laser based, and resin is selectively exposed to a laser beam across the build plate. This laser solidifies the resin in specific areas to create a highly accurate print, albeit at a much slower rate than other types of printers. These are some of the most accurate and smooth prints created.

DLP: Digital Light Processing

DLP printers are similar to SLA but use a digital projector as a light source to solidify the resin, rather than a laser. Entire layers are formed at once, making it the quickest of the technologies that still provides great accuracy and smoothness.

LCD: Liquid Crystal Display

An LCD printer uses UV light emitted from an LCD panel to harden resin. This type of printer is similar to DLP but uses a grouping of LED lights instead of a projector as a DLP does. It provides very good accuracy and surface texture but often with additional costs compared to DLP.

3D Printing & Digital Innovations

Who should consider purchasing a 3D Printer?

Many factors can influence the decision and timing of entry and progression into the world of 3D printing. Is the objective to offer additional services within the dental setting and monetize them; or is it a matter of wanting to have greater control over treatment and workflows, or both? 3D printers offer many advantages and solutions for treatment in the world of digital dentistry. But like all new things, especially when it comes to technology, there is a learning curve. When the time is right to invest in a 3D printer, it is important that all members of the team who will utilize it are committed to spending the time to become proficient, so that all the benefits printing has to offer are achieved.

Factors to consider in purchasing a 3D Printer

1. How will it primarily be used ?
2. How does it fit in with the current workflow and existing technology?
3. What training and support are available?
4. What are the design software capabilities?
5. What compatibility does the printer have with various resins?
6. Do you have footprint space for the printer and post-processing equipment?

Available 3D Materials

3D materials are often tested for biocompatibility and safety. Certain resins are available for extraoral use only, while others are available for intraoral appliances and restorations.

Materials are evolving and becoming stronger to rival restorative materials such as composites and ceramics. Some practitioners are utilizing 3D printed resins as a permanent crown solution.



Crown 3D printed using **Midas** (SprintRay)

WHAT'S NEW & WHY?

One interesting new technology in 3D printing is called Digital Press Stereolithography which was created by Sprintray and sold as the product **Midas**. Traditional 3D printed resins were limited in their viscosity because a build platform needed to be raised and lowered into the resin to apply layers. This is a limitation in creating wear resistance as increased resin filler rate would increase viscosity making it complicated to print. Digital press stereolithography does not use a traditional build platform. Instead, an arm presses the more viscous resin from one vial to another moving the print material not the build platform. It aims to leverage AI to design and print a restoration in under 10 minutes. The printer also has a very small footprint making it easy to put almost anywhere in your office.

Future Directions

3D printing is advancing at an impressive pace. The efficiency of design and fabrication coupled with lower cost compared to some other options positions it to have a dramatic effect on our profession. As materials constantly improve it will be a disruptive force in the future of dentistry. No technology is a panacea of things. Learning how to best utilize these materials and where they have a proven track record is a good place to start in your journey. Accuracy does not seem to be as much of an issue as longevity. The lack of waste and accuracy position 3D printing to potentially challenge milling in the future.

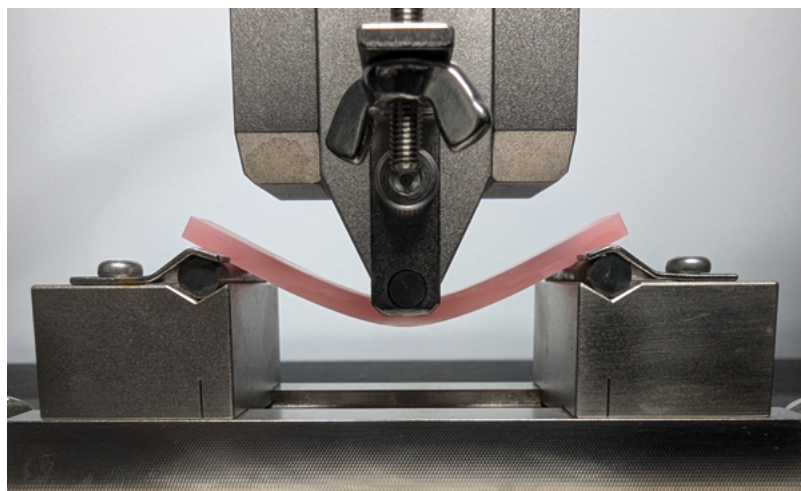
From the Lab: 3D Printing Resin Material Properties

