Gordon J. Christensen Clinicians Report January 2021, Volume 14 Issue 1

CR is the original and only independent dental product testing organization with funding only from dentists!

Zirconia Primers and Cleaners: Are they necessary? If so, when?

Gordon's Clinical Observations: Most restorative dentists have learned the simple techniques to keep zirconia crowns in place on retentive preps. What is a retentive prep? Such preps have the following characteristics: the axial walls are at least 4 mm from the gingival margin to the occlusal table and 20 degrees or less from parallelism. However, what about short crown preps or those that are too tapered or have heavy occlusion? Do zirconia bonding agents help to retain zirconia crowns for these preps? Should we be using bonding agents routinely? If so, which are the best brands, and how should they be used? *CR scientists and clinicians tell you in this issue*.

Luting zirconia restorations using RMGI (*resin-modified glass ionomer*) cement is the most popular technique (*survey data*) and is a very successful technique when used with retentive preparations. However, non-ideal preps and other challenges often require additional bonding enhancements and/or measures (*primers, cleaners, additional retentive features, etc.*) for best results.

CR has evaluated the effect of zirconia primers and cleaners, and offers techniques and products for enhancing zirconia bond in challenging, non-retentive cases.

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The Advantages of Using an Implant Stability Tester

Gordon's Clinical Observations: Approximately 20% of general dentists are placing implants, and almost all clinicians accomplish restoration of implants. Those placing implants know how much resistance was present upon placement and have some estimate of apparent stability. How does a dentist NOT placing implants judge if an implant placed by another is stable enough to load? Numerous devices are available that use different methods to evaluate implant stability. Should they be used routinely? Are they accurate? How do the brands compare? *CR answers those questions for you in this issue*.

Dentists restoring an implant often rely on directions from the clinician who placed it, and their own clinical judgment to determine when it is ready to restore and load. Implant stability testers are an *adjunct* to conventional methods and provide a *quantitative assessment* of stability with obvious advantages over more subjective methods. **The following report discusses clinical applications, current use of the concept, implant stability testing technology, and example devices available.**

Implant stability testers provide a numerical measurement of stability

Five Star Online Patient Reviews ★

Gordon's Clinical Observations: Are you aware of your internet practice reviews? Do you monitor them routinely? If you receive a negative review, what can you do to address it? Overall, how important are internet reviews to your practice? Are there companies that can help you obtain more positive reviews? Answers to all of these questions are gaining importance as we move to a more technological society. *Information in this report can help you obtain more five star reviews and help you to manage them.*

Maintaining a strong and vibrant online presence is vital for dentists. Nowhere is this more critical than collecting and posting positive patient reviews. For many, these online reviews will be a patient's first point of contact for the practice. A positive online reputation goes a long way to building a dental practice. Studies have indicated that the majority of patients use online reviews to evaluate or find a new dentist. In this report, experienced CR clinicians and project directors will reveal why these reviews are so important, list ways to obtain these reviews, and discuss avenues in addressing a negative review.

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Products Rated Highly by Evaluators in CR Clinical Trials

The following four products were rated excellent or good by CR Evaluator use and science evaluations.

VERA Splatter Guard Elite: Splatter reducing prophy angle from a well-accepted leader in prophy cups and angles **ZR-CEM:** Innovative selfadhesive *(all-in-one)* resin cement formulated for zirconia restorations **CheckUp:** Smart radiometer for LED resin curing lights also provides length of cure for most resin-based composites

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Filtek Supreme Flowable Restorative: Popular flowable restorative is now easier to inject with newly designed syringe *Continued on Page 8*



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Zirconia Primers and Cleaners: Are they necessary? If so, when? (Continued from page 1)

Summary of Testing

CR Scientists tested nine different zirconia primers and three different zirconia cleaners in order to compare the effect on 24-hour zirconia bond strength and the ability to clean contaminated restorations *(see charts below)*. Longer dwell times and thermocycling are a must in future studies.

