

THE DENTAL ADVISOR™

“Improving Patient Care Through Research & Education”



Photography by Annette M. Frederick

Self-adhesive Resin Cements

Today, dentistry is rapidly moving from cementation of alloy-based restorations with traditional water-based crown and bridge cements to bonding of all-ceramic restorations with resin-based cements. Self-adhesive resin cements have adhesive components that eliminate the need for separate etchants and primers for bonding to tooth, alloy or ceramic substrates.

This issue of THE DENTAL ADVISOR reviews the properties of and provides clinical tips for the use of self-adhesive cements. Long-term clinical results for self-adhesive resin cements are described.

April 2011

Vol. 28, No. 03

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RATINGS

Excellent	+++++
Very Good	++++
Good	+++

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Self-adhesive Resin Cements

Self-adhesive Resin Cement versus Esthetic Resin Cement

Self-adhesive resin cements eliminate the need for separate etchants and primers for bonding ceramic and metal restorations to tooth structure. These cements are available in tooth-colored, translucent and opaque shades and are dual-cured. Most products are paste-paste systems with auto-mix dispensers, but encapsulated products are also available.

Esthetic resin cements require a bonding agent for adhesion to tooth structure and separate primers for bonding all-ceramic restorations. These cements are available in a variety of VITA and translucent shades and most are dual-cured. Special light-cured esthetic resin cements are available for bonding all-ceramic veneers.

Characteristics of Self-adhesive Resin Cements

- Self-etching – no phosphoric acid or special primer needed.
- Dual-cured – can be light- or self-cured.
- Fluoride-releasing.
- Usually available in universal, translucent and opaque shades.
- May require refrigeration – bring to room temperature before using.

Indications for Self-adhesive Resin Cements

- All-ceramic silica-based inlays, onlays (*IPS Empress, IPS e.max, Ivoclar Vivadent*)
- Cast alloy crowns, bridges
- Ceramo-metal crowns, bridges
- Zirconia-based crowns, bridges, inlays, onlays
- Posts (cast metal, ceramic, fiber-reinforced resin)

Contraindications

- Self-adhesive resin cements are generally not recommended for the cementation of porcelain veneers.
- Use higher strength adhesive resin cements or esthetic resin cements when retention is low.

Composition of Self-Adhesive Resin Cements

Self-adhesive resin cements are composed of diacrylate resins with acidic and adhesive groups and glass filler. They are usually dual-cured resins that can be light activated or self-cured. During setting, self-adhesive resin cements typically undergo a change in pH from acidic (pH 2.1-2.3) to less acidic (pH 5.6-6.0). The early acidity of the cement allows it to be self-etching.

Bond to Teeth and Restorative Substrates

Self-adhesive resin cements bond to tooth structure and other materials with low to medium bond strengths. The separate use of a bonding agent is not recommended. Although bonding agents may be compatible with self-adhesive resin cements, their use makes the manipulation more complicated and does not dramatically improve bond strength to tooth structure. Higher bond strengths, when needed, can be obtained with esthetic resin cements and adhesive resin cements that are bonded with separate bonding agents or primers.

Strength

Self-adhesive resin cements generally are not as strong as esthetic resin cements and adhesive resin cements. Flexural strength and modulus measured when these cements are light-activated are generally higher than when they are self-cured.

Esthetics

Self-adhesive cements have a tendency to darken over time.

Post-operative Sensitivity

Self-adhesive resin cements have a lower incidence of sensitivity than adhesive or traditional crown and bridge cements. Microleakage of self-adhesive resin cements has also been reported to be lower than that of traditional cements.

Cementing to Zirconia-based Restorations

Clinical Consultants of THE DENTAL ADVISOR have reported that self-adhesive resin cements were most commonly selected for cementation of zirconia-based restorations.

Long-term Data -Clinical Results of Self-adhesive Resin Cements

Over **6000** restorations have been cemented with *RelyX Unicem Self-Adhesive Resin Cement (3M ESPE)* since **2003** by Clinical Consultants of THE DENTAL ADVISOR. **1458** restorations were observed at recall at **seven years**. The results were:

- Occasional sensitivity to temperature was less than 1.1%.
- Ninety-four percent of the restorations recalled showed no marginal discoloration. Graying at the margins was observed in 6% of the restorations. 1.3% of these restorations needed replacement because of the graying, while 4.7% were not replaced.
- Retention was excellent. 2.2% of the restorations required re-cementation and 0.3% required replacement.

For more information: www.dentaladvisor.com/clinical-evaluations/evaluations/3m-espe-relyx-unicem-self-adhesive-resin-cement-7-yr.shtml

Long-term data - Self-adhesive Resin Cements Used with Zirconia-based Restorations

574 3M ESPE Lava Crowns and Bridges placed since **2003** by Clinical Consultants of THE DENTAL ADVISOR were evaluated at recall at **seven years**. The majority of these restorations were cemented with self-adhesive resin cement. More than 95% of the restorations exhibited no signs of microleakage, while 3% had slight graying at the margins.

