

THE DENTAL ADVISORTM

"Improved Patient Care Through Research"



Photography by John W. Farah, D.D.S., Ph.D., Ann Arbor, Michigan

Electric Handpieces

Electric handpieces represent the next generation of dental handpieces. The characteristics of high-pitch noise, reduction in torque under load and vibration of the bur, often associated with air-driven handpieces, are being replaced by the quieter, smoother and concentric motion of the electric systems. Electric handpieces can now be integrated into delivery systems and offer digital control of the current operating speed. Many concerns with the early electric handpiece systems have been addressed, and they now offer an excellent alternative to the traditional air-driven handpiece.

This issue of THE DENTAL ADVISOR reviews the benefits of electric vs. air-driven handpieces, recent improvements, and recommendations for maintenance. Features of 12 electric handpiece systems are included. This issue also features a look at microdentistry and compares seven glass ionomers.

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

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Electric Handpieces

Benefits of Electric Handpiece Systems

Constant Speed and Torque

An air-driven handpiece rotates at 300,000 to 350,000 rpm; however, when placed under load, the handpiece actually cuts at 180,000 to 200,000 rpm. An electric handpiece maintains a constant speed of 200,000 rpm. The constant torque of an electric handpiece eliminates the stalling or reduced speeds experienced when using an air-driven handpiece to cut through crowns or other dense materials.

Concentric Cutting

The constant torque produces a concentric cutting motion as speed is maintained. The feather motion needed when using an air-driven handpiece results in varying degrees of irregularities at the margin of a preparation. The gears of the electric handpiece hold the bur in a locked position to prevent the wobble or vibration of the bur that is often experienced when using an air-driven handpiece. Constant torque and stabilization of the bur allow a concentric motion that ultimately produces a smooth, even margin.

Reduced Noise

While no handpiece is truly quiet, the electric handpiece produces a much quieter noise than the high-pitch sound of the air-driven systems.

Turbine-free Attachments

Failure of the turbine is the leading cause of malfunction in an air-driven handpiece. Electric handpiece attachments utilize gears rather than turbines. The use of gears allows the handpiece to maintain constant torque and more concentric cutting. While most attachments have two gears, some provide three gears to better distribute the load. This feature reduces the wear on the bearings, resulting in less failure over time.

THE DENTAL ADVISOR Recommends:

92%

Midwest eStylus
(DENTSPLY Professional/Midwest)

92%

Titan E-lectric Motor System
(DentalEZ Group/StarDental)

Product	Company	Motor Speed Range, rpm	Motor Speed w/ Attachment, rpm	Installation Options*	Motor Weight/Length	Auto Reverse	Brushless	Motor Cost	Handpiece Cost	Rating
Apex	Lares Research	60-40,000	770-200,000	E	100 g/94.3 mm	Yes	Yes	\$859	200LS-\$899, 40LS-\$749, 10LS-\$779	na
EA-40LT	A-dec/W&H	2,000-40,000	150-200,000	TT, A-dec Cascade-I	79 g/47 mm	No	Yes	\$2,700	\$1,175	na
EA-50LT	A-dec/W&H	300-40,000	3-200,000	A-dec 500-I	79 g/47 mm	No	Yes	\$2,800	\$1,250	na
ELECTROtorque	KaVo	2,000-40,000	27-200,000	E	94 g/46 mm	No	No	\$1,795	25LPA-\$1,540, 25LHA-\$1,220	96%
ELECTROtorque plus 701KL	KaVo	2,000-40,000	27-200,000	E, I – KaVo operatory only	99 g/46 mm	No	Yes	\$2,905	25LPA-\$1,540, 25LHA-\$1,220	97%
Midwest eStylus	DENTSPLY Professional/Midwest	1,500-40,000	150-200,000	E, TT	98 g/51 mm	Yes, w/torque limiting	No	\$2,458	HS-\$1,295, LS-\$1,062	92%
Optima MX	Bien Air	100-40,000	100-200,000	E, I	116 g/66 mm	Yes, w/torque	Yes	\$2,950	\$1,154	ce
Optima Plus T&R	Bien Air	20-40,000	20-200,000	E, I	102 g/64 mm	Yes, w/torque	No	E-\$2,100, I-\$2,600	\$1,154	94%
SIROTORQUE L EL-1	Sirona Dental Systems	2,000-40,000	87-200,000	E, I, Retrofit**	100 g/98 mm	Yes	No	\$1,333***	\$551.50 – \$1,499	ce
SIROTORQUE L SL	Sirona Dental Systems	2,000-40,000	87-200,000	E, I, Retrofit**	60 g/87 mm	Yes	No	\$1,007***	\$664.25 – \$1,499	ce
TiMax NL 400	Brasseler USA/NSK	2,000-40,000	2,000-200,000	E	76 g/147.3 mm	No	Yes	\$1,795	\$400 – \$1,050	na
Titan E-lectric Motor System	DentalEZ Group/StarDental	1,000-40,000	62.5-200,000	E, I, TT	106 g/69 mm	No	No	\$1,395	\$825	92%