Zirconia Primers with MDP	Manufacturer	Cost/ml (Approx.)	Average Bond Strength	Strength Increase *	Application Time (sec)	Cost/use (Approx.)
AZ Primer	Shofu Dental	\$20.80	49.65	2.2×	80	\$1.70
Clearfil Ceramic Primer Plus	Kuraray Noritake	\$33.80	56.34	2.5×	160	\$2.70
Monobond Plus	Ivoclar Vivadent	\$35.10	51.97	2.3×	155	\$2.80
Peak-ZM Primer	Ultradent	\$17.80	62.56	2.8×	36	\$1.80
Premier Universal Primer CR Choice	Premier Dental	\$18.00	64.04	2.8×	120	\$1.50
Z-Bond CR Choice	Zest Dental	\$18.20	54.06	2.4×	70	\$1.50
Zirconia Prime	DenMat	\$20.00	56.85	2.5×	70	\$1.60
Z-Prime Plus	Bisco	\$25.80	40.49	1.8×	40	\$2.10
ZR-P Zirconia Primer	Apex Dental	\$20.00	45.84	2.0×	40+	\$1.60

* Average strength increase when compared to control (22.79 MPa SD 2.8)

Control = Sandblasted at 30psi with 50µm alumina, rinsed, and cemented with RelyX Universal Plus (3M); no thermocycling.

Zirconia Cleaners	Manufacturer	Cost/ml (Approx.)	Average Bond Strength	Bond Restorative Value †	Application Time (sec)	Cost/use (Approx.)
Ivoclean	Ivoclar Vivadent	\$8.75	61.09	95%	60	\$0.88
KATANA Cleaner CR Choice	Kuraray Noritake	\$8.75	58.22	91%	30	\$0.87
ZirClean	Bisco	\$4.26	55.89	87%	60	\$0.44
Sandblast w/Alumina ‡	N/A	N/A	58.24	91%	15	N/A

† **Bond Restorative Value** is the bond value (bv) (contaminated, cleaned, primed, cemented), divided by the uncontaminated control bv of 64.04 MPa (primed, cemented), multiplied by 100.

Control Primer: Premier Universal Primer (Premier Dental); Control Resin Cement: RelyX Universal Plus (3M).

‡ Substrate contaminated with saliva, rinsed and dried, sandblasted with 50μm alumina, rinsed, primed with control primer, and cemented with control cement.

Results

- Failure to clean zirconia contaminated by saliva resulted in no adhesion to the primer or the cement.
- Application of a zirconia primer, on average, *increased bond strength by over 200%*.
- Re-sandblasting a contaminated crown is as effective at removing contamination on zirconia as the zirconia cleaners.
- The average bond strength to zirconia that has not been sandblasted or primed is about 15 MPa.
- The average bond strength to zirconia that *has been sandblasted but not primed* is about 23 MPa.
- The average bond strength to zirconia that *has been sandblasted and primed* is about **52 MPa** with some systems producing bonds **greater than 70 MPa**.
- For 3Y zirconia, our testing showed a strong positive correlation between the pressure used to sandblast and the bond strength up to 80 psi, although, because of the material's brittle nature, *avoid pressures higher than 1 bar (30 psi) and alumina sizes above 50 microns*.

CAUTION: Check with your lab to confirm the composition of the zirconia you are using (*3Y*, *4Y*, *5Y*) prior to sandblasting in-office. Literature reports a link between sandblasting and a decrease in the flexural strengths of some 4Y and 5Y zirconia.

Example Protocol for Low Retentive Zirconia Restorations

- 1. Clean preparation with pumice and isolate.
- **2. Try-in restoration.** Confirm fit, remove, rinse with air/water spray, and dry.
- 3. Remove saliva contamination from restoration.

a. Sandblast: Abrade internal surface with 50 micron alumina at 30 psi (preferred in most situations*).

OR b. Zirconia cleaner: Apply cleaner according to manufacturer's instructions and rinse thoroughly.

4. Prime restoration with zirconia primer containing MDP (see chart above).

5. Prepare tooth.

- **a. Prime tooth** using two 1-minute applications of HEMA/glutaraldehyde desensitizing agent (*examples: Gluma [Kulzer]*, *MicroPrime G [Zest Dental]*).
- **b.** If desired, apply an additional bonding agent following manufacturer's recommendations (typically not cured).
- 6. Apply preferred resin cement following manufacturer's instructions.