For more information: www.dentaladvisor.com/clinical-evaluations/evaluations/3m-espe-lava-crowns-and-bridges-7-yr.shtml

Clinical Tips

- Don't over dry the tooth - moisten with water if needed.
- Use light activation whenever possible - dual-cured cements typically have increased flexural strength and bond strength when activated with a light vs. self-curing.
- Translucent shades may be sensitive to ambient light.
- Excess cement is easy to remove after several seconds of exposure to curing light, but hard to clean up if you wait too long.
- Use stronger cements when there is not enough retention.
- Do not apply directly on exposed pulp or dentin that is close to the pulp.
- Some products provide extension tips for the capsules for post cementation.
- Do not use a lentulo to spin cement into a canal space for post cementation. Place the cement on a post before placing in the canal.
- Use a silane primer with silica-based all-ceramic restorations.



TDA Recommends The Following Products

- *3M ESPE RelyX Unicem 2 Automix Self-Adhesive Resin Cement* (3M ESPE)
 - *CLEARFIL SA CEMENT* (Kuraray America)
 - *G-CEM Automix* (GC America)
- *seT PP Automix* [SDI (North America), Inc.]



Maxcem Elite (Kerr Corporation)



seT [SDI (North America), Inc.]



seT PP [SDI (North America), Inc.]

Self-adhesive Resin Cements				
Product	Company	Shades	Accessories	Clinical Rating
3M ESPE RelyX Unicem 2 Automix Self-Adhesive Resin Cement	3M ESPE	Translucent, A2 Universal, A3 Opaque	Automix tips, endo tips, intra-oral tips	96%
3M ESPE RelyX Unicem Self-Adhesive Cement - Aplicap	3M ESPE	A1, A2, A3, universal, opaque, white opaque, TR	Activator, Applier-set for Aplicap/Maxicap	98%
3M ESPE RelyX Unicem Self-Adhesive Cement - Clicker	3M ESPE	A2 Universal, A3 Opaque, TR Translucent	None	97%
Bifix SE	VOCO America	Translucent, universal, opaque	Auto-mix tips, intraoral tips	94%
BisCem	Bisco Dental Products	Opaque, translucent	Auto-mix tips	90%
Breeze	Pentron Clinical	A2, opaceous white, translucent	Auto-mix tips, intraoral tips	92%
G-CEM	GC America	A2, AO3, BO1, translucent	None	88%
G-CEM Automix	GC America	A2, translucent	Mixing tips - 20	98%
Maxcem Elite	Kerr Corporation	Clear, white, white opaque, yellow, brown	Auto-mix tips	na
SpeedCEM	Ivoclar Vivadent	Transparent, yellow, white opaque	15 Regular Tips, Endo tips available separately	93%
seT	SDI (North America), Inc.	A1, A2, OA3, translucent, white opaque	Capsule applicator	96%
seT PP	SDI (North America), Inc.	A1, A2, OA3, translucent, white opaque	Auto-mixed tips	97%

THE DENTAL ADVISOR is now available in a **Mobile View** with quick access to Product Reviews and Sample Requests! Check it out on your **iPad, iPhone, or Blackberry!**



3M ESPE Vanish 5% Sodium Fluoride White Varnish + + + + 1/2

3M ESPE
800.634.2249
www.3mespe.com

Description

3M ESPE Vanish 5% Sodium Fluoride White Varnish is a calcium, phosphate and fluoride-containing varnish for application to enamel and dentin for the treatment of hypersensitive teeth. It is saliva-activated and will spread on and adhere to moist teeth. **3M ESPE Vanish 5% Sodium Fluoride White Varnish** is sweetened with xylitol and contains a tri-calcium phosphate ingredient (TCP) exclusively from **3M ESPE**. TCP serves as a source of bioavailable calcium and phosphate ions when the varnish is applied to the teeth. The manufacturer states that the varnish releases fluoride for up to 24 hours and does not cause yellowing of teeth. **3M ESPE Vanish 5% Sodium Fluoride White Varnish** is available in Cherry, Melon and Mint flavors in unit-dose packages containing 0.5 ml of varnish and an applicator brush. Two instructional videos are available on the **3M ESPE** website. **3M ESPE Vanish 5% Sodium Fluoride White Varnish** was evaluated by 18 consultants in 681 uses. It received a 91% rating.

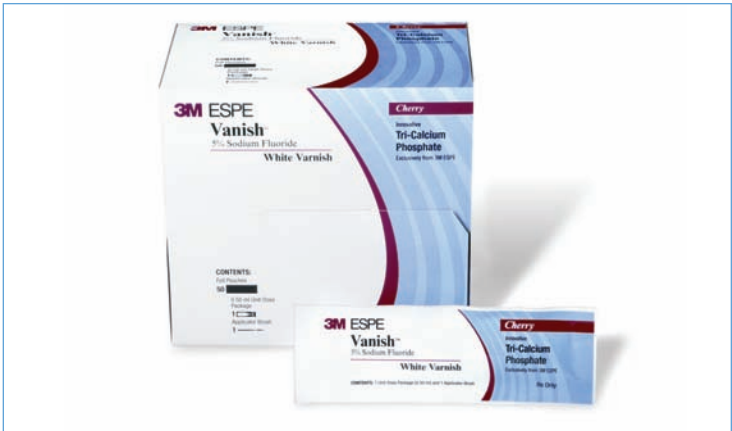
Suggested Retail Cost
• \$1.28 - \$2.20 based on package size

Product Features

Two-thirds of the consultants evaluating **3M ESPE Vanish 5% Sodium Fluoride White Varnish** were dentists and one-third were dental hygienists or dental assistants. Seventy-two percent of the consultants watched the instructional video before using the product and found it helpful, as it demonstrated the recommended quick application method. Application is smooth to moist teeth, and the product dries virtually clear. Patient acceptance to the flavors was very high. The consultants felt the packaging is excessive, with an outer foil wrap enclosing the brush and an individual packet of varnish. The instruction to dispense the varnish onto a dosing circle printed on the outer packet was not well received. Consultants would have preferred simpler packaging. Sixty-one percent of consultants reported that **3M ESPE Vanish 5% Sodium Fluoride White Varnish** was better than their current fluoride varnish and 22% reported that it was equivalent. Sixty-one percent would switch to **3M ESPE Vanish 5% Sodium Fluoride White Varnish** and 67% would recommend it.

