

# THE DENTAL ADVISOR™

Improving Patient Care Through Research & Education

**October 2015**

Vol. 32, No. 08

## MAIN TOPIC

Bioactive Materials ..... 2

## CLINICAL EVALUATIONS

Visalys Veneer Chairside  
(Pre-formed Composite) ..... 7

Angie Line (Pediatric Products) ..... 9

Provisa® Cem GI  
(Glass Ionomer Luting Cement) ..... 10

BioRoot RCS (Bioactive Mineral,  
Root Canal Sealer) ..... 12

## EDITORS' CHOICE



Variolink Esthetic  
(Adhesive Luting Composite) ..... 6

Oil Free Silent Compressor  
and Dry Vacuum System ..... 8

Stabiliner (Crown and Veneer Try-in  
Adhesive Material) ..... 11

[www.dentaladvisor.com](http://www.dentaladvisor.com)

## RATINGS:

Excellent + + + + +

Very Good + + + +

Good + + +

## Bioactive Materials: Where are we now?

Dentistry is continually striving towards minimally invasive approaches to treatment. Terms such as “bioactive” and “biomimetic” are therefore becoming increasingly important and of ever-growing intrigue.

As materials filter into the marketplace, a working definition of “bioactive” materials becomes increasingly important.

This issue of THE DENTAL ADVISOR defines bioactive products and their use in clinical practice. Laboratory research and long-term clinical results are also featured.

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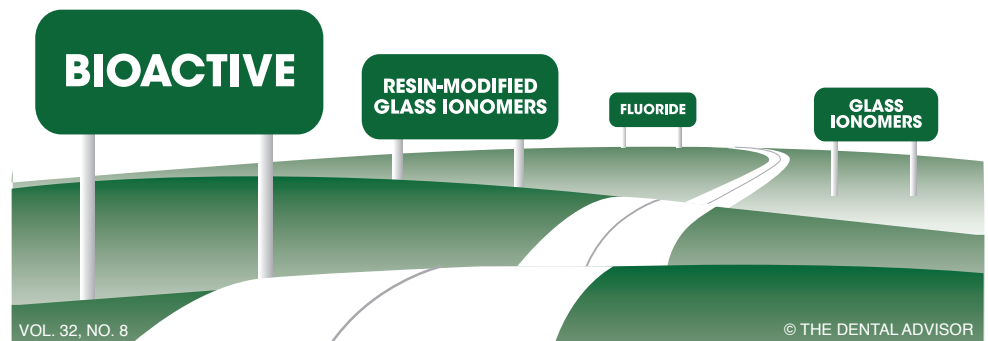
## From the Desk of Dr. Bunek, Editor-in-Chief



The phenomenon of bioactive materials is not necessarily a new concept. Since the introduction of fluoride-releasing glass ionomers and calcium hydroxide bases, there has been a growing trend in dentistry towards the development and application of bioactive materials. Earlier versions of these products were limited due to physical properties and esthetics. Recent improvements have resulted in restorative materials more closely approximating the characteristics of natural tooth structure. Another hurdle to the adoption of these materials on a regular basis has been the delivery and application systems. I used to be a faithful Dycal user and had total confidence in the product as a base/liner; however, I shudder to remember all of the instances when the material would set before it was placed in the desired area, or the applicator tip would graze the walls of a cavity preparation leading to unnecessary clean up. Advancements in this area have led to more user friendly products such as Theracal LC, a light cured base/liner, which allows for command setting, direct placement via syringe, and a homogenous mix. The opportunities for expanding this classification of materials are seemingly endless reaching all areas of dentistry.

In this month's issue, with the help of our author, Dr. Timothy Bizga, we will focus on the features, categories, and ideal properties of bioactive materials. As always, I welcome your comments and suggestions; you can reach me at drbunek@dentaladvisor.com. Thanks for your continued support and reading!

## The Path to Bioactive



## MATERIAL EVOLUTION

| Cements ▶▶     | Glass Ionomers ▶▶                                                  | RMGI ▶▶▶▶                                                      | Bioactive                                                      |
|----------------|--------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
|                | <i>Fuji Plus</i> (GC)                                              | <i>GC FujiCem 2</i> (GC)<br><i>Glaslonomer CX-Plus</i> (Shofu) | <i>Ceramir</i> (Doxa)                                          |
| Base/Liners ▶  | Calcium Hydroxide ▶▶                                               | Calcium Silicate ▶▶▶                                           |                                                                |
|                | <i>Dycal</i> (DENTSPLY)                                            | <i>Theracal LC/DC</i> (Bisco)<br><i>Biodentine</i> (Septodont) | <i>Biodentine</i> (Septodont)                                  |
| Restoratives ▶ | Glass Ionomers ▶▶                                                  | RMGI ▶▶▶▶                                                      | Bioactive                                                      |
|                | <i>GC Fuji IX GP Extra</i> (GC)                                    | <i>Ketac-Nano</i> (3M ESPE)                                    | <i>ACTIVA Bioactive-Restorative</i> (Pulpdent)                 |
|                | <i>Riva Self-Cure HV</i> (SDI)<br><i>Glaslonomer FX II</i> (Shofu) | <i>Riva Light-Cure HV</i> (SDI)                                | <i>Biodentine</i> (Septodont)<br><i>BEAUTIFIL line</i> (Shofu) |

# What are bioactive materials?

By definition, bioactive materials cause an effect and/or response from living tissue. Intraoral pH changes interact with these materials, releasing and uptaking calcium, phosphate and fluoride ions. A better working definition for these types of materials at this stage may be: any material that allows the tooth the potential to self-repair either via crystalline formation or ion exchange. In other words, bioactive materials take on a “living” quality. Examples of bioactive restoratives are resin composites which release more fluoride than traditional glass ionomers.