7. Seat restoration.

*CR NOTE: Sandblasting is most appropriate for high-strength 3Y zirconia. Sandblasting may cause microcracks, chips, and fractures at pressures above 30 psi and with particles larger than 50 microns. Always attempt to confirm the type/yttria content with the lab PRIOR to in-office sandblasting.



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Zirconia Primers and Cleaners: Are they necessary? If so, when? (Continued from page 2)

Example Protocol for Low Retentive Zirconia Restorations (Continued)

Avoid the following:

- *Acid etching zirconia:* Hydrofluoric acid is ineffective on zirconia, and phosphoric acid actually inhibits and decreases bond strength.
- *Silane primers* will not enhance adhesion to zirconia.
- Cleaning tooth with prophy paste: Many prophy pastes contain oils which decrease bond.

For non-retentive preps or if retention is of concern, consider the following:

- *Add retentive grooves* to prep running parallel to the tooth's long axis horizontal with the occlusal plate as anti-rotational features.
- *Roughen non-retentive preparations* with coarse diamond prior to final cementation.
- Ask dental lab to incorporate "pockmarks" into pre-sintered restoration (see photo).
- Roughen internal crown surfaces (lightly) with coarse diamond (3Y, class 5 zirconia ONLY).

CR CONCLUSIONS:

- If the tooth is prepared with sufficient mechanical retention, a fluoride-containing RMGI cement is recommended as these products have been proven to maintain bond margins much more effectively over time.
- If mechanical retention is low, resin cements can be used. (Resin cements are stronger but not as cariostatic as glass ionomer or RMGI.)
- Priming zirconia more than doubles bond strengths to resin cements.
- Primers and cements will not adhere to zirconia surfaces that have been exposed to saliva.
- Sandblasting with alumina *at pressures lower than 30 psi and particle size less than 50 microns on 3Y zirconia* enhances bond strength to resin cements and primers and decontaminates surfaces exposed to saliva.
- Resin cements and zirconia primers/cleaners are a meaningful alternative when sufficient mechanical retention is not available, and adhesion must be relied upon for long-term retention.

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The Advantages of Using an Implant Stability Tester (Continued from page 1)

Clinical Applications and Current Use

Implant stability testers give a numerical reading that corresponds to the rigidity of the implant in the bone. These readings augment conventional methods, including radiographs, tapping, and "feel," and can replace potentially destructive methods such as torquing.

Monitor Stability during Healing Phase

- Advantageous for surgical dentist.
- Initial reading taken upon placement and again after preferred healing time (*typically a few months*).
- Provides indication of transition from primary stability (mechanical) to secondary stability (bone growth).
- Guides treatment decisions and timing, especially when questionable bone or other risk factors are present.

Verify Stability before Final Restoration

- Advantageous for restoring dentist.
- Reading taken to verify adequate stability before proceeding with restoration.
- Avoids premature loading in situations with slow or failed osseointegration.

When Immediate Loading is Desired

- Advantageous for dentist and patient if choosing immediate loading. *Caution: Immediate loading increases risk of failure; mature bone is preferred.*
- Provides additional test to assess stability of implants immediately after placement.

CR Survey Findings (*n***=**900):

- Currently use an implant stability tester? 5% Yes; 95% No
- Brand of device? 49% Penguin RFA; 19% Osstell ISQ; 11% Osstell IDx; 9% Osstell Beacon; 2% AnyCheck; 2% Implantest; 2% Periotest M
- When used? 56% 2–3 months after placement; 49% 4–6 months after placement; 42% immediately after placement; 42% before final restoration; 12% implants with peri-implantitis
- Reliability of measurement? 67% Excellent; 31% Good; 2% Fair; 0% Poor
- Purchase same unit again? 79% Yes; 15% Maybe; 6% No
- How do you currently ascertain final implant stability before restoring? 76% trust surgeon who placed implant; 57% radiograph; 50% visual inspection; 43% torque wrench; 30% percussion; 18% finger pressure; 6% implant stability tester; 1% wait standard healing time
- Summary: Currently, few dentists use implant stability testers because of the cost and adequacy of conventional methods. Users found them helpful and cited examples where testing had averted clinical failure. Most frequent time of use was a few months following implant placement to verify expected healing and osseointegration. Implant stability testers can be of particular value to dentists restoring implants placed by others and to those starting to place implants.