Clinical Tip

- Product applies more smoothly to moist teeth. ■



Consultants' Comments

- ◆ “The product is easy to apply and goes on smoothly.”
- ◆ “The varnish can be applied to wet surfaces and it dries clear.”
- ◆ “Patients liked the flavors – high patient acceptance.”
- ◆ “Inclusion of TCP may be beneficial for high-caries-risk patients.”
- ◆ “Mixing the varnish on the outside of the packet seems unsanitary.”
- ◆ “Prepackaged amount contains an ample amount of material for adult full-mouth application.”
- ◆ “Product is sticky – fills interproximal areas and adheres well to the tooth surfaces.”

Riva Protect + + + + 1/2

SDI (North America) Inc.
800.228.5166 - 630.238.8300
www.sdi.com.au

Description

Riva Protect is a high-fluoride-releasing glass ionomer cement designed for surface protection and sealing of newly erupted or caries-challenged dentition. **Riva Protect** is indicated for root/tooth surface protection, temporary restoration on non-load bearing applications and for temporary endodontic sealing. **Riva Protect** has proprietary ionglass filler and ACP for enhanced remineralization. **Riva Protect** is available in white and pink shades in both regular set and fast set. The kit includes: 50 **Riva Protect** pre-dosed capsules - fast set (pink), **Riva** applicator, easy reference guide instructions, and expanded instructions. **Riva Protect** was evaluated by 22 consultants in 413 uses. It received an 84% rating.

Suggested Retail Cost
• \$144.40/kit

Product Features

Riva Protect capsules mix in a triturator or capsule mixer, and the consistency of the mix is somewhat dependent on the settings of the mixer. When mixed properly, the viscosity of the glass ionomer flows well for proper adaptation to the tooth. Often, however, the material extruded from the capsule was viscous and hard to work with. The extremely fast setting time of the fast-set material

Consultants' Comments

- ◆ “I liked the ease of dispensing and the mix was homogenous.”
- ◆ “Sets very hard—makes a good base for a build-up and preparation on a tooth with a root canal.”
- ◆ “Material is sticky - dispensing and placement were harder to control than a flowable composite.”
- ◆ “Fast set is too fast - working time is too short.”

evaluated offered very little working time before it started to gel and harden. Extra working time can be gained by shielding the operating light. While consultants liked the material for temporary fillings, they reported it was too viscous for use as a pit and fissure sealant. Consultants reported that **Riva Protect** worked well for endo access openings—good color and self-cured. Most consultants preferred a tooth-colored material over the pink color. Twenty-seven percent of consultants reported that **Riva Protect** was better than their current pit and fissure sealant and would switch to **Riva Protect** and 36% would recommend it.

Clinical Tips

- Refrigeration is preferred, but not required.
- Use a small tipped explorer rather than the dispensing tip to distribute the material.
- Use fast-set material quickly after mixing or it will start setting before you can deliver it. ■

Product Update

SURE-CHECK® Sterilization Pouch (Crosstex International) introduces new size

SURE-CHECK® Sterilization Pouch (Crosstex International) is a self-sealing, single-use, disposable sterilization pouch indicated for use in steam. **SURE-CHECK** has built-in external and internal Class 4 multi-parameter steam indicators (time, temperature and steriliant contact) printed on the pouch. It is wet-strength treated and made from virgin medical grade paper with a transparent film to allow a clear view of the contents and internal indicators. Additionally, **SURE-CHECK** features triple seals to prevent penetration or tearing from sharp instruments and a wider self-seal adhesive strip that securely seals sterilization pouches. **Crosstex** has introduced the following new sizes: 5.25” x 6.5”, 5.25” X 15”, 8” x 16”, and 10” x 15” of its advanced **SURE-CHECK® Sterilization Pouches**. With the addition, **SURE-CHECK** pouches are now available in 12 different sizes – from 2.25” x 4” to 12” x 18.” The pouches are available in 200-count boxes, except the three larger sizes, which are available in a 100-count box.

Read more at <http://www.dentaladvisor.com/clinical-evaluations/evaluations/sure-check-sterilization-pouch.shtml>.



Nuance Universal Composite + + + +

Discus
800.422.9448 - 310.845.8200
www.discusdental.com

Description

Nuance Universal Composite is a light-cured nanohybrid-composite resin designed for anterior and posterior restorations. It is designed to be translucent when thin and opaque when thick to allow one body shade to be used for the entire restoration with natural-looking results. *Nuance Universal Composite* contains proprietary multi-faceted fillers that reflect and refract light, mimicking the opacity, translucency, and optical characteristics of natural tooth structure. *Nuance Universal Composite* is designed to have a pliable, buttery consistency that extrudes easily from the syringe and is easy to spread and shape without sticking to the composite instrument. *Nuance Universal Composite* is supplied in a 4 g syringe with a flip-top cap and color-coded shade identification. The syringe provides an audible and tactile click for unit-dose dispensing. *Nuance Universal Composite* is also available in 0.25 g singules. Nuance Universal Composite is available in 17 shades: (A1, A2, A3, A3.5, A4, B1, B2, B3, C3, BLX, BL, OA2, OA3, OA4, Enamel Grey, Enamel Yellow, and Translucent). *Nuance Universal Composite* was evaluated by 31 consultants in 913 uses. It received an 89% rating.