One Motor/Several Attachments

One motor is used for high-speed and slow-speed attachments with an operating range of 70-200,000 rpm. A large variety of attachments are available for high-speed, slow-speed, endodontic and implant placement procedures.

Manual Control of Operating Speed

The motor speed is easily adjusted to provide precise control of the rotation of the bur for a specific procedure. Most current systems offer a digital display of the current operating speed.

Recent Improvements

Brushless Motors

Early electric motors utilized small brushes in the gear systems. Over time, the carbon brushes wore against the rotors and required replacement. Many of the new motors are brushless, reducing the need for routine maintenance.

Shorter, Lighter-weight Motors

The greatest complaint of clinicians converting to the first electric handpiece systems was the increased weight as compared to air-driven handpieces. Manufacturers have significantly reduced the length and weight of the motor and improved the balance between the motor and attachments.

Fewer Attachments

The motor of an electric system has a wide speed range that allows all procedures to be performed using the same motor. The first systems required several different attachments, which were costly and required the clinician to change between steps. In an effort to reduce these challenges, manufacturers have designed attachments that can be used for several different applications with control of the speed at the conversion box or on the delivery system.

Reduction in Height and/or Angle of the Attachment

Intraoral attachments for the first electric systems had large heads and steep angles, which became a challenge in areas of limited access. New attachments have been

designed to provide easier access. Some manufacturers have reduced the size of the head, while others have reduced the distance from the tip of the bur to the top of the handpiece head. The angle of the attachment has also been reduced to improve access.

Integration into Delivery Systems

The first systems in the United States offered only external air/electric conversion kits. While tabletop models are still available, the new electric handpiece systems can be fully integrated into the tubing of the delivery system.

Auto-reverse

As with all rotary endodontic systems, there is a risk of separating files. Some of the new electric handpiece systems have specific endodontic attachments that automatically reverse when the file engages.

Handpiece Maintenance Systems

Electric handpiece systems are turbine-free and often brushless, significantly reducing the frequency of breakdown. Daily maintenance remains essential, prolonging the life of any handpiece and optimal function. Using the proper type of cleaner/lubricant and purging the attachment before sterilization are very important. Despite efforts to manually clean and lubricate handpieces, clinicians often experience reduced efficiency of the attachments. Automatic handpiece maintenance systems (**QuattroCare/KaVo**; **Assistina 301 Plus/A-dec/W&H**) provide a quick and efficient way to extend the life of a handpiece by ensuring the proper type and amount of lubricant along with thorough purging. ■

Other Featured Products

Optima MX
(Bien Air)

EDITORS' NOTES: Only products evaluated by THE DENTAL ADVISOR are eligible for listing as a recommended product. Table information provided by manufacturer. Costs are listed for comparison only and are not used to calculate the ratings.

*E = external
I = internal
TT = tabletop

Internally available only in the **C Series Treatment Center

***Motor replacement cost

na = not available
ce = currently evaluating

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Microdentistry

What is microdentistry?