Stability testers augment radiographs and other conventional methods for assessing healing response, osseointegration, and stability.





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The Advantages of Using an Implant Stability Tester (Continued from page 3)

Current standard of care for testing implant stability includes radiographs; tapping on abutment (both occlusal and side while listening for ring indicating good stability, or dull thud indicating poor stability); feel; and clinical judgment based on experience.

Example Method for Incorporating Implant Stability Tester

1. Test upon initial placement to help assess if implant is "Very Stable" or "Less Stable."

If Very Stable

2. Allow healing period (usually 3 months or longer) and re-test. If high reading, restore with confidence. If low reading, allow additional time and/ or consult with surgeon.

If Less Stable

 Allow longer healing period (usually 4 months or longer) and re-test. If high reading, restore with confidence. If low reading, allow additional time and/or consult with surgeon.

Stability Testing Technology

Rigid structures vibrate at higher frequencies and resonate (ring) when stimulated. Implant stability testers utilize this principle to assess stability with two techniques being prevalent.

Resonance Frequency Analysis (*RFA***)**

A calibrated peg is attached to the implant, and magnetic pulses stimulate the system. Response is analyzed and converted into an "Implant Stability Quotient" *(ISQ)*.

- Good sensitivity and precision due to custom pegs matched to implant.
- Requires removing healing abutment to attach peg, which some find objectionable.
- Example brands: MEGA ISQ, Osstell Beacon, Osstell IDx, Penguin RFA



Example SmartPeg (left) and MulTipeg (right)



Magnetic pulses stimulate implant while device analyzes rigidity

► Impulse (*Tapping*)

An electro-mechanical mallet delivers a series of gentle taps against the healing abutment. Response is analyzed and converted into a numerical value indicating stability.

 Simple and versatile; can be positioned against healing caps, abutments, and temporary restorations.



- Additional potential use on restored implants and natural teeth to monitor peri-implantitis and periodontitis.
- Example brands: AnyCheck, Implantest, Periotest M



Taps stimulate implant while device analyzes rigidity

Accuracy and reliability: Readings provide an indication of rigidity, but do not directly measure osseointegration. Experienced users report good to excellent results. Readings should be made from both mesial–distal and buccal–lingual directions. Regardless of readings, adequate healing time for mature bone integration is highly desirable for optimum outcomes.

Comparison of Devices

The following chart shows features and characteristics of three implant stability testers used in clinical practice by 45 CR Evaluators during the past 24 months. Additional brands and models are available.

	Anglesk 👔 🎍		Penguin 🔤
Brand, Company	AnyCheck, NeoBiotech	Osstell Beacon, Osstell	Penguin RFA, Aseptico
Approximate Cost	\$3,700	\$2,895	\$1,990
Туре	Impulse (6 taps)	RFA	RFA
Implant Attachment	Not required	SmartPeg (\$25 each), aluminum, single-use	MulTipeg (\$32 each), titanium, multi-use
Readout and Indicators	iST value 1–99 Green, orange, red indication of range	ISQ value 1–100 Green, yellow, red indication of range	ISQ value 1–100
Measurement Position	Touching abutment, 0°–30° angle, measure from multiple directions	2–3 mm from peg, 45° angle, measure from two directions	Close to peg, 45° angle, measure from two directions
Ease of Use	Excellent–Good	Good	Good
Advantages	 Simple, use on healing abutment (no peg) Only two taps if low stability detected Color indicator light assists interpretation No small parts to manipulate intraorally 	 Extensive research with established reliability Easy to position, good intraoral access Color indicator light assists interpretation Includes Osstell Connect, online data portal 	 Popular RFA model with relatively low cost Readout displays on both sides of handpiece Easy to position, good intraoral access Reusable MulTipegs (~20 uses)
Limitations	 High cost Posterior access and angle challenging Physical tapping concerns some patients Requires maintenance of moving parts 	 High cost Must remove healing abutment Single-use custom pegs required Readout can be difficult to see 	 Instructions lack details Must remove healing abutment Custom pegs required