- Suggested Retail Cost**
- \$85.00 /4-g syringe
 - \$90.00 /16, 0.25 g singules

Product Features

Nuance Universal Composite received good ratings for syringe design and ease of dispensing material from the syringe. The syringe opening has a large diameter that can lead to wasted material if only a small amount is needed; however, the manufacturer recommends using a sterilized instrument to scoop out the material needed (or use a unit dose single), rather than dispensing, to avoid any waste. During placement, the material is very creamy and offers little resistance to packing. After light curing, restorations had excellent esthetics, with a good balance of translucency and opacity. *Nuance Universal Composite* is easy to finish. The quality of the final polish was very good. Twenty-three percent of consultants reported that *Nuance Universal Composite* was better than their current universal composite, whereas 42% reported it was equivalent. Forty-five percent would switch to *Nuance Universal Composite* and 74% would recommend it.

Consultants' Comments

- ◆ “Nice consistency - easy to work with.”
- ◆ “Chameleon effect - ability to blend well with surrounding tooth.”
- ◆ “Nice shade matching.”
- ◆ “Packaging makes it easy to organize.”
- ◆ “Tends to slump a little - especially with anterior teeth.”

Clinical Tips

- Place a small amount of flowable composite as a base to enhance the adaptation of the composite to the prepared tooth surface.
- If extended working time is necessary, shield the operatory light to prevent setting of composite. ■

OneTouch Advanced + + + + ½

Hager Worldwide
800.328.2335
813.926.7474
www.hagerworldwide.com

Request a Sample:
Visit www.dentaladvisor.com to request a sample or more information!



Description

OneTouch Advanced is a topical anesthetic gel with the following active ingredients: 14% benzocaine, 2% butamben and 2% tetracaine hydrochloride. Benzocaine provides rapid onset of anesthesia of mucous membranes to control pain in the mouth while tetracaine provides extended duration. According to the manufacturer, *OneTouch Advanced* has an onset of action within 30 seconds of application and duration of 30-60 minutes. *OneTouch Advanced* is available in Cool Mint, Strawberry Ice, Bubble Gum, and Cherry flavors. Lightly depressing the top of the *OneTouch Advanced* container allows control of the amount of gel dispensed. Only a limited quantity is required for anesthesia. The *OneTouch Advanced* dispenser also minimizes waste and risk of cross-contamination. *OneTouch Advanced* was evaluated by 22 consultants in 782 uses. It received a 91% rating.

- Suggested Retail Cost**
- \$19.50/32 g jar

Product Features

OneTouch Advanced is packaged in a unique container that dispenses the amount of gel desired with a single touch. Most consultants removed the gel from the dispenser with a cotton-tipped applicator. Most consultants reported that they liked the dispenser. Once applied to the mucous membranes, the product is effective almost immediately and for an extended period of time. While the scents are appealing, some patients complained about the taste. Fifty-nine percent of consultants reported that *OneTouch Advanced* was better than their current topical anesthetic gel, whereas 18% reported it was equivalent. Fifty-nine percent would switch to *OneTouch Advanced* and 68% would recommend it.

Clinical Tips

- Use a small amount – keep away from the tongue.
- Do not leave any gel on the dispenser surface; otherwise, it will transfer to the inside of the lid, creating a mess. ■



Consultants' Comments

- ◆ “Great dispenser to reduce cross-contamination – no dripping.”
- ◆ “Lasted about 20-25 minutes - we used it on perio patients for sensitive scaling situations.”
- ◆ “The effectiveness of it is remarkable - time of onset is fast.”
- ◆ “I found it difficult to spread around the tissues – it tends to stay on the cotton-tipped applicator.”
- ◆ “Taste is bitter.”

MiraTray Implant Advanced + + + +

Hager Worldwide
800.328.2335 - 813.926.7474
www.hagerworldwide.com

Description

MiraTray Implant Advanced is a universal disposable impression tray for implant impressions, especially those using open-tray impression copings. The trays are composed of hard plastic buccal/lingual walls and a transparent foil over the occlusal surface. While making the impression, the foil is simply pierced by the impression copings, eliminating the need to drill out or adapt the tray in the area of the copings. The foil then lies against the copings and prevents overflow of the impression material over the copings' screw heads. Tray adhesive should be used with **MiraTray Implant Advanced** impression trays, and a silicone or polyether impression material with high final hardness is recommended. During try-in, the transparent surface allows visualization of the structures below, aiding in selection of tray size and obtaining the correct fit. While most suited for dentulous situations, **MiraTray Implant Advanced** may also be used on edentulous jaws. **MiraTray Implant Advanced** is available in three sizes each for maxilla and mandible. The kit contains: six trays, available with either of each size or six of one size (Upper S1-Small, Upper S2-Medium, Upper S3-Large, Lower L1-Small, Lower L2-Medium, Lower L3-Large), manufacturer's instructions and product literature. **MiraTray Implant Advanced** was evaluated by 12 consultants in 56 uses. It received an 88% rating.