## How do bioactive materials work?

Bioactives also resist bacterial growth and acid attachment from the **OUTSIDE IN**.

Bioactives work from the **INSIDE OUT**, building and repairing dentin as well as creating hydroxyapatite crystals over time.

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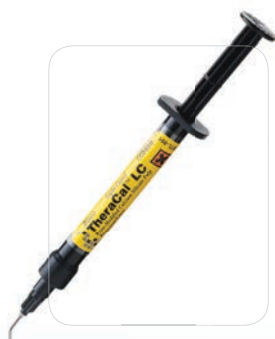
VOL. 32, NO. 8

### TheraCal LC

Bisco Dental Products  
800.247.3368 - 847.534.6000  
[www.bisco.com](http://www.bisco.com)

#### Product Description:

**TheraCal® LC** is a light-cured, resin-modified calcium silicate filled liner designed for use in direct and indirect pulp capping and as a protective liner under composites, amalgams, cements, and other base materials. It can be used as an alternative to calcium hydroxide, glass ionomer, RMGI, IRM/ZOE and other restorative materials. **TheraCal LC's** ease of use and precise placement allows its use in all deep cavity preparations and performs as an effective barrier and protectant of the dental pulpal complex.



### RIVA LC

SDI (North America) Inc.  
[www.sdi.com.au](http://www.sdi.com.au)

#### Product Description: **Riva Light**

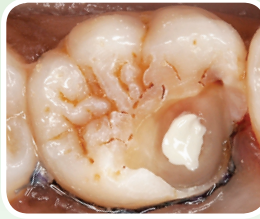
**Cure HV** is the latest offering in SDI's award-winning GI and RMGI portfolio. Building on our success of designing products that directly meet the needs of today's clinician, Riva HV (high viscosity) uniquely addresses the desire for a non-sticky, highly sculptable RMGI. **Riva Light Cure** can be the answer to the challenge of long term microleakage prevention. Use it as a restorative or a base under permanent restorations. As with all of our Riva products, our proprietary ionglass™ technology brings resin-reinforced glass ionomer restorative cements and restoratives to the next level with exceptional esthetics and high fluoride release.



## CASE 1: TheraCal LC used as an Indirect Pulp Cap



Tooth #30 at preparation.



Indirect pulp cap.



Final restoration.

**Theracal LC** (Bisco Dental Products) was chosen as a simpler and more efficient alternative to more traditional methods of indirect pulp capping with calcium hydroxide and a glass ionomers. Due to the nature and properties of **Theracal LC**, after placement and light curing, no additional material is needed. One may proceed to a final restorative product choice. In this case, the tooth was subsequently etched, rinsed with Chlorihexidine 2%, bonded with **Prime and Bond Elect** (DENTSPLY/Caulk), and restored with **SureFil SDR flow** and **TPH Spectra** (DENTSPLY/Caulk). After nearly 3 years, the tooth remains vital.

## CASE 2: BEAUTIFIL Flow Plus used as a Class V Restorative

**BEAUTIFIL Flow Plus** (SHOFU Dental Corp.) was chosen to restore tooth #10. Decay was removed and an enamel bevel was placed to enhance esthetics and increase enamel bond. The “low flow” version of **BEAUTIFIL Flow Plus** was used to enhance the spreading of the material and to give excellent cavity adaptation due to its self-leveling feature. Note the excellent color match and polish of this flowable material.



Tooth #10 before treatment.



Final restoration.

### BEAUTIFIL FLOW PLUS

SHOFU Dental Corp.  
[www.shofu.com](http://www.shofu.com)

**Product Description:** Approved for all indications, **Beautiful Flow Plus** is an all-in-one base, liner and final restorative. This bioactive resin composite incorporates Shofu's proprietary Giomer technology inclusive of surface pre-reacted glass (S-PRG) fillers, known to yield flawless long-term aesthetics. **Beautiful Flow Plus** is available in two viscosities with identical physical properties. Its delivery system demonstrates excellent handling, great adaptation, and is self-leveling. The highly viscous F00 “Zero Flow” formulation allows for precise placement and stacking without dripping or slumping. The F03 “Low Flow” viscosity handles more like a traditional base or a liner, allowing for just enough movement to comfortably manipulate the material. Both viscosities exhibit attributes that successfully aid in achieving highly aesthetic polishing and finishing with fewer intermediary steps.