Summary of Chart

- All units evaluated were clinically useful, easy to use, convenient, handheld, cordless instruments with simple controls.
- All provided quantitative data that reduced guesswork and augmented subjective methods of assessing implant stability.
- RFA testers were precise, but required removing healing abutment and attaching a custom peg for each implant.
- Impulse testers could be used directly on healing abutment for quick results, but readings had greater potential for variation.
- Most clinicians felt current costs were too high for an adjunctive instrument unless used routinely.

CR CONCLUSIONS:

- Implant stability testers provide a numerical rating useful to dentists placing implants and to those restoring implants placed by others.
- All units evaluated performed well, each with unique advantages and limitations. RFA units (e.g., Penguin RFA, Osstell Beacon) are most widely used with well-established performance and precision, but require use of a calibrated peg attached to implant. Impulse units (e.g., *AnyCheck*) are placed directly against the healing abutment, making them more versatile and quick, but potentially less precise.
- Implant stability testers are a helpful adjunct to conventional methods. Users reported that they were simple to operate and had reliable readings, which increased confidence of successful implant performance.

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Five Star Online Patient Reviews (Continued from page 1)

WHY are online reviews so important?

The best practice builder for dentists remains word of mouth referrals. But what happens when a new patient is referred to your office? They look you up on the internet! Additionally, patients are finding new dentists solely through their online presence alone. It is clear the internet will continue to have a major influence in our lives influencing where we eat, where we shop, and what medical professionals we choose. Obtaining positive online reviews is an important component and essential tool for maintaining a strong online presence and attracting new patients.

- Practices with little or no online presence are missing out. Dentists should be proactive in acquiring positive patient reviews. More great online reviews mean more patients to the practice.
- Among internet users, it is reported that about 71% of patients use online reviews to evaluate or find a new dentist.
- A growing number of patients are willing to overlook location, cost, or convenience in favor of positive online reviews.
- Reports show that 58% of consumers agree that the most important component of a dentist's website is the star rating.
- Reviews create value. Provides a strong psychological component for patients knowing they are going to the place with the best level of dental care and concern.



of any search for a "dentist" in your area. As a conclusion, the more quality reviews your dental practice has on Google, the higher it may rank you on local searches. This can be an important contributor to Search Engine Optimization (SEO), allowing patients to find you easier.

Dental practices have many satisfied patients, leaving the opportunity to encourage more online reviews.

HOW do you generate online patient reviews?

Did you ever buy something from Amazon without looking at the reviews? If you have your choice between a restaurant with thirty 5-star reviews and a restaurant with three 2-star reviews, where do you eat tonight? It used to be that dentists could not advertise, and their sign outside their building was restricted to a certain size. But times have changed. To compete in today's world, dentists need a solid online presence. One of the most important components of this presence is having positive, inviting reviews. But how do you get them?

- Do you have a service/management company help post online reviews? **31%** Yes, **69%** No (*CR survey data*).
- **Indirect:** This is the choice of CR Project Directors and is the easiest avenue for generating patient reviews. Many dental communication companies have software programs specifically designed to make acquiring reviews easier. Almost 70% of dentists have never used these companies, but should consider doing so. It avoids asking the patients directly. These programs integrate with existing practice management systems such as Eaglesoft or Dentrix. These systems are set up so that an email or text will be sent out asking patients to leave reviews on popular review sites after an appointment (*Figure 1*). Many of these programs are also designed to direct negative feedback directly to your office instead of the internet (which is Google *compliant*). This feedback can then be handled directly, often with a phone call.
- Popular dental communication companies that help with acquiring patient reviews: Birdeye Dental, DemandForce, Lighthouse 360, Solutionreach, Weave (Figure 1)

Figure 1

How important are

online reviews for

your practice?

13% Not Important

24% Very Important

17% Slightly Important

20% Moderately Important

We hope that your experience in our office exceeded your expectations.