The understanding of physical and mechanical properties of 3D printed resin materials made for temporary and long-term use is a large discussion in the scientific and regulatory community. The relevant properties for any given indication (crown, denture, models and guides) with additively manufactured resins are not different than their more traditional counterparts. Generally, 3D printed resins compared to their milled counterparts tend to have lower polymerization percentages and inorganic filler content which can affect several properties such as strength, and durability. Many 3D printed resins still meet the minimum standards of physical properties for clinical use however, with time and cost savings, and generally excellent accuracy. As these resins are still relatively new materials on the market, the range of formulations and properties for 3D printed resins is huge, especially when in used in combination with different printer technologies and post-processing steps.

Flexural Strength, Modulus and Work to Fracture

3D printed resins tend to have lower ultimate flexural strength, which is the maximum stress the material can take before breaking. However, the resins tend to be more flexible which allows it to absorb higher overall energy, also called the work to fracture. The elastic modulus describes how flexible the material is, or

how much it deforms for a given load. Being less brittle and more flexible can be an advantage for some indications while for bonded indications, it may increase the stresses at the bonded interface. Testing these properties after artificial aging can help distinguish materials that are more stable and well-cured as it can reveal resins that create weak points between the printed layers. Some 3D printed resins are significantly weaker or more flexible while tested immersed in water compared to their more traditional materials so these tests should be conducted in a wet environment.



Example of a 3D printed denture base resin with lower modulus. It can be bent substantially more than milled denture bases without breaking as an example of high fracture work.

Fracture Toughness

Fracture toughness is a measure of the material's ability to resist crack propagation when subjected

to mechanical loading. This attempts to simulate the fracture resistance of materials and may help predict which material will fracture when dropped, and their impact resistance.

Bond Strength

Bonding 3D printed resins is an area of active study, as most companies do not share their suggested protocols currently. 3D printed resins generally have some unbonded monomers present in the resin for methacrylate-based adhesives, and materials with silica fillers can allow silanes to increase bond strength. Increasing surface roughness of the 3D printed resin with sandblasting and using a universal adhesive may be suitable for most bonding indications. Bond strength tests should be subjected to artificial aging as 24-hour bonding can be sufficient due entirely to micro-mechanical retention but are otherwise tested similarly to other materials.

Durability and Gloss Retention

Materials can be aged in various ways to determine their long-term durability depending on the indication. This can include cyclic fatigue resistance for materials that face occlusive forces, toothbrush abrasion which can affect the surface roughness and esthetics, or aging using thermocycling between 5-55°C or high temperatures.

Accuracy

The accuracy of 3D printed resins can be very good, but resins can be subject to up to 7% shrinkage which can affect fit if not accounted for in the design software and distortions can occur during the printing process for some printers.

Esthetics and Color Stability

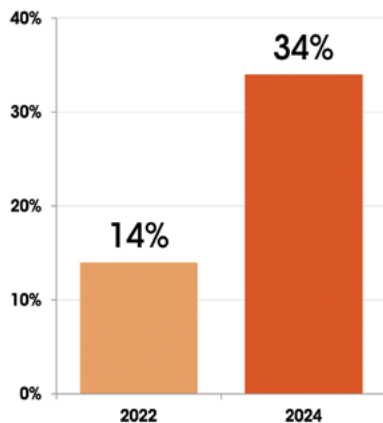
3D printed resins tend to have more water sorption than other materials which can affect the color stability and stain resistance. We measure the change in color

and translucency of materials after staining trials and long-term water storage to distinguish which materials are more color stable. 3D printed restoratives also vary widely in color and translucency currently.

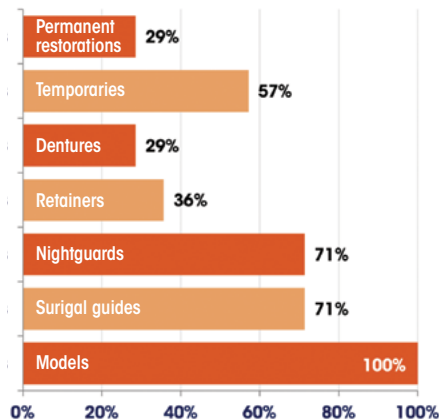
3D Printing & Digital Innovations

We Asked our Consultants...