### ABOUT THE AUTHOR

**Timothy M. Bizga, DDS** is a general dentist practicing in Cleveland, Ohio. His practice focuses on comprehensive care, with Dr. Bizga's special interests in implants, cosmetics and facial aesthetics. His background in dentistry is lengthy and diverse. Once a former chairside assistant, he also worked as a dental lab-technician, making his perspective unique among others in the field of dentistry. He graduated from Saint Louis University with a BA in Biology, before receiving his DDS from the University Of Michigan School Of Dentistry, at which time he was the recipient of the Francis B. Vedder award for excellence in prosthodontics. He is currently a member of the American Dental Association and the Academy of General Dentistry. He is a graduating member of the Whitecap Institute, where he received advanced implant training. Dr. Bizga is a Certified John Maxwell Speaker/Trainer/Coach, a certified DISC profile trainer, clinical consultant for THE DENTAL ADVISOR and member of Catapult Elite. Dr. Bizga gives back to the community via dental missions around the world.



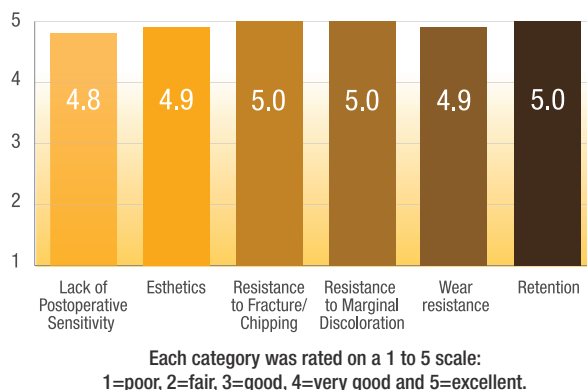
from THE DENTAL ADVISOR

## long-term database

## Measuring clinical properties of bioactive materials over time

Long-term Clinical Performance of  
ACTIVA BioActive Restorative (Pulpdent) at 1 year

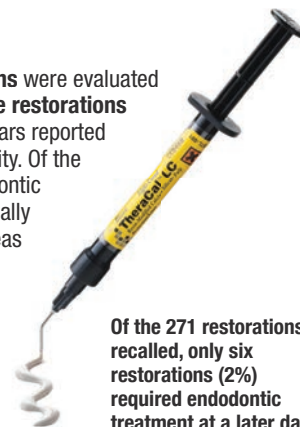
A total of **183 restorations** were originally placed (both anterior and posterior); **96 of these restorations** were recalled at one year. These restorations were placed with and without the use of a bonding agent after etching, and with one, two, three or four surfaces.



The product received a **98% clinical performance rating** at the 1-year recall.

TheraCal LC  
(Bisco) at 3 years

A total of **165 restorations** were evaluated at placement. **92% of the restorations** were recalled at three years reported no postoperative sensitivity. Of the six teeth requiring endodontic treatment, all were originally noted as having deep areas of decay. Clinicians reported confidence in the use of TheraCal LC under deep restorations to reduce the incidence of postoperative discomfort.



Of the 271 restorations recalled, only six restorations (2%) required endodontic treatment at a later date.

TheraCal LC received a **98% clinical rating** at the three-year recall.

from THE DENTAL ADVISOR

## research center

## How are bioactive materials tested in the laboratory?

Mechanical Properties of Ceramir  
Crown & Bridge Cement (Doxa Dental)

**Purpose:** To measure the bond strength of a bioceramic luting cement to human dental tissue, zirconia and gold.

| Bond Strength Summary: <i>Ceramir Crown &amp; Bridge</i> |           |                                       |
|----------------------------------------------------------|-----------|---------------------------------------|
| Substrate                                                | Treatment | Average Bond Strength, MPa (Std. Dev) |
| Superficial Dentin                                       | Self-cure | 8.6                                   |
| Gold Alloy                                               | Self-cure | 16.2 (1.4)                            |
| BruxZir                                                  | Self-cure | 12.0 (2.9)                            |
| IPS e.max ZirCAD                                         | Self-cure | 10.4 (3.0)                            |

**Results:** Ceramir Crown & Bridge had bond strengths of 8.6 MPa to superficial dentin, 12.0 MPa to BruxZir, 10.4 MPa to IPS e.max ZirCAD, and 16 MPa to gold alloy. Its compressive strength was 150 MPa.

Ceramir Crown & Bridge Cement **simplifies the bonding process** by bonding to a number of different substrates without the use of primers or bonding agents.

## Variolink Esthetic

Ivoclar Vivadent, Inc  
www.ivoclarvivadent.com



### Description

**Variolink® Esthetic** is an adhesive luting composite for the permanent cementation of ceramic and composite restorations. Based on its predecessors, *Variolink II* and *Variolink Veneer*, **Variolink Esthetic** combines features of both and is available in light-cure (LC) and dual-cure (DC) versions. **Variolink Esthetic** contains the patented light initiator, *Ivocerin*, which is 100% amine-free for enhanced shade stability. **Variolink Esthetic LC** is indicated for use with glass-ceramic, lithium disilicate and composite inlays, onlays, and veneers with a material thickness of less than two millimeters and sufficient translucency for light penetration. **Variolink Esthetic DC** is designed for cases in which full light curing cannot be achieved, including opaque ceramic and composite inlays, onlays or partial crowns, and crowns and bridges. Each formulation has five shades available: Light+, Light, Neutral, Warm, and Warm+. **Variolink Esthetic LC** is supplied in 2 g syringes, while **Variolink Esthetic DC** comes in 5g and 9g automix syringes. The **Variolink Esthetic** system kits contain one syringe each of Warm, Neutral and Light cement and try-in paste, etching gel, *Adhese Universal VivaPen*, *Monobond Plus*, *Liquid Strip*, and accessories. **Variolink Esthetic** was evaluated by 31 consultants in over 300 uses. This adhesive resin cement system received a 98% clinical rating.