Suggested Retail Cost
• \$45.00/kit

Product Features

MiraTray Implant Advanced is a convenient alternative to custom trays or plastic stock trays that require modification for open-tray implant impressions. Trays fit well, although consultants would have liked a larger selection of sizes. Some care must be taken to avoid scratching the soft tissue with the sharp angles on the posterior corners of the trays. Consultants liked the foil technology and the ability to see through it to inspect the fit of the tray. Seventy-five percent of consultants reported that **MiraTray Implant Advanced** was better than their current tray system, whereas 17% reported it was equivalent. Seventy-five percent would switch to **MiraTray Implant Advanced** and 75% would recommend it.

Clinical Tips

- During try-in, mark on the tray where the abutments are so you know where to press to pierce the foil.
- Cover the impression coping screw opening to prevent impression material from getting in. ■



Consultants' Comments

- ◆ "The foil is transparent and allows inspection of any possible issues or impingements."
- ◆ "The foil is easily broken for the implant impression coping."
- ◆ "No need to drill access opening through plastic trays."
- ◆ "I would like to see some intermediate sizes."
- ◆ "Trays are too deep for some situations. I had cases in which the coping did not reach the foil and I had to pre-cut a hole to reach the screw."
- ◆ "Make separate edentulous trays."

Laboratory Comments

- ◆ "The trays are rigid, enhancing the stability of the impressions."
- ◆ "This may encourage doctors to use the open-tray technique, which eliminates a potential source of error compared to the closed-tray technique."

Ergonom-X E-Speed Self Developing X-ray Film + + + +

Cramer Dental Sales
800-723-4895
www.cramerdental.com

Request a Sample:
Visit www.dentaladvisor.com to request a sample or more information!



Description

Ergonom-X E-Speed Self Developing X-ray Film is intended to provide fast, high-resolution x-rays without the use of a dental processor. Available as a self-contained packet with a monobath solution in one end and a #2 adult size film in the other, an **Ergonom-X E-Speed x-ray** is fully developed in 50 seconds. **Ergonom-X E-Speed** is available in boxes of 15 or 50 films. It is recommended for endodontic and implant procedures, nursing home dentistry, mobile dentistry, late night emergencies, and in case of equipment failure. The developed x-ray can be archived for up to 10 years. **Ergonom-X E-Speed** was evaluated by 16 consultants in 216 uses. It received an 88% clinical rating.

Suggested Retail Cost
• \$87.99/50 pack
• \$34.50/15 pack

Product Features

Consultants reported that **Ergonom-X E-Speed** was convenient and developed quickly. Because of the bulk of the developer portion of the package, the unit was cumbersome to place in the mouth; however, the flexibility of the packet and soft pouch enhances patient comfort. Users of digital x-rays found **Ergonom-X E-Speed** useful during instances of sensor or computer malfunction. The long shelf life of 18 months makes it a useful item to keep in the office as a backup to usual methods. Eighty-three percent of consultants who had used their previous **Ergonom X 'D-Speed'** self-developing film reported that the new **Ergonom-X E-Speed** was better than their current self-developing x-ray film and 17% reported that it was equivalent. Nineteen percent would switch to **Ergonom-X E-Speed** and 75% would recommend it.

Clinical Tips

- **Ergonom-X E-Speed** is recommended for 70 Kvp x-ray apparatus. Adjustments on exposure time are required for other units.
- Use a hemostat to assist in placing the product in the mouth.
- Allow film to develop for the proper amount of time and swish the chemicals around the film to develop it, then after 50 seconds push the chemicals back to the pouch side and open it. Be sure to wash it very thoroughly. ■



Consultants' Comments

- ◆ "Convenient with fast development."
- ◆ "Good image quality and contrast."
- ◆ "Great for mobile dentistry."
- ◆ "The pouch that holds the chemicals makes it cumbersome to place in the mouth."
- ◆ "I would want an easier way to place the film especially when time is important."

Tuff-Temp + + + + 1/2

Pulpdent Corporation
800.343.4342 - 617.926.6666
www.pulpdent.com

Description

Tuff-Temp is a provisional crown and bridge resin with rubberized-urethane polymer chemistry. The material is formulated to provide greater strength and stability, as well as a tighter fitting provisional restoration than acrylics and bis-acrylics. **Tuff-Temp** can be trimmed with a low-speed acrylic bur, fine-grit diamond bur or finishing and polishing disks. It is dual-cured (self-cured with fast light-cure option). **Tuff-Temp** has a working time of 45 seconds, an initial self-cured setting time of 2:15 minutes from beginning of mix (approximately 90 seconds after insertion in the mouth) at which time it should be removed from the mouth. Final self-cured setting time is 5 minutes from the beginning of the mix; light-cured setting time is 20 seconds. **Tuff-Temp** is available in five shades in either 50-ml cartridges or 5-ml syringes. Consultants evaluated the 5-ml syringes of shades A1, A2 and B1, along with the *Provisional Glaze*. **Tuff-Temp** was evaluated by 27 consultants for provisionalization of 519 single units, bridges and veneers. It received a 91% rating.