Microdentistry refers to restorative procedures that are minimally invasive. Only the tooth structure necessary to obtain access to, and removal of, a carious lesion is removed. Very small cavity preparations are made with a rounded internal form that may be restored with bonded restorations. This preparation should leave the tooth stronger and the restoration subject to less functional stress than classic G.V. Black cavity preparations. These techniques utilize composites and fluoride-containing materials (glass ionomers, resin-modified glass ionomers) to produce restorations that are nearly invisible and very esthetic. Practitioners are urged to familiarize themselves with the considerable professional literature on diagnosis, treatment planning, cavity preparation and appropriate restorative materials pertinent to these techniques.

Product	Company	Type	Self-Cure	Light Cure	Capsule/Unit Dose	Powder/Liquid	Shades	Rating
3M ESPE Ketac Molar Quick	3M ESPE	Cement-Restorative	Yes	No	Yes	No	4	91%
3M ESPE Ketac-Silver Aplicap	3M ESPE	Cement-Restorative	Yes	No	Yes	No	na	91%
3M ESPE Photac Fil Aplicap	3M ESPE	Cement-Restorative	No	Yes	Yes	No	8	88%
Argion AC	VOCO	Cement-Restorative	Yes	No	Yes	Yes	1	ce
Argion Molar AC	VOCO	Cement-Restorative	Yes	No	Yes	Yes	1	81%
Fuji II LC	GC America	Cement-Restorative	No	Yes	Yes	Yes	10	90%
Fuji IX GP	GC America	Cement-Restorative	Yes	No	Yes	Yes	5*	85%
Fuji IX GP Fast	GC America	Cement-Restorative	Yes	No	Yes	No	5	na
GC Fuji TRIAGE	GC America	Sealant	Yes	Yes	Yes	No	2**	92%

*Capsule/Unit Dose has 5 shades and Powder/Liquid has 1
** White is self-cure and pink is self- or light-cure (command set)
na = not available, ce = currently evaluating

Types of Carious Lesions

- Small
- Located in pits and fissures
- Do not undermine occlusal surfaces
- Do not result from intrinsic defects

Requirements

- Small head or specifically designed burs (*SmartPrep/SS White*)
- Excellent lighting
- Magnification

Clinical Tips and Notes

- Good vision is necessary to distinguish the narrow demarcation between sound and carious tooth structure.
- Caries detection dyes (*Seek/Ultradent; Sable Seek/Ultradent*) may be helpful;



Minimally invasive preparations

Photos provided by James C. Hamilton, D.D.S.

however, these dyes also stain caries-affected dentin. Glass ionomer restorative material may be used in the case of caries-affected dentin.

- Microdentistry may reduce patient discomfort and allow operative intervention without the need for anesthetic.
- Use syringes of composite with very small needles to adapt composite on pulpal walls and restore the defect from that surface to the exterior contours. This technique may also reduce the inclusion of air bubbles in the filling mass.
- Voids may accompany rapid injection of low-viscosity materials into small cavities. Voids compromise properties of the restoration and produce surface imperfections that appear with wear.

Microdentistry is not a replacement for appropriate preventive measures or correct diagnoses that include more traditional operative dentistry procedures. The strictures of classical cavity designs have long proven their value and validity in the long-term restoration of compromised teeth. However, many incipient lesions in enamel, or shallow dentin, will benefit from sealing, fluoride therapy, diet adjustments and proper oral hygiene. When correctly applied, microdentistry is a benefit to both patient and dentist because of its conservative approach in the use of modern materials. ■

Flowable Composites

- ▶ *3M ESPE Filtek Flow/3M ESPE*
- ▶ *4 Seasons Flow/Ivoclar Vivadent*
- ▶ *Admira Flow/VOCO*
- ▶ *Esthet-X Flow/DENTSPLY/Caulk*
- ▶ *Flow-It ALC/Pentron Clinical Technologies*
- ▶ *FLOWline/Heraeus Kulzer*
- ▶ *GC UniFil Flow/GC America*
- ▶ *GrandiO Flow/VOCO*
- ▶ *LuxaFlow/Zenith Dental/DMG*
- ▶ *Palfique Estelite LV/J. Morita USA/Tokuyama Dental Corp.*
- ▶ *PermaFlo, PermaFlo DC/Ultradent*

THE DENTAL ADVISOR Recommends:

*GC Fuji TRIAGE (92%),
3M ESPE Ketac Molar Quick (91%),
3M ESPE Ketac-Silver Aplicap (91%),
Fuji II LC (90%)*



GC Fuji TRIAGE
(GC America)

SalivaSure™ Lozenges + + + +

Scandinavian Formulas, Inc.
800.688.2276
www.scandinavianformulas.com

Description

SalivaSure is an over-the-counter product designed to promote salivary flow. It is intended to relieve xerostomia caused by a variety of factors including diseases or medications. Each small, white lozenge contains sorbitol, fruit acids, salts and a phosphate buffer. *SalivaSure* acts by increasing salivation through physiological stimulation of the taste buds. It is buffered to help shield tooth enamel and dental tissue. *SalivaSure* has no known side effects and no interactions with medications have been reported. One lozenge is placed in the mouth and allowed to dissolve. The procedure may be repeated as needed. In severe cases

up to one lozenge per hour is recommended. Each package contains 90 lozenges in a plastic container with a flip-open cap. Thirty-six consultants and patients used *SalivaSure*.

Suggested Retail Cost

- \$8.99/package

Product Features

Patients found *SalivaSure* to have nice packaging that allowed them to carry it easily. The lozenges are easy to dispense from the package. The effectiveness of *SalivaSure* was rated highly by the patients, with many patients commenting on how fast it seemed to relieve their dry mouth. Several patients commented on the small size of the lozenge that made it easy to take. The least-liked feature of *SalivaSure* was the tart taste. Many patients commented

Consultants' Comments

- ▶ "I was surprised at how fast it worked."
- ▶ "I liked the fact that it is sugar-free."
- ▶ "One of the better treatments that I have tried."
- ▶ "Make it in different flavors."

that it was a hindrance to a more frequent use of the lozenge. Another factor was the limited time the benefits lasted. Patients noted that they were required to use it on a more-frequent basis than the previous treatment they were using for their dry mouth. Sixty-eight percent of the patients would recommend the use of *SalivaSure*. ■

Correction

THE DENTAL ADVISOR, Vol. 22, No. 1, January/February 2005 issue contains incorrect information on *Denti-Foam* on page 12. *Denti-Foam* (Medicom – 800.361.2862) has a suggested retail cost of \$16.00/4.4-oz can. ■

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"Best of 2004 Preferred Product"

Venus + + + + +

Heraeus Kulzer, Inc.
800.431.1785 • 914.273.8600
www.heraeus-kulzer-us.com

Description

Venus is a radiopaque microhybrid Nanoglass™ composite for universal restorative use. It is available in 27 shades including Vita, bleach, opaque and translucent shades intended for layering. The composite is a mixture of BIS-GMA and TEGDMA filled 61% by volume with barium aluminum fluoride glass (0.7-2 µm) and highly-dispersed silicon dioxide (0.01-0.04 µm). It has camphorquinone photoinitiator, making it compatible with halogen, plasma arc and light-emitting diode (LED) curing lights. The Master's Kit is a comprehensive esthetic kit including 23 shades of **Venus** in unit-dose capsules. **Venus** is also available in a basic kit with five shades or individual refills of 4-g syringes or 0.25-g capsules.

Suggested Retail Cost
• \$844.76/Master's Kit

Clinical Evaluation Protocol

- 440 restorations were placed in 243 patients.
- 200 restorations in 100 patients were available for recall at one year. Those recalled included 124 molar, 59 premolar and 17 anterior restorations.
- 80 additional posterior restorations in 52 patients were bonded with **iBond** and evaluated for post-operative sensitivity at 7-10 days.
- Categories were rated on a 1-5 scale:
1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Clinical Observations

Resistance to Fracture/Chipping

No chips or fractures were noted on 93% of **Venus** restorations during the first year of evaluation. Slight chips were seen on 7% of restorations; no restorations required replacement.

Shade Match/Esthetics

Sixty-three percent of restorations were rated excellent for esthetics. No staining or discoloration was noted. The remaining 37% were rated very good to good, with some

1-YEAR CLINICAL PERFORMANCE



Consultants' Comment

► *"Restorations look better when the composite is layered with a final translucent shade."*

discrepancy in blending with the tooth. The majority of these restorations were noted to be too opaque. Use of one of the translucent shades as the surface layer of the restoration resulted in higher ratings.