### Product Features

#### Packaging/Manufacturer's Instructions

**Variolink Esthetic** is packaged as a complete kit with all of the products necessary for cementation of ceramic or composite restorations. The kit itself is organized with an integrated flow chart, guiding users through the proper sequence and application of the materials to the tooth and restoration. A separate laminated card and instruction sheet give more detailed information. The Light-to-Warm shading system is not based on specific colors, rather it is based on the cement's ability to slightly lighten, darken or maintain the appearance of the restoration. Try-in pastes are true to the color of the cured cement and are easy to clean off with water. Cement colors are stable after light curing with no shade shift in both the LC and DC versions. The viscosity allows complete seating of restorations with minimal pressure, and excess cement is easy to remove before and after light curing.



### Consultants' Comments

"Complete kit with everything needed."

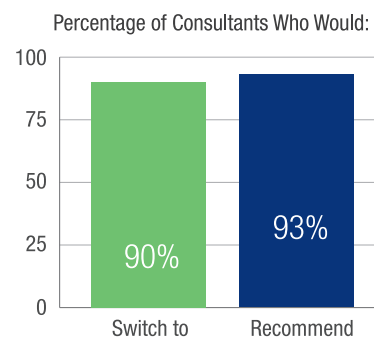
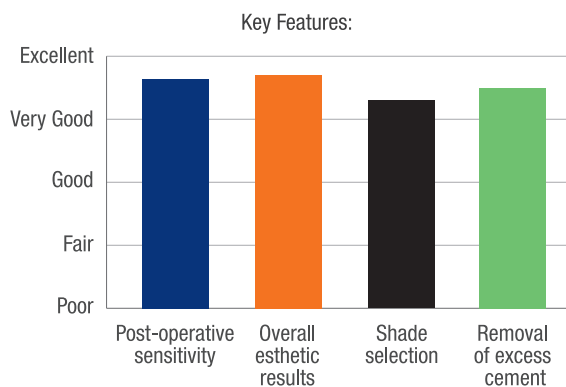
"I was able to get precise shade matching with Variolink Esthetic."

"Easy clean-up."

"Shading system is different, but it makes sense."

### Suggested Retail Cost

|                                         |          |
|-----------------------------------------|----------|
| <b>Variolink Esthetic LC</b> system kit | \$380.00 |
| <b>Variolink Esthetic DC</b> system kit | \$480.00 |



## Visalys Veneer Chairside

+++ 1/2

Kettenbach LP

www.kettenbach.com

### Description

**Visalys Veneer Chairside** is a pre-formed composite veneering system for same-day cosmetic treatment. **Visalys Veneers Chairside** are fabricated from hybrid composite, utilizing a plasma hardening process that results in a smooth, high-luster surface, and high fracture and abrasion resistance. **Visalys Veneer Chairside** can treat upper and lower premolars and anterior teeth. Three sizes are available: small, medium, and large. The kit includes upper and lower veneers in sizes Medium and Large; 5 mL of **Visalys Veneer Bond**; **Visalys Veneer Composite** in shades BL, A1, A2, A3, A3.5, and Enamel; and accessories. **Visalys Veneer Chairside** was evaluated by 15 consultants in 86 uses. This composite veneer kit received an 82% clinical rating.

### Clinical Technique

- Select the veneer size, roughen the inside with a diamond bur, then prime with Visalys Veneer Bond and light cure.
- Select a composite shade for lining the veneers.
- Prepare the teeth minimally and retract the tissue.
- Place clear matrix interproximally.
- Etch the teeth, bond, and light cured
- Line the veneers with composite and bond to the teeth one at a time.

### Product Features

**Visalys Veneer Chairside** produces esthetic results in a single visit. The kit is very complete; other than a dentin bonding agent, everything necessary is included. The veneers are translucent enough that the composite underneath defines the final color. Treatment of heavily discolored teeth requires more reduction to mask the stain. Most of the dentists who evaluated **Visalys**

### Consultants' Comments

"Surface was smooth, shiny and without the air voids you get from layering."

"A great alternative for patients who cannot afford porcelain veneers."

"I love the contours, shade and how easy they were to place and adjust."

"The single visit with no need for temporaries was such a time saver."

"The composite is sensitive to ambient light."

"Add optional shapes to kit - rounded, oval, rectangular."