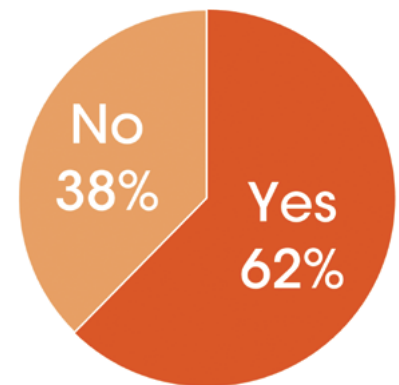
Percentage of consultants currently using a 3D printer: (2022 vs 2024)



What are you using your 3D printer for?



If you do not own a 3D printer, are you planning to purchase one in the future?



What do you see as the biggest challenge currently with 3D Printing?





11 CLINICAL EVALUATORS

150 TOTAL USES

93% CLINICAL RATING

Key features: Fully-crystallized Lithium Disilicate, no firing required

- Lifelike and natural opalescence with very smooth polishing
- High-Density Micronization (HDM) technology that delivers optimal esthetics and performance
- Provides smooth and accurate margins while minimizing chipping

Description

GC Initial LiSi Blocks are fully crystallized lithium disilicate that offers optimal physical properties without the need for firing. Created with the GC HDM technology, these blocks deliver high wear resistance, smooth margins, and esthetic results while saving chair time. Due to the fully-crystallized nature of the blocks, there is a reduction in marginal gap size usually found after firing conventional lithium disilicate.

Indications

- Crowns
- Veneers
- Inlays
- Onlays
- 3/4 Crowns
- Implant Crowns

Unique Attributes

- Includes High-Density Micronization (HDM) technology for high wear resistance and smooth margins
- No sintering or firing required to save up to 40% of usual chair time
- Smaller marginal gap size as crystalization occurs prior to fabrication
- Available in both a High-Translucency and a Low-Translucency block



Clinical Tips

- Develop a good polishing protocol to get a good finish as you are not staining and using a furnace.
- It takes a little bit more time to mill, but the time savings from not having to put it in the oven is huge!
- LT matches well to existing crowns, HT better for adjacent teeth
- Give proper thickness to prevent chipping; especially at the margins

"THE FULLY-CRYSTALLIZED MATERIAL WORKS BEAUTIFULLY AND SAVES TIME."

Evaluators' Comments

"Time! These blocks save me an incredible amount of time because they do not require time in the oven."

"I treat mostly geriatric adults. Having the time savings is of more interest to the patient than perfectly matching or blending the restoration. They are also by and large not breaking their old PFMs, which means they probably don't need full strength ceramic, and these LiSi will be a middle ground of strength."

"Less margin chipping, better marginal accuracy definitely noticeable after milling, much better marginal adaptation in my opinion."

"Add more shade options."

Consultants who would:

91% Recommend to a colleague

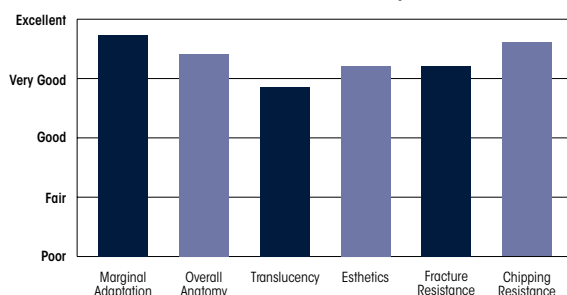
Consultants who would want to stock in office:

27% Yes, instead of current product

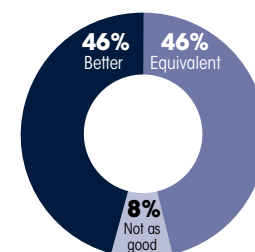
64% Yes, in addition to current product

9% I might want to order this product for certain cases

Evaluation Summary:



Compared to Competitive Products:





29 CLINICAL EVALUATORS

1187 TOTAL USES

94% CLINICAL RATING

Key features: Portable & Lightweight - 4 lbs • Long battery life - 800 exposures per charge • Carbon Nano Tube digital design • Dual safety grips

Description

X4 Portable Handheld X-Ray is a versatile and compact imaging solution, ideal for the dental setting. Weighing only 4 lbs including the battery and scatter shield, its lightweight and portable design allows for one-hand operation so that dental professionals can quickly and easily acquire x-rays. The **X4 Portable Handheld X-Ray** has straightforward adjustable settings to provide high-quality images, and the long battery life allows for 800 exposures between charges. When not in use, the **X4 Portable Handheld X-Ray** unit can be securely stored on its cradle base. Features dual handles, which allows the user a front grip, instead of wrapping their hands around the cone, or the device's body where the X-rays are flowing through.