Suggested Retail Cost

- 50 mL automix cartridge + 20 mix tips @ \$139.95
- 5 mL automix syringe + 8 mix tips @ \$32.50

Product Features

The formulation of **Tuff-Temp** produces a temporary restoration that is different from commonly available bis-acryl or acrylic materials. After setting, **Tuff-Temp** is very hard, yet easy to trim. The most outstanding feature is the crisp, accurate margins that can be obtained with this material. Consultants reported that **Tuff-Temp** provisionals had a tight fit with very good retention and durability. The light-curing feature was especially useful for clinicians using a clear matrix material that allowed faster setting in the mouth; however, consultants commented that the self-cured setting time is too long. Practice was required to learn the proper curing time to avoid over-curing and locking the provisional onto the preparation. During trimming, **Tuff-Temp** grinds to a fine powder, and finishing instruments do not gum up or clog. Fifty-two percent of consultants reported that **Tuff-Temp** was better than their current provisional material, whereas 37% reported it was equivalent. Sixty-seven percent would switch to **Tuff-Temp** and 85% would recommend it to a colleague.

Consultants' Comments

- ◆ *“Provisional was very retentive and seemed stronger and had less shrinkage than other temporary materials I have used.”*
- ◆ *“It is easy to trim to a thin margin.”*
- ◆ *“The fit was so good that my patient said it was her most comfortable temporary ever.”*
- ◆ *“I liked being able to light cure to accelerate setting time.”*
- ◆ *“Shades are a little opaque.”*
- ◆ *“It was hard to extrude the material from the hand held syringe.”*
- ◆ *“Setting time is long without light curing.”*

Clinical Tips

- Be sure to remove at 2:15 minutes or earlier (from beginning of mix) to prevent provisional from locking onto preparation.
- Do not use for very retentive preparations or preparations with grooves and boxes (3/4-crowns and gold onlays). ■

Excite F Vivapen + + + +

Ivoclar Vivadent, Inc
800.533.6825
716.691.0010
www.ivoclarvivadent.com

Request a Sample:
Visit www.dentaladvisor.com to request a sample or more information!



Description

Excite F VivaPen is a light-cured, nano-filled, fluoride-releasing, single-component adhesive for dentin and enamel bonding in conjunction with the total-etch technique. **Excite F VivaPen** is indicated as an adhesive is indicated for direct light-cured and dual-cured composite and compomer restorations as well as indirect all-ceramic and composite restorations (light-cured inlays, onlays, veneers). The **VivaPen** delivery form allows for direct application to the preparation. The new **VivaPen** features a more ergonomic design, integrated fill-level indicator and provides 120 applications. The fill-level indicator shows the plunger position as an indicator of how much material remains. This design prevents exposure of the material to light. Also new are printed instructions on the side of the pen. The kit contains a 2 ml **Excite F VivaPen**, 100 snap-on cannulas, 2 g syringe of *Total Etch* phosphoric acid, 10 *Total Etch* applicator tips, and manufacturer's instructions. Twenty-three consultants used **Excite F VivaPen** in 798 uses. It received an 89% clinical rating.

Product Features

Consultants liked the ergonomic design and convenience of **Excite F VivaPen**. They also liked the new indicator window displaying the amount of liquid remaining in the pen. The dispensing tips are sturdy and maintained the bent angle but were too short for use in extremely deep preparations. Some consultants suggested that the fuzzy tips be improved by increasing the density of the fibers. Thirty-five percent of consultants reported that **Excite F VivaPen** was better than the bonding agent they were using, while 39% said it was equivalent. Fifty-two percent of consultants reported that they would switch to **Excite F VivaPen** and 65% would recommend it.

Clinical Tips

- Make sure you compress the blue rubber button firmly and more than once to get the adhesive on the tip. Touch the tip to a piece of paper before using to see if there is sufficient adhesive on it.
- The product can be stored at room temperature. ■



Consultants' Comments

- ◆ *“Convenient dispenser - no need to open a bottle, dispense a drop, wet a brush.”*
- ◆ *“The dispensing system is awesome. The pen is convenient, clean and fast.”*
- ◆ *“I could tell how much material was in the pen.”*
- ◆ *“I could not always tell if the fibers on the tip were impregnated with adhesive.”*
- ◆ *“Sometimes a challenge to get bonding agent out of tip - required several pumps.”*
- ◆ *“Fuzzy tip wasn't fuzzy enough - didn't seem to disperse agent/scrub into tooth very well.”*
- ◆ *“I would like to see a variety of tips, perhaps even an extending tip or an endo tip.”*

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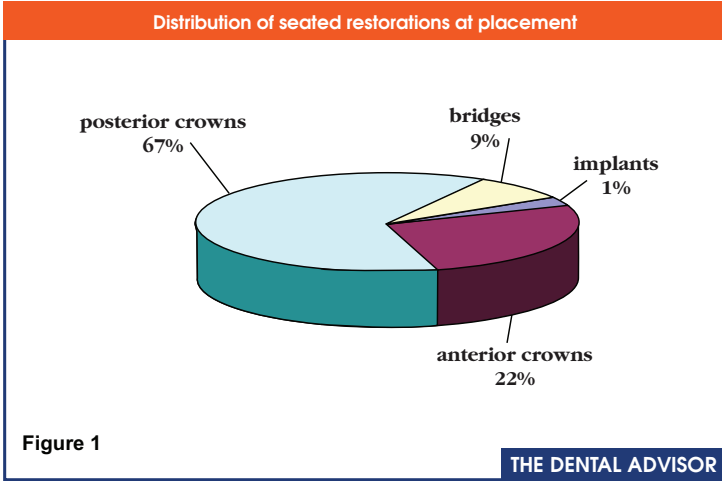
Description