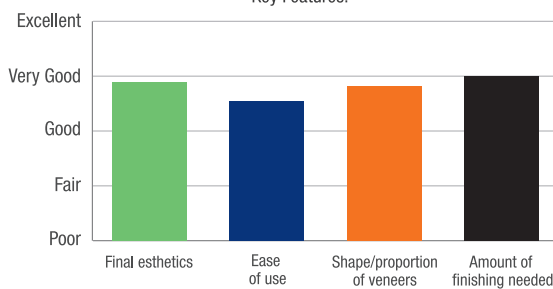
"Create an extra-large size."

**Veneer Chairside** place composite veneers once a month or less. The biggest factors preventing them from doing more of these procedures include the time required and unpredictable outcome of hand-applied veneers. Seventy-three percent of consultants found **Visalys Veneer Chairside** addressed these concerns. A learning curve to use the system efficiently varies among users, with time and outcome improving after a few uses. The ability to achieve a smooth, uniform surface is a major asset to **Visalys Veneer Chairside**.

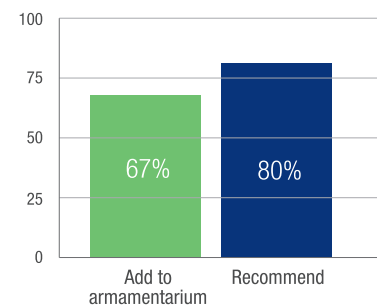
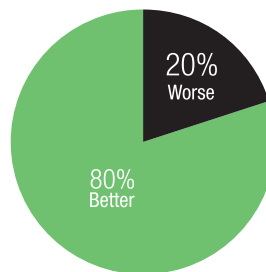
### Clinical Tip

- Use an explorer to remove excess composite at the cervical margin before light curing.

Key Features:



Compared to Competitive Products:



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John Molinari, Ph.D

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**Dr. Molinari will be speaking 5 times at the ADA meeting.**

# Oil Free Silent Compressor Dry Vacuum System

## Dean Dental Systems

888-665-8607

www.deandentalsystems.com

## Description

Dean Dental Systems offers mechanical room equipment to serve offices of all sizes. The **Oil Free Silent Compressor** and the **Dry Vacuum System** have small footprints and can be expanded through add-ons if increased capacity is needed in the future. Variable user technology in both units senses number of users and adjusts power output accordingly. Used together, this equipment conserves resources by reducing water and power consumption. Both the Compressor and Vacuum carry a five-year warranty.

The **Oil Free Silent Compressor** requires no lubrication and offers three stages of filtration. The first stage of filtration removes particles larger than 5 µm, the second stage removes particles 0.01 µm and larger, and the third removes remaining dust and contaminants. The on-board, desiccant-based twin tower air dryer ensures air does not contain odors or bacteria typically associated with wet systems. Multiple units can be stacked for large installations. Maintenance is limited to an annual filter change, with the dryer only being serviced once every five years.

The **Dry Vacuum System** is a water- and oil-free system utilizing variable speed technology and an energy-efficient dry vacuum pump to decrease power consumption over wet systems. The direct driven vacuum motor has only one moving part and is designed to last up to 20,000 operating hours (10 years) without maintenance. An annual filter change can be easily done by office staff.

*Guardian Remote Monitoring* through an internet connection allows technicians to review user data remotely. The Smart Shield Touch Screen control panel can be placed anywhere in the office to provide control for the compressor, vacuum and water. The touch screen gives a visual and audible alert to the user for annual maintenance and for operation out of normal parameters. **The Oil Free Silent Compressor, Model SC5**, and the **Dry Vacuum System, Model DV5**, were used daily in three dental offices during a three-month evaluation period. This compressor and dry vacuum system received a 98% clinical rating.

## Equipment Features

**Oil Free Silent Compressor** and **Dry Vacuum System** are virtually maintenance free. Both units run so quietly that users barely noticed when they were running. Offices that had been running a wet vac were surprised and pleased that there were no suction traps to clean and the unit virtually took care of itself. The equipment installed provided ample suction and compressed air in offices with seven operatories. **Oil Free Silent Compressor** supplies dry air and

+++++



### Suggested Retail Cost

**Oil Free Silent Compressor**  
\$8,678

**Dry Vacuum System**  
\$12,963

## Consultants' Comments

"Equipment is extremely quiet and does not heat up the mechanical room."

"Vacuum is more powerful than our previous system."

"Installation and support were excellent."

"Just turn it on and forget it."

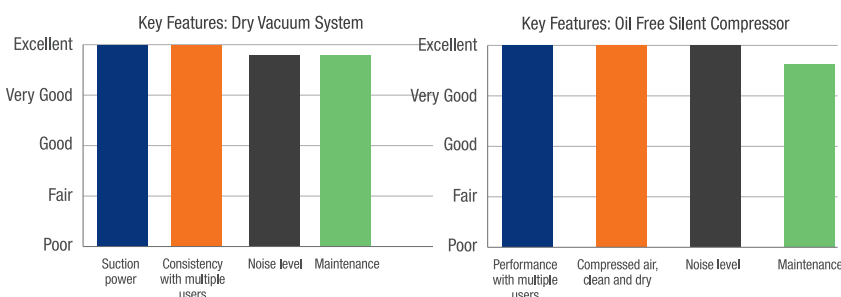
"Fits in a limited space."