25%

Extremely

Important

24% Verv

Important

We really enjoyed seeing you and hope you want to leave us a positive review. However, if you are not completely satisfied, we ask that you will contact us directly to make things right for you.



Contact us directly

Sincerely, Your Name Contact Info

This is a sample of a post-visit email sent to a patient from Birdeye Dental, a dental review marketing company.

13% Not

Important

20%

17% Slightly

Important

Moderately

Important

Five Star Online Patient Reviews (Continued from page 5)

HOW do you generate online patient reviews? (Continued) ► Direct:

- **The easiest way to remove a negative review is to not get one.** Give the patient a rewarding experience first, then ask for a review. Focus on quality of care.
- Target specific patients. Ask patients who love your practice first.
- **The person with the closest connection** to the patient should be the one asking for the review.
- **Ask for a review** while the patient is in the office, not weeks later. Ask for specific feedback based on your practice goals.
- **Team buy-in** is essential to seeking positive feedback and asking for online reviews from satisfied patients.
- Never ask for 5-star reviews directly. Instead, set the tone by saying, "Online reviews are a great way for new patients to find us and to understand the patient experience."
- Place signs in the office with phrases such as "Rate us on Google."
- **Designate a team member** to monitor and manage online reviews for your practice. Continually search online for your name and practice and what the reviews are saying about you.

Make It Easier for Patients to Review You:

- **Create or claim your accounts on popular review sites**. Google/Google My Business, Facebook, and Yelp account for nearly 80% of all online reviews. Set up your accounts with these and others including medical specific sites such as Healthgrades.
 - Many dental practice management software programs provide the option to text or email a patient after an appointment.
 - **Create templates** thanking patients for their dental visit and asking for a review. Create a link to the review sites (*such as Google*) where all the patient has to do is hit a button taking them to that site. Text or email these to selected patients including the link that brings them directly to the review sites.

Do Not:

- Do not encourage non-patients to review you. Be honest and genuine.
 - Do not have the patient post a review from your in-office computer (review sites can detect origination).
 - Do not offer gifts or prizes in exchange for a review.

WHEN do you respond to a negative review?

Almost always. Many dentists are concerned about posting online reviews because of the potential for negative feedback. Satisfaction can often be a hard barometer to read. The good news is most patients leave positive reviews for healthcare providers. But what happens when a negative review is posted? Most patients want providers to respond to negative reviews.

- Bad reviews don't happen all that often. Dentists often have a fear from the perceived severity of a negative review.
- A majority of patients tend to ignore reviews that appear exaggerated or overblown. Many patients are willing to overlook a bad review.
- **RESPOND:** Patients want a response to a negative review in a reasonable way. This demonstrates the provider listens, takes feedback seriously, and addresses the concerns promptly. It also demonstrates to Google that you are attentive to your practice and your patients.
- Do you monitor your online reviews? 68% Yes, 32% No (CR survey data)

Steps to handle a negative review:

- 人 **1.** Do not take it personally. Respond promptly and be courteous.
 - **2.** Respond to the review in a professional, non-emotional manner. Acknowledge the reviewer's concerns. Offer a solution or to contact them directly.
 - **3.** Do not violate HIPAA laws. You cannot confirm whether or not the reviewer visited your practice.
 - **4.** Do thank the reviewer.
 - **5.** Take the problem offline and speak privately with the patient.
 - 6. Negative reviews are very hard to remove. Every website has their own terms and conditions. If you suspect a review is fake or completely unwarranted, collect credible evidence, and then contact the website administrator to see if it can be removed. Work with the companies that maintain your website to see if they can offer any assistance.

DO NOT:

- Do not respond with emotion. Take time to prepare a response, think, and then modify it.
- Do not ask the patient to remove the review. Instead focus on the concern with a solution.
- Do not feel like you have to respond publicly. Call the patient privately if needed.