Indications

- Dental x-ray acquisition
- Portable x-ray option instead of wall-mounted x-ray head tubes

Unique Attributes

- Weighs significantly less than other portable x-ray generators on the market
- Has a very long battery life (800 exposures per charge)
- Can be securely stored on its cradle base when not in use
- Carbon Nano Tube fully digital processor (No Vacuum Anode Tube)
- 3-year warranty
- Serviced in the USA
- Dual safety grips



Clinical Tips

- Experiment until you get the best image
- Familiarize yourself with the instructions
- Put it in standby mode and on the base when you are not using it

"SUPER
LIGHTWEIGHT &
EASY TO USE."

Evaluators' Comments

"The ability to use it anywhere in the office was a real positive."

"The ease of radiographs for endodontic procedures in the office, it was much easier for certain angles."

"Very good for pedo patients as you do not have to leave the room."

"The stand for the device was large."

"The dial and push button on the machine were a learning curve for the team as it was temperamental at times."

Consultants who would:

83% Recommend to a colleague

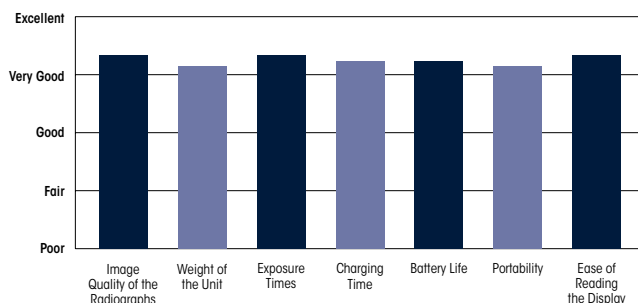
Consultants who would want to stock in office:

10% Yes, instead of current product

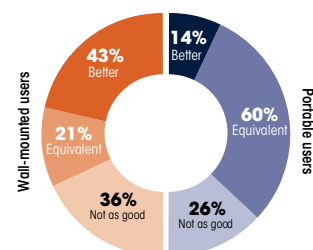
48% Yes, in addition to current product

25% No, but I admit it would be handy for certain procedures

Evaluation Summary:



Compared to Competitive Products:





33 CLINICAL EVALUATORS

460 TOTAL USES

93% CLINICAL RATING

Key features: Combination of glutaraldehyde and HEMA creates tubular occlusion, thus reducing post-operative sensitivity • Gel provides an enhanced view and greater manipulation of the material upon application • Material may be used with all cements, amalgam, and dentin bonding agents, including 7th generation systems

Description

MicroPrime G Gel is a desensitizing agent that contains both glutaraldehyde and HEMA to facilitate patient post-operative comfort. The gel is applied with a flocked applicator tip to make placement of the material easier. It works with most all cements and dentin bonding agents while not affecting their bond strength.

Indications

- Nonbonded and bonded applications
- Placement under dental cements or other restorative materials-temporary, provisional or final
- May be used to eliminate post-operative sensitivity under amalgam restorations
- Assists dentin bonding agents by supporting the collagen framework, thus making it easier for the adhesive to penetrate the tooth

Unique Attributes

- Contains glutaraldehyde and HEMA
- Facilitates patient comfort
- Compatible with popular adhesive systems, cements, and substrates
- Antimicrobial



Clinical Tips

- Use with rubber dam, if possible, to avoid soft tissue contact as it may burn the soft tissues
- Proper suction and isolation of the area is advised as the gel does need to be rinsed well after placement
- Express a small amount into the base of the preparation, and use the brush applicator to spread material
- Use plenty of the gel; use the tip to swirl it around to cover the prep entirely
- Do not dry teeth completely
- Use full 30 seconds to scrub and apply two layers

"EASY APPLICATION AFTER ETCHING, PRIOR TO BONDING MATERIAL FOR ALL FILLINGS."

Evaluators' Comments

"The application of the material appears to have assisted with sensitivity and it does remove easily."

"I like the active ingredients in the product. I also like the color and consistency."

"I found it helpful when I used in Class V."

"The liquid form that is easier to manipulate and make sure proper coverage is achieved."

"The lack of bristles at the tip of the applicator does not allow you to scrub the gel into the pulpal floor where you need it the most."