Lack of Marginal Discoloration

Eighty-six percent of restorations did not show any staining at the margin. Fourteen percent showed slight marginal staining. Correct application of the bonding agent is critical to minimize marginal staining.

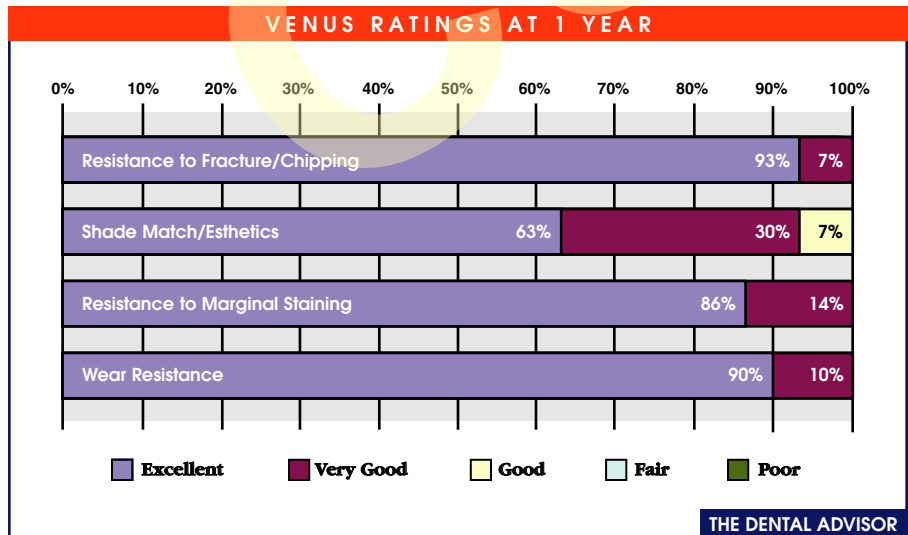
Wear Resistance

Ninety percent of restorations were rated excellent for wear resistance. Some restorations had slight wear. Wear was mainly noted in areas of heavy occlusion.

Post-operative Sensitivity

Virtually no sensitivity was noted in the group of **Venus** restorations bonded with **iBond**. At 7-10 days after placement, patients were asked to rate the sensitivity associated with their restorations (1 = extreme sensitivity to 5 = no sensitivity). Of the 80 restorations in this group, only one was reported to be sensitive – a Class II premolar restoration that received a sensitivity rating of two. ■

Editors' Note: This evaluation includes a special report on post-operative sensitivity results utilizing **iBond** in conjunction with **Venus**. **iBond** is a 7th-generation self-etching adhesive/desensitizer. It is a single-component product applied to enamel and dentin in three consecutive layers. After applying the third layer, wait 30 seconds and air dry. Light curing requires 20 seconds.



Hydrogum Soft + + + + +

Zhermack, Inc.
877.819.6206 • 775.331.9005
www.zhermack.com

Description

Hydrogum Soft is a light-blue, mint-flavored alginate. The dust-free material is recommended for dentures, study models and opposing models. The fast-setting impression material sets in the mouth in one minute and has a total setting time from mixing of 2:10. **Hydrogum Soft** is available in two, 453-g bags in a re-sealable plastic tub with a measuring scoop and cup. Single dose (18 g) packages are also available. Pouring of gypsum models can be deferred for 48 hours if the impression is disinfected and stored in a sealed bag at room temperature. Thirty-four consultants used **Hydrogum Soft** in over 500 impressions.

Suggested Retail Cost
• \$23.50/kit

Product Features

Hydrogum Soft powder incorporates easily with water, producing a smooth mix. The working time is adequate, although some found the setting



Consultants' Comments

- *"The blue color makes it easy to visualize details in the impression."*
- *"Pleasant scent and color."*
- *"Not as much dust as some products."*
- *"Sets firmly – not so flexible with undercuts."*
- *"Can be difficult to clean from trays."*

time is longer than expected for a fast-set material. The alginate sets to a rather stiff consistency, often becoming trapped in open gingival embrasures upon removal from the mouth. The mint flavor was rated very good by patients. Impressions have good detail, as do their resulting models. Because of good adhesion to trays, material is difficult to remove from the impression trays. Fifty percent of consultants would recommend **Hydrogum Soft** to a colleague.