CR CONCLUSIONS: A paradigm shift is occurring in dentistry where word of mouth referrals are verified by a dentist's online presence. It is evident that patient reviews generating five stars can be one of the best practice builders available. Many dentists are slow to grasp this concept. But the internet will continue to have a major influence on our lives including where we go on vacation and who we choose as a dentist. How do you create these reviews? By first offering first class service and care for your patients. Ask for reviews directly or, better yet, utilize a dental communication company that will send out a text or email after the appointment. Make it easy for patients to review you. If a negative review occurs, don't panic. Be honest and offer a solution. Although negative reviews are hard to remove, they don't come frequently.

"Public opinion is the thermometer a monarch should constantly consult." – Napoleon Bonaparte





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Earn 1 credit hour for successfully completing each test. Tests are also available	ailable at www.CliniciansReport.org. This is a self-instruction program.			
At the completion of this test, participants should be able to: • Enhance zirconia bonds in challenging, non-retentive cases. • Evaluate implant stability devices. • Evaluate implant stability devices.	ain and address online patient reviews Aluate new products and their potential clinical usefulness			
Self-Instruction Test, January 2021, 1 CE Check the box next to the me	iost correct answer.			
1. When bonding to Zirconia surfaces, the application of a zirconia primer:	6. Which of the following are steps in handling a negative review?			
□ A. Helps to reduce the effect of contamination from the try-in.	□ A. Respond in a non-emotional professional manner.			
\square B. Decreases bond strength but increases the longevity of the bond. \square C. Can increase bond strength by over 200%	\Box B. Address the reviewer's concerns and other a solution.	□ B. Address the reviewer's concerns and offer a solution.		
 D. Has no effect. 	 D. All of the Above 			
2. Priming zirconia with a silane primer helps increase retention and bond	7. VERA Splatter Guard Elite:			
strength.	□ A. Is a disposable prophy angle with unique gears to improve spin	ining		
 A. True, but only on ST Zirconia. B. True, if the zirconia was first etched with phosphoric acid. 	B. Prophy angle was designed to include suction through the angle	e to		
□ C. False, silane primers do not enhance adhesion to zirconia.	reduce splatter.			
3 Which is not an advantage of implant stability testors?	□ C. Was designed with a wiper-like feature to decrease splatter during	g use.		
□ A. Implant stability can be verified quantitatively before	□ D. Is a sterilizable prophy angle with a splatter reducing feature.			
accomplishing final restoration.	8. ZR-CEM enables a simple bond to zirconia only.			
□ B. Implant stability testers directly measure osseointegration.	A. True Take your CE test on			
C. Progress of implant stabilizing can be monitored to guide treatmen decisions and timing.	and receive immediate re www.Clinician	iine esults!		
 D. Current users reported excellent to good reliability of readings. 	9. CheckUp curing light monitor and app:	rt.org		
4 Millich statement is false?	\Box A. Reads the intensity of your curing light.			
 A. Penguin RFA is a cordless implant stability tester using resonance 	□ B. Sends reading to a data base through an app.	read		
frequency analysis technology.	composite of choice.	seu		
B. AnyCheck is a cordless implant stability tester using impulse (<i>tapping</i>) technology.	□ D. All of the above			
C. Resonance frequency analysis testers use custom pegs attached to the implant stimulated by magnetic pulses.	10. Filtek Supreme Flowable Restorative has a new syringe and tip for improved dispensing and access to preparation.			
D. Impulse testers use custom pegs attached to the implant stimulated by physical tapping.	d A. True B. False			
5. Which of the following is <i>false</i> ?	To receive credit, all 2021 tests are due by			
 A. The internet and 5 star reviews are an excellent way to grow a practice. 	DECEMBER 15, 2021			
 B. Good reviews can help with a dentist's ranking in Google's search engine. C. Encourage non-periods to review one. 	h Submit your test answers online at www.CliniciansReport.org; fax 888-353-212 mail to Clinicians Report, Attn CE Tests, 3707 N Canvon Rd. Bldg 7, Provo UT 84	21; 1604;		
□ C. Encourage non-patients to review you. □ D. Negative reviews are very hard to remove	or scan and email to CR@CliniciansReport.org			

ADA CERP® Continuing Education CR Foundation* is an ADA CERP recognized provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. CR Foundation[®] designates this activity for 1 continuing education credit.