Consultants who would:

84% Recommend to a colleague

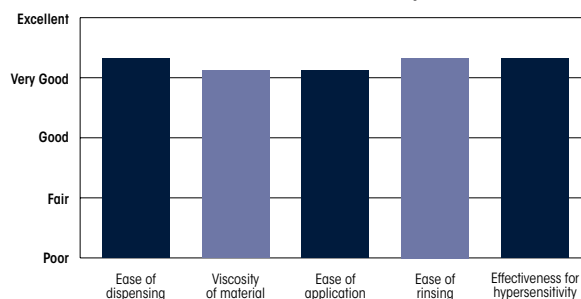
Consultants who would want to stock in office:

28% Yes, instead of current product

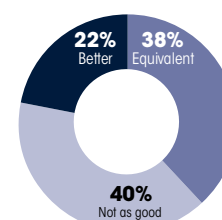
44% Yes, in addition to current product

28% No interest in purchasing

Evaluation Summary:



Compared to Competitive Products:





50 CLINICAL EVALUATORS

685 TOTAL USES

91% CLINICAL RATING

Key features: Retraction paste • Two-stage viscosity • Thin tip for intra-sulcular application

Description

VOCO Retraction Paste is astringent paste that features:

- An aluminum chloride base
- Unit dose applicators with extra-long, thin and flexible tips that are designed for hygienic, simple and precise application into the sulcus
- 2-stage viscosity
- Initially flowable for easy application
- Stabilizes for optimal retraction
- Turquoise blue in color to contrast with the gingiva
- Easily rinseable
- Up to 50% faster when compared to just retraction cord

Indications

- For temporary retraction of the marginal gingiva to provide a dry gingival sulcus, when the periodontium is healthy, prior to:
 - Analog or digital impressions
 - Cementation of temporary and permanent restorations
 - Preparation of class II and V restorations

Unique Attributes

- For use without or in combination with retraction cord.
- Less hand force required to administer into the gingival sulcus compared to other brands.
- Rinses off easy, so you don't make the tissue start to bleed again by having to rinse too vigorously.



Photo courtesy of Dr. Ona Erdt



Clinical Tip

- Can use in addition to retraction cord using this to replace the second cord in a 2-cord technique.

"EASY TO USE."

Evaluators' Comments

"I liked that the thin tip allowed easy expression into the sulcus."

"Fantastic hemostasis."

"I particularly love the viscosity and how well it stays exactly where you put it."

"This retraction paste is a bright color & easy to see where we place it."

"With this material, I achieved better results for retraction without cord."

"More difficult to rinse than I expected."

"Still needed cord on some applications."

Consultants who would:

90% Recommend to a colleague

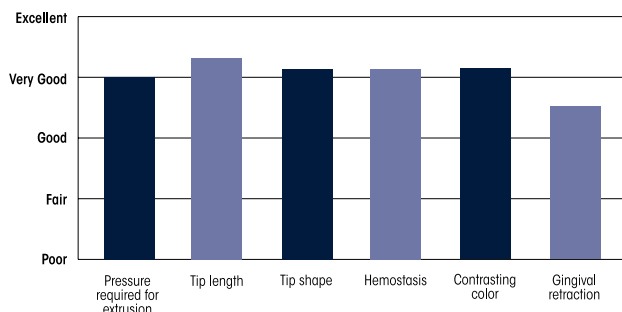
Consultants who would want to stock in office:

27% Yes, instead of current product

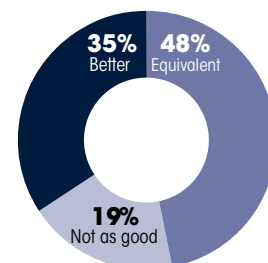
42% Yes, in addition to current product

21% I might want to order this product for certain cases

Evaluation Summary:



Compared to Competitive Products:





29 CLINICAL EVALUATORS

225 TOTAL USES

91% CLINICAL RATING

Key features: Bioceramic • Antibacterial • Highly radiopaque

Description

BioSeal™ is a ready-to-use, injectable, bioceramic endodontic sealer. It is an insoluble, radiopaque material based on calcium silicate and calcium phosphate, which requires the presence of water to set and harden.

Indications

Permanent root canal filling and sealing applications.