"Every office needs to know about this equipment. It is solidly built and runs smoothly and quietly."

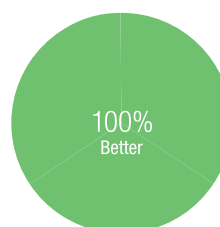
is unique in that its operation is defined by actual air demand. The compressor is encased in a housing that contributes to its quiet, cool operation. The energy efficiency of on-demand systems and water conservation of the **Dry Vacuum System** are consistent with dentistry's trend toward environmentally friendly choices. While no users received any maintenance alerts during the evaluation period, they had the reassurance that continuous monitoring was occurring. The potential to identify issues that could prevent equipment malfunction or downtime is a real advantage to busy dental practices.

## Clinical Tips

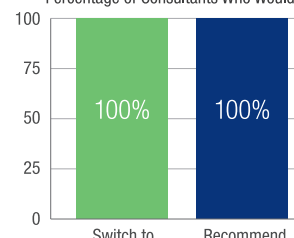
- Turn the Dry Vacuum System power off at the end of the day. This will drain collected liquids in the separation tank.
- Flush the main vacuum lines with a non-foaming dental vacuum cleanser weekly.



### Compared to Competitive Products:



### Percentage of Consultants Who Would:



# Angie Line



**Angelus**

www.angelusdental.com

## Description

The **Angie Line** includes pediatric products with fun and entertaining characters designed to diminish anxiety that children may have during a dental office visit. These are colorful products with unique characters called *Dental Friends*. They add a playful, interactive aspect to dental appointments. **Angie Line** includes a wide array of clinical products and take-home items.

**Dappen Ring:** Covered dish on an adjustable ring can hold prophylactic paste, bonding agent and other materials. It can be held by the clinician or the child and is autoclavable.

**Dental Album:** A plastic box with a rubber insert designed to hold and keep primary teeth.

**Disposable Prophylactic Angle:** A colorful character designed to look like a seahorse.

**Flex Kids Saliva Ejector:** Pre-angled tube with a colorful, flexible tip in the shape of an animal face.

**Kids Triple Syringe:** Pink or blue air/water syringe with an aluminum body and stainless steel tip. Comes with eye stickers to create a face.

**Mouth Rest:** Adjustable mouth prop in two sizes. Soft material is bright green with a character imprinted on the side and a hole for attaching floss.

**Pin Buttons:** A collection of six *Dental Friends* characters displayed on colorful pins provide a gift/prize to patients.

**Retainer Case for Orthodontic Appliances:** Colored cases stamped with *Dental Friends* characters for protection and storing of dental appliances. Case opens with a single touch and has an optional cord.

**Retainer Case for Orthodontic Elastics:** A plastic box in the format of *Dental Friends* characters holds orthodontic elastics.

**Syringe Covers:** Colorful covers with characters for plastic syringes of etchant, sealant, and flowable composites, designed to hide the applicator tip that can look intimidating. It can be sent home with the patient as a pencil decoration.

**Syringe Sleeve:** Alligator shaped anesthetic syringe cover that hides the needle from patient's view during injection. It can be sterilized and re-used up to five times.

Vol. 32, No. 08 October 2015



## Consultants' Comments

*"Angie Line makes the dental experience fun for kids and offers a nice distraction."*

*"Parents loved the Dental Album as an organized way to store exfoliated primary teeth."*

*"The Flex Kids Saliva Ejector usually got a laugh from the patient and allowed them to bite on it. I even let them take it home to use as a drinking straw."*

*"The more useful products were the ones that camouflaged scary dental equipment and made it fun."*

*"Alligator Syringe Sleeve is incredibly cute - a great disguise if it fits your syringe/needle."*

*"Dental Friends are not a typical American design but have a goofy, cute appearance."*

*"The saliva ejector tube needs to be bendable."*

**Angie Line** was evaluated by 22 consultants during a three-month period. This line of pediatric products received an 86% clinical rating.

## Product Features

Dentists received an assortment of products from the **Angie Line**, and each office found different items useful. Reducing patients' anxiety and making dental appointments a fun experience are important to dental professionals, and the **Angie Line** helps achieve these. The bright, clever designs are child friendly, and staff enjoyed them as well. The favorite products were the *Disposable Prophylactic Angle*, *Dental Album*, and *Retainer Case for Orthodontic Appliances*. The *Mouth Rest* is a cute design and fits very small mouths. Since most dentists use unit-dose prophylactic paste, the *Dappen Ring* is more useful for restorative appointments. The lid on the ring has limited durability. Of the offices that evaluated the **Angie Line**, the majority would add at least some of the products to their offices.

## Benco Dental

1-800-GO-BENCO

www.benco.com

## Description

**Provisa® Cem GI** is a glass ionomer luting cement delivered in capsules, allowing for direct application into the restoration. **Provisa® Cem GI** is radiopaque, has a high compressive strength, high translucency, continuous fluoride release, and a low film thickness. **Provisa® Cem GI** is indicated for the cementation of metal-based crowns and bridges; high-strength all ceramic crowns and bridges, including lithium disilicate and zirconia; metal posts; stainless steel crowns; and orthodontic bands. Shake the capsule to loosen powder and depress applicator button against a hard surface and triturate for 10 seconds immediately before application. Working time is three minutes and setting time is five to seven minutes. **Provisa® Cem GI** was evaluated by 24 consultants in 430 uses. This glass ionomer luting cement received an 87% clinical rating.