Crystal zirconia is a fine-grained zirconia with high flexural strength. The zirconia can be polished to produce a glaze-like surface that is less abrasive and can result in less wear of the opposing dentition. Crystal zirconia is available in three formulations: high strength with flexural strength of 1400 MPa, high translucency with flexural strength of 950 MPa, and Crystal Diamond full-contour zirconia with flexural strength of 850 MPa. These formulations can be used for anterior and posterior restorations, three- to five- unit bridges as well as implants. Tooth preparation is similar to PFM preparations with more conservative reduction of the tooth. Once the impressions were taken and the dies were poured, they were scanned and the copings milled and then sintered. The copings were then overlaid with a nano-fluorapatite ceramic (IPS e.max Ceram, Ivoclar Vivadent). This product received a 99% clinical rating.

Clinical Evaluation Protocol

Crystal zirconia restorations overlaid with IPS e.max Ceram were fabricated and cemented beginning in February 2009. As of May 15, 2010, a total of 393 restorations were in function in approximately 300 patients. Out of the 393 restorations, 22% were anterior crowns, 67% posterior crowns, 9% bridges and 2% implants (Figure 1). Ninety percent of these restorations were cemented with self-adhesive resin cements, while 10 percent were cemented with traditional cements (Figure 2). The self-adhesive cements used were: Clearfil SA CEMENT, 150; SpeedCem, 91; 3M ESPE RelyX Unicem Self-Adhesive Universal Resin Cement, 62; seT PP, 39; and G-CEM, 12.

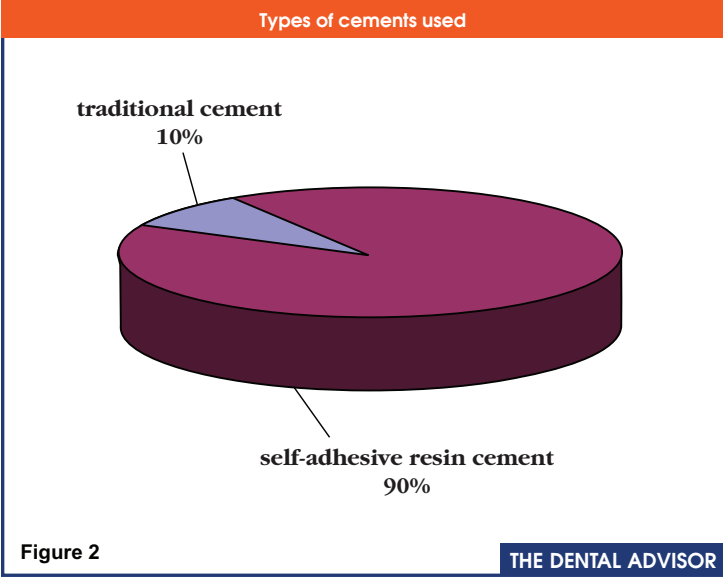
To date 90 restorations or 23% of the cemented restorations were recalled, representing restorations in function from 3 to 15 months. At recall the restorations were evaluated for resistance to



Consultants' Comments

- ◆ "The esthetics have been exceptional."
- ◆ "To date, restorations are very resistant to chipping and/or fracture."
- ◆ "Right now, it is my restoration of choice."

fracture/chipping, esthetics, resistance to margin discoloration, and wear resistance. Restorations were rated on a 1-5 scale, 1=poor, 2=fair, 3=good, 4= very good, 5=excellent.



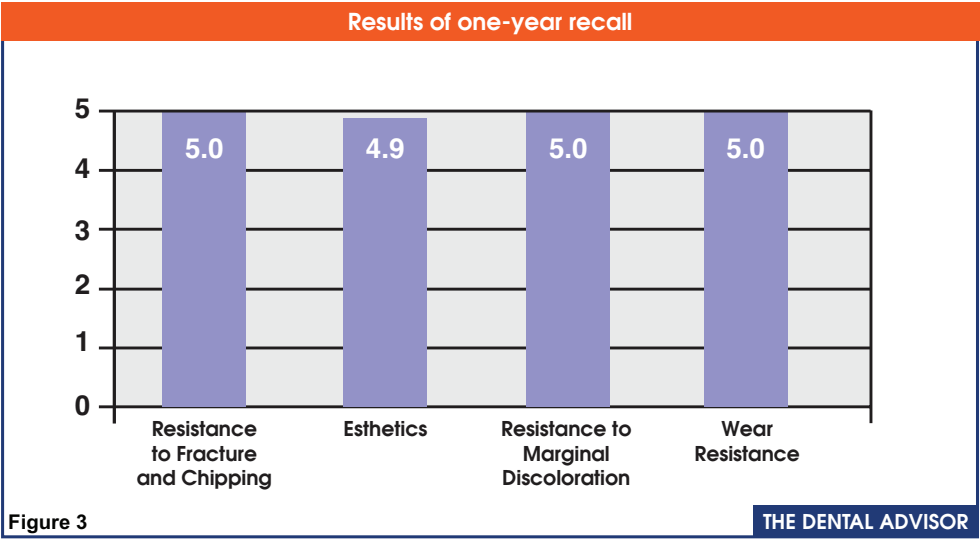
Clinical Observations

Resistance to Fracture and Chipping
To date only one crown fractured and none have chipped (Figure 3). The failed crown fractured catastrophically less than 24 hours after cementation. One of two scenarios are plausible: 1) During the layering and baking process, the restoration was cooled or heated too quickly creating undue internal stresses, and 2) The impression was distorted during impression taking, which in turn overstressed the crown during cementation.