Unique Attributes

- Combines calcium silicate, calcium phosphate, bioactive glass, chlorhexidine, and biomimetic polymers
- Hydroxyapatite producing
- Antibacterial
- Hydrophilic
- Highly Radiopaque



Images courtesy of (left to right) Dr. Michael Shapiro, Dr. Matthew Miller, Dr. Frank Berman, and Dr. Robert Jenkins.



Clinical Tips

- Dry canals moderately, use slight pressure to inject, and withdraw the syringe as you inject.
- Don't overfill and place the material in the canal slowly with very light pressure.
- Lightly coat gutta percha with the sealer.
- The sealer has low viscosity, so it's not necessary to pump the gutta percha.
- Extrude the sealer onto a mixing pad and deliver with the gutta percha or a lentulo spiral to control how much sealer is placed into the canal.

"EXCELLENT
RADIOPACITY."

Evaluators' Comments

"The material has great flowability and opacity."

"There was some lateral canal penetration observed."

"I like the antimicrobial properties."

"The dispensing tips are too large to fit into most canals."

Consultants who would:

86% Recommend to a colleague

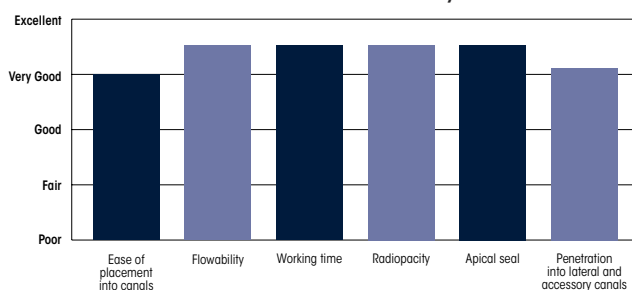
Consultants who would want to stock in office:

21% Yes, instead of current product

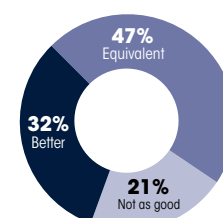
50% Yes, in addition to current product

11% I might want to order this product for certain cases

Evaluation Summary:



Compared to Competitive Products:





29 CLINICAL EVALUATORS

355 TOTAL USES

91% CLINICAL RATING

Key features: Non-slumping • Fiber-reinforced • Excellent fracture toughness

Description

everX Flow™ is a short fiber-reinforced flowable composite for dentin replacement. It is available in 2 shades: Bulk shade, which has a depth of cure of 5.5 mm and Dentin shade which has a higher opacity. It is more esthetic and has a depth of cure of 2 mm

Indications

- Dentin replacement in bulk filling
- Core Build-Ups
- Weakened/cracked tooth structure, together with a conventional composite as enamel layer

Unique Attributes

everX Flow™ has a thixotropic viscosity that allows for a flow and adaptation into cavitated areas without slumping of the material. The fiber reinforcement helps reduce the risk of catastrophic failures and redirects cracks of the natural tooth that may be clinically present.



Photos courtesy of Dr. Ashton Prince



Clinical Tips

- Make sure you keep the syringe in the material while injecting to lessen the chance of air bubbles
- Be careful on using it in the anterior due to the opacity and color
- Be sure to use a cover or veneering materials as this material doesn't polish very well
- Perfect for dentin replacement. If scanning, use powder
- You should use an explorer to tease it into position in the floor of a box preparation

"EASY DELIVERY AND HANDLING."

Evaluators' Comments

"The opacity of the dentin shade resulted in great esthetic results."

"It is easy to place material especially when used as a core material and is replacing a missing cusp."

"The visual fibers gave a feeling of reinforced composite that is comforting."

"I didn't need to place a matrix band around the tooth, was able to inject the material where I wanted, and it stayed in place."

"Handling properties and radiopacity were the best parts. I really liked the tips."

91% Consultants who would:
Recommend to a colleague

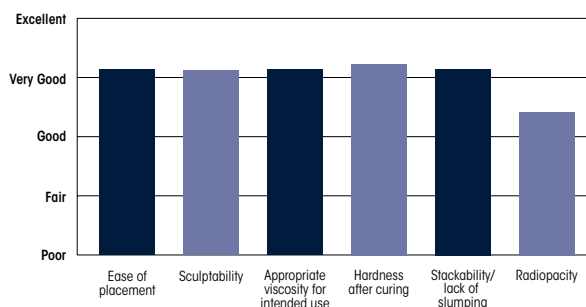
4% Consultants who would
stock in office:

4% Yes, instead of current product

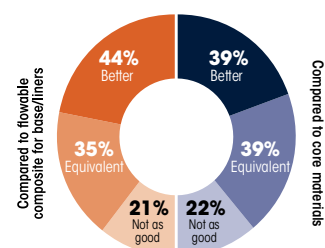
57% Yes, in addition to current product

35% I might want to order this product
for certain cases

Evaluation Summary:



Compared to Competitive Products:





23 CLINICAL EVALUATORS

364 TOTAL USES

86% CLINICAL RATING

Key features: Reduces high pitch and shrill noises to prevent hearing damage

- Speech and other environmental sounds remain unchanged
- Does not create an occlusion effect or "stuffy ear" sensation

Description

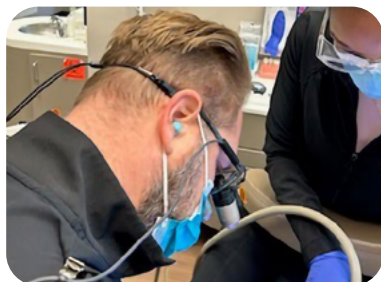
Magic Sonic are noise reduction earbuds that come as a pair. They have a simple yet effective design of 3 resonators that selectively reduce high pitched noises in the 6000Hz range. They dampen the shrill noises commonly found in dental settings that lead to hearing damage. Speech and other environmental sounds remain unchanged, giving the wearer the ability to hear and carry on conversations.

Indication

- Used to reduce noise from dental equipment

Unique Attributes

- Easy to clean design and can be sterilized in an autoclave
- Does not create a full or stuffy sensation in the ear
- Allows lower frequency sounds, such as speech, to still be heard



Photos courtesy of Dr. Adam Hodges (left) and Dr. Matthew Miller (right)



Clinical Tips

- Take a look for the side markings, so you put the correct piece in the corresponding ear
- Gently place in ear, do not press hard
- A good option to provide to patients who find the noises of dental procedures uncomfortable

"WORKS AND IS EASY TO INSERT, MAINTAIN AND REMOVE, EVEN FOR MY TINY EARS."

Evaluators' Comments

"It blocked out high pitched noises well and still allowed me to hear patients and my staff."

"Great idea. Innovative design but the material needs to be modified to a softer silicone."

"They become less comfortable when wearing them for long periods of time."

"Needs a better storage case."

Consultants who would:

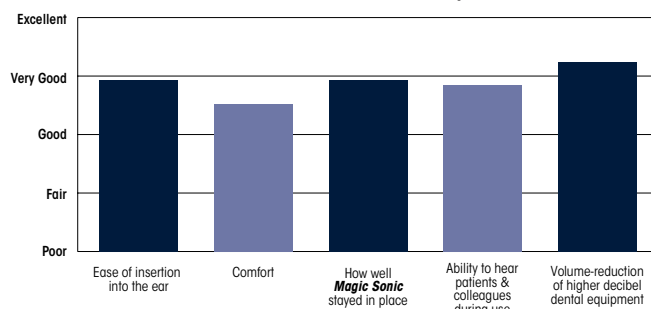
59% Recommend to a colleague

Consultants who would want to stock in office:

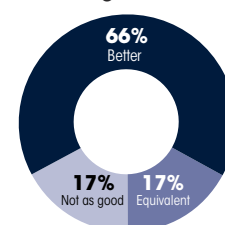
50% Yes, would incorporate in office

50% No interest in purchasing

Evaluation Summary:



Compared to Current Hearing Protection:



Learn more from our latest

digital media

dentaladvisor.com



eBook



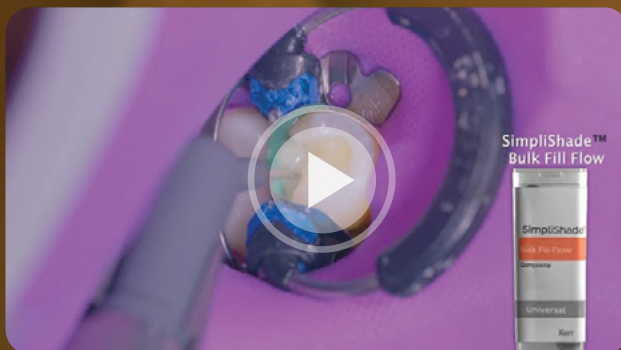
eBook



3D Animation



Motion Graphic Video



Clinical Video



Clinical Video



VISIT US ON SOCIAL MEDIA