Suggested Retail Cost

Box of 50 capsules: \$149.79

## Product Features

**Provisa® Cem GI** is in a capsule that is easy to activate and mix. No separate activator is required, and the capsule fits into standard applicators. Dentists like using **Provisa® Cem GI** in cases where margins are subgingival. Sustained fluoride release provides protection from recurrent caries in these vulnerable areas. The ability to thoroughly remove all excess cement promotes a healthy tissue response. The need for mixing more than one capsule for multi-unit cases is a clinical consideration. Working and setting times are adequate, and the viscosity allows complete seating without being runny.

## Clinical Tips

- Keep the tooth moist; do not desiccate it.

## Consultants' Comments

"Loved the creamy consistency and easy removal of excess."

"Esthetics is a plus - especially with the newer, more translucent zirconia ceramics."

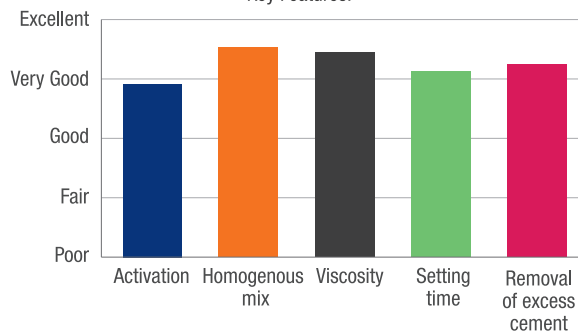
"Consistent mixes."

"Easy to dispense directly into the crown."

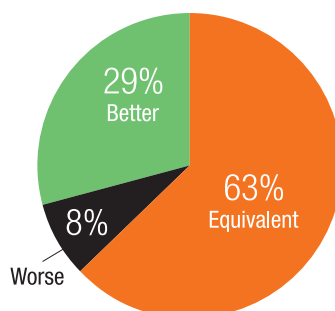
"Having to use a mixing machine is inefficient."

"Offer a larger capsule for multiple-unit cases."

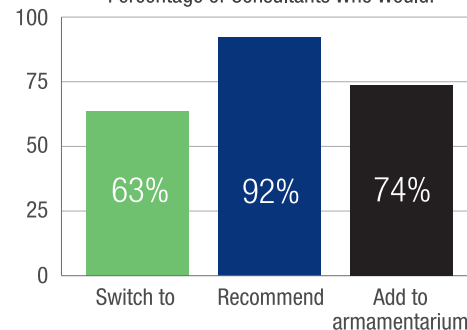
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



# Stabiliner

## Crown Delta Corporation

(914) 245-8910

www.crowndelta.com

## Description

**Stabiliner** is a crown and veneer try-in adhesive material composed of modified silicone. **Stabiliner** is designed to simulate the fit of the bonded restoration during try-in by providing a stabilizing liner of 25-30 microns. **Stabiliner** is indicated for the temporary stabilization of ceramic restorations on prepared teeth while the clinician evaluates fit and performs an esthetic assessment prior to permanent cementation. The adhesion of **Stabiliner** is sufficient to allow for adjustments in the mouth or on a die without risk of slipping, dropping, or fracturing associated with an unbonded restoration. **Stabiliner** allows the patient to speak, smile and occlude with secured restorations during try-in. Restorations are then removed with finger pressure, and clean-up is done by peeling **Stabiliner** out with cotton forceps, in one piece in most cases. **Stabiliner** is supplied in 5 mL automix syringes with 20 mixing tips. It is available in Standard Set for multiple units (90 second working time) or Quick Set, designed for single units (60 second working time). **Stabiliner** sets in the mouth in less than 4 minutes (Standard Set) or in less than 2 minutes (Quick Set). **Stabiliner** was evaluated by 29 consultants in 417 uses. This try-in adhesive received a 96% clinical rating.

## Product Features

**Stabiliner** provides stable retention of ceramic restorations during try-in and easy clean-up. Dispensing through the mixing tip delivers the material directly into the restoration. The majority of users preferred the Quick Set material. The translucency of **Stabiliner** simulates the appearance of colorless resin cement but is not intended to replace tinted try-in pastes for subtle shade refinement. Because it provides adhesion, it is possible to floss contacts and check occlusion without dislodging the restoration. For anterior cosmetic cases, **Stabiliner** is invaluable for allowing patients to sit up, smile and evaluate the esthetics without the fear of a crown or veneer coming loose. **Stabiliner** leaves no visible

+++++



## Consultants' Comments

"This product makes try-in of anterior esthetic restorations fast and easy."

"Adhesive yet easy to remove."

"Short mixing tips minimize waste."

"Useful when trying in short molar crowns with minimal retention."

"It is more retentive than glycerin try-in paste."