Esthetics
The majority (85%) of the restorations had excellent esthetics, while 15% were very good (Figure 3). Because of the more translucent nature of the Crystal zirconia, many of the restorations receiving a rating of excellent had exceptional blending with the adjacent teeth.

Resistance to Marginal Discoloration
None of the restorations exhibited any marginal discoloration (Figure 3).

Wear Resistance
No wear was noted on the restorations or the opposing dentition (Figure 3).



Summary

At one-year recall, the success of Crystal zirconia with IPS e.max Ceram has been very promising, especially the lack of fracture or chipping of the nano-fluorapatite veneer. This system is proving to be the best of the zirconia-based restorations documented at THE DENTAL ADVISOR.

Editors' Note – The zirconia copings were milled at Apex Dental Milling, Ann Arbor, Michigan. The restorations were completed at Nellmar Laboratory, Ann Arbor, Michigan.

Correction

ResiCem (SHOFU DENTAL CORP.) was incorrectly listed as a self-adhesive resin cement in THE DENTAL ADVISOR, Vol. 28, No. 1, January-February 2011. ResiCem is an adhesive resin cement.



ResiCem (SHOFU DENTAL CORP.)

Moist SURE Liquid Sanitizer + + + +

Sultan Healthcare

800.637.8582 - 201.871.1232

www.sultanhealthcare.com

Description

Moist SURE™ Liquid Sanitizer is designed to sanitize and moisturize hands. The active ingredient is isopropyl alcohol (63%). **Moist SURE Liquid Sanitizer** keeps skin hydrated and soft for up to two hours. The manufacturer reports that the product meets performance criteria as a Healthcare Personnel Hand Wash, moisturizes better than Vaseline Intensive Care Hand Lotion, has a five-second MRSA and VRE claim, and does not inhibit the residual activity of CHG on skin when used together. The product is available in a 15-ounce pump bottle or a 33.8-ounce refill for use in its wall-mounted automatic dispenser. Forty-one consultants used **Moist SURE Liquid Sanitizer** in over 1300 uses. It received an 86% clinical rating.

Suggested Retail Cost

- \$13.65/15 oz Pump Bottle
- \$27.52/33.8 oz Dispenser Refill
- \$60.00/Automatic Wall Dispenser

Product Features

Moist SURE™ Liquid Sanitizer is easy to dispense from the automatic dispenser which is activated by a motion sensor. The pump is also easy to use but dispenses a greater amount of sanitizer

Consultants' Comments

- ◆ "I found this product was much easier on my hands than soaps."
- ◆ "Very dry, clean feeling - easy to don gloves."
- ◆ "Does not over-dry my skin."
- ◆ "Left my hands feeling soft!"
- ◆ "Takes a long time to dry."

than necessary. The initial alcohol odor is strong but disappears quickly and is replaced by a soft, baby powder scent. **Moist SURE Liquid Sanitizer** produces a clean, silky feeling after rubbing in for appropriate time. Forty-six percent of consultants reported that **Moist SURE Liquid Sanitizer** was better than the hand sanitizer they were using, while 32% said it was equivalent. Fifty-eight percent of consultants reported that they would switch to **Moist SURE Liquid Sanitizer** and 71% would recommend it.

Clinical Tip

- Be patient - rub hands for about 30 seconds (until product dries) before donning gloves. ■

SPECIAL THANKS TO:

SENIOR CLINICAL CONSULTANTS:

• E. Alpert, CT • R. Anthony, OH • K. Baker, TX • R. Ciccone, MI • P. Esmond, NY • M. Evans, TN • R. Fisher, OH • G. Franco, NY • P. Grandsire, NY • K. Hamlett, TX • G. Hart, OH • R. Kaprielian, NJ
• E. Katkow, MD • L. Katkow, MD • C. Kehr, MI • E. Maitland, NJ • E. Mosso, PA • G. Mosso, PA • D. Peterson, MD • V. Plaisted, NY • T. Poirier, MI • W. Powell, TX • G. Poy, MI • G. Sayre, TX
• K. Schwartz, FL • B. Shumaker, NJ • B. Sims, NY • A.M. Thompson, NY • R. Trushkowsky, NY • L. Wee, MI

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• M. Aksu, MI • A. Albright, NY • A. Alexander, PA • J. Allen, MI • J. Amara, CT • S. Anderson, MI • R.M. Arnett, MI • R. Averbach, CO • M. Bannan, MI • D. Barnes, MD • Shannon Barth, MI
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• D. Young, MI • S. Young, NY • M. Zahn, MI • J. Zanetti, MI • P. Zanetti, MI • G. Zann, FL • S. Zimmer, MI

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• Apex Dental Milling, MI • Bullinger Dental Lab, MI • Centric Dental Laboratory, TX • Cornerstone Dental Studio, Inc., MI • David's Dental Laboratory, NY
• Expertec Dental Lab, MI • Heritage Dental Laboratory, IL • Nellmar Laboratory, LLC, MI • Technique Crown and Bridge, Inc., NC