PACE ACADEMY of GENERAL DENTISTRY PROGRAM APPROVAL FOR CONTINUING EDUCATION

CR Foundation® Nationally Approved PACE Program Provider for FAGD/MAGD credit. Approval does not imply acceptance by any regulatory authority or AGD endorsement. 1/1/2018 to 12/31/2023 Provider ID# 216561 8

Products Rated Highly by Evaluators in CR Clinical Trials (Continued from page 1)

Splatter Reducing Prophy Angle from a Well-Accepted Leader in Prophy Cups and Angles



\$113/Box of 125 (90¢/Prophy Angle)

COVID-19 has stimulated innovative improvements to dental devices in an attempt to help with the aerosols and splatter that are common in dental procedures. This disposable prophy angle is designed with a wiper-like feature to decrease splatter by reducing accumulated saliva from the outside of the cup during rotation.

Advantages:

- Reduced splatter compared to typical disposable angles
- Smooth rotation of the cup during operation
- Angle and cup are small facilitating access
- Splatter guard kept cup external surface more clean

Limitation:

• Splatter guard was long and flimsy when cup was splayed for subgingival access

CR CONCLUSIONS: 73% of 22 CR Evaluators stated they would incorporate VERA Splatter Guard Elite into their practice. 86% rated it excellent or good and worthy of trial by colleagues.

Innovative Self-Adhesive (All-in-One) Resin Cement Formulated for Zirconia Restorations



\$136/5-ml Automix Syringe (\$27.20/ml)

CheckUp

BlueLight Analytics

ZR-CEM's chemistry, including MDP, enables a simple bonding to all ceramic materials, zirconia, dentin, and enamel. The BPO/amine-free initiation system was developed for color stability. While ZR-CEM was developed for no pre-treatment of the restoration internal to facilitate simple cementation steps and adequate bond (confirmed in CR testing), as with other successful self-adhesive resin cements, addition of separate adhesive to tooth and Premier Universal Primer to restoration further increases bond strengths. **Advantages:**

- Clean up of residual cement is easy with tack cure
- Cement is easy to use; dispense and seat crown
- · Good working time; set of cement is prompt

Limitation:

· Prolonged tack cure can make cleanup harder

CR CONCLUSIONS: 89% of 19 CR Evaluators stated they would incorporate ZR-CEM into their practice. 95% rated it excellent or good and worthy of trial by colleagues.

Smart Radiometer for LED Resin Curing Lights also Provides Length of Cure

Are your curing lights adequately curing your resin-based composite of choice? Most lights appear like they are working properly, but have different cure times for the type and shade of composite you are placing. CheckUp monitors the intensity of your curing light and provides readings and curing directions to your smart device through its app. Directions include how long to cure a brand of composite based on your light's performance.

\$399/Radiometer (includes basic software subscription)

Advantages:

- Comprehensive database of curing lights and resins
- Helpful data for accomplishing accurate cure
- Simple to use after initial set up
- · Provides cure data quickly

CR CONCLUSIONS: 70% of 23 CR Evaluators stated they would incorporate CheckUp into their practice. 78% rated it excellent or good and worthy of trial by colleagues.

3M's Most Popular Flowable Restorative is Now Easier to Inject with Newly Designed Syringe





\$113/Two 2-gm Syringes (\$42.64/ml)

Popular, well-proven nano-composite in NEW syringe dispensing with virtually no bubbles, easy-to-bend cannula, ergonomic design, and shades A2, A3, A4, B1, B2, C2, D2, OA3, W, and XW. Syringe was designed to improve control and provide better access to preparation with bendable cannula.

Advantages:

- Viscosity of material flows smoothly and bubble free
- · Excellent esthetics and high initial polish
- · Ergonomic syringe provided improved intraoral access to preparation details

CR CONCLUSIONS: 77% of 22 CR Evaluators stated they would incorporate Filtek Supreme Flowable Restorative into their practice. 86% rated it excellent or good and worthy of trial by colleagues.

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Limitation:

Limitation:

• Learning curve with set-up of required app

• New dispensing tip is proprietary