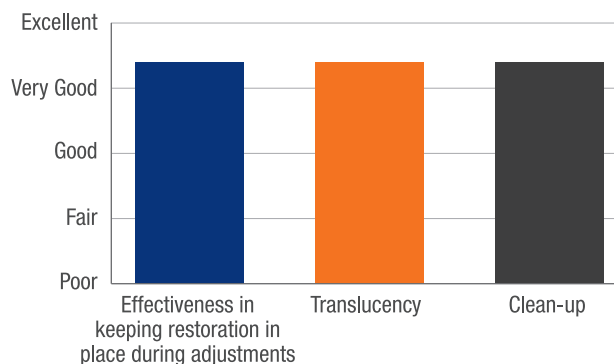
"Stabilizes crowns by filling the cement gap, making adjustments easier and more accurate."

residue on the teeth and is easy to remove from the restorations by peeling it out with an explorer or cotton forceps. The material has a slight shimmer, aiding in visibility against the ceramic surface.

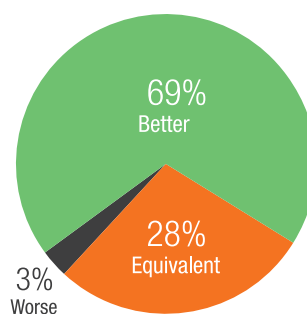
## Clinical Tips

- Use a small amount of **Stabiliner** to avoid excess at the margins.
- Clean the inside of the crown/veneer with alcohol after removal of **Stabiliner**.

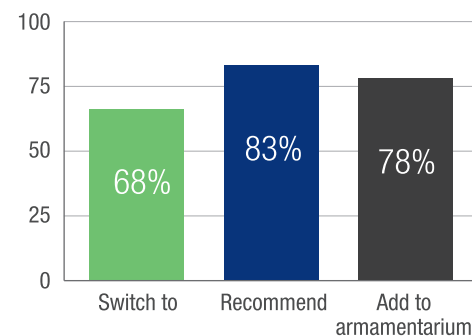
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



## BioRoot RCS



### BioRoot RCS

Septodont

www.septodontusa.com

## Description

**BioRoot RCS** is a bioactive mineral, root canal sealer indicated for use in combination with gutta percha. BioRoot RCS utilizes *Active BioSilicate Technology*, which provides bioactive properties including biocompatibility, hydroxyapatite formation, mineralization of dentinal structure, and alkaline pH. **BioRoot RCS** has a working time of 10 minutes and a setting time of about 4 hours in the root canal. If retreatment is necessary, **BioRoot RCS** can be easily removed from the root canal. The material is supplied in a 15 g jar of powder with 35 unit dose packs of liquid. Recommended ratio is one scoop of powder to five drops of liquid. **BioRoot RCS** is recommended for use with a single cone technique or cold lateral condensation. **BioRoot RCS** was evaluated by 26 consultants in 226 endodontic procedures. This root canal sealer received an 86% clinical rating.

## Product Features

**BioRoot RCS** offers dentists the confidence of biocompatibility and a mineral formulation that will not stain teeth. The powder/liquid components allow users to mix the sealer to their preferred viscosity by varying the ratio. The ratio recommended in the instructions, one scoop to five drops, produces a large volume of sealer, and can be altered as needed. **BioRoot RCS** flows well, creating a seal without using warm gutta percha. Because of the long setting time, post placement must be delayed until complete setting one week later.

### Consultants' Comments

"Sealer can be mixed to any viscosity - thick or thin."

"I like the potential for biocompatibility."

"Great radiopacity."

"Benefits of **BioRoot RCS** are more important than inconvenience of hand mixing."

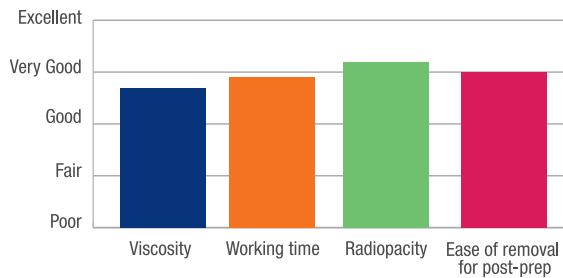
"Short working time."

"Cannot place a post at the endodontic appointment."

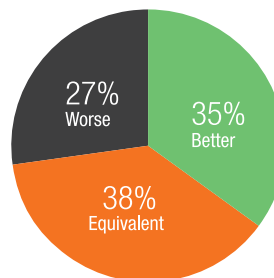
## Clinical Tips

- Perform trial mixes to establish the volume and powder/liquid ratio necessary to suit the user's preferences.
- Apply sealer to the canal with a paper point or gutta percha.

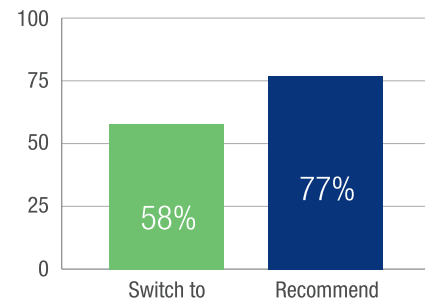
Key Features:



Compared to Competitive Products:



Percentage of Consultants Who Would:



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