Clinical Tips

- Follow the powder to water ratio precisely as instructed for best results.
- Use disposable trays – the material sticks to metal. ■

JET BITE FAST + + + + +

Coltène/Whaledent
800.221.3046 • 330.916.8800
www.coltenewhaledent.com

Description

JET BITE FAST is a fast-setting, addition silicone bite registration material. It is orange in color and sets to a firm consistency. **JET BITE FAST** has a working time of 20 seconds and an intraoral setting time of 50 seconds. It is packaged in 50-ml, 1:1 automix cartridges that fit most conventional dispensing guns. The kit contains two, 50-ml cartridges of **JET BITE FAST**, two mixing tips, 12 spreader tips and a dispensing gun. The spreader tips extrude a flat ribbon of material on occlusal surfaces. Fifteen consultants evaluated **JET BITE FAST** in 143 clinical cases.

Consultants' Comments

- *"A very rigid and accurate material."*
- *"No rebound when articulating casts."*
- *"The spreader tip helps control the amount and thickness of material placed on occlusal surfaces."*

Suggested Retail Cost
• \$39.75/kit

Product Features

JET BITE FAST can be expressed from the mixing tip with minimal pressure, resulting in a

consistent mix with a mousse-like consistency. With the spreader tip attached to the mixing tip, a flat ribbon of material can be applied to occlusal surfaces with no slumping. While all consultants found the material to be rigid, some reported it was more brittle and prone to breaking than they preferred. The 20-second working time is ideal for most clinical situations, but it requires the clinician to work quickly to have the patient occlude before the material begins to set. Fifty-three percent of consultants would purchase and recommend **JET BITE FAST**. ■

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The Palodent® Sectional Matrix System + + + + ½

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www.dentsply.com

Description

The Palodent Sectional Matrix System is a sectional matrix system for use during placement of interproximal amalgam or composite restorations or temporary fillings. The kit contains pre-contoured metal matrix forms (three sizes/shapes) and **BiTime**® rings (two styles) for matrix retention and tooth separation. The shaped matrices are designed to enhance reproduction of natural proximal shape and post-operative contact. The rings are placed interproximally with a rubber-dam clamp forcep; the spring-action of the ring creates separation of the teeth, facilitating inter-dental preparation space as well as formation of a positive proximal contact. The Standard, Mini and Plus stainless steel matrices allow use of **The Palodent Sectional Matrix System** in a broad variety of situations. The two ring shapes permit control over visualization and access in the operating field. Thirty-one consultants used **The Palodent Sectional Matrix System** in the placement of over 550 restorations.

Suggested Retail Cost

- \$119.90/kit of six **BiTime** rings and 200 pre-contoured matrices

Product Features

Consultants found **The Palodent Sectional Matrix System** easy to use and the packaging convenient. There is a



tendency for matrices to stick together in the package. The selection of matrix sizes and shapes and the new ring clamp style were highly rated. The resultant proximal contacts and contours were very good. Removal of the matrices after filling placement is not a problem. The rings are easy to place, stable after being placed and maintain good tension against the teeth; long-term tension in the rings is excellent. The two different shaped rings provided a versatile addition to the technique. Seventy percent of consultants found **The Palodent Sectional Matrix System** equivalent to or better than their current sectional matrix system. Fifty-five percent would purchase **The Palodent Sectional Matrix System** and 70% would recommend it to colleagues.

Clinical Tips

- Burnishing the matrix before placing restorative material is helpful in creating both shape and contact tightness desired.
- Wedge the matrix for stabilization and gingival margin closure.
- Use of flexible wedges helps improve contacts. ■

Consultants' Comments

- ▶ *"I have been using this matrix system for years and it is even better than the original kit."*
- ▶ *"Rings maintain their tension after repeated use."*
- ▶ *"Nice selection of matrix and ring sizes."*
- ▶ *"It would be nice to have even longer tines on some rings."*
- ▶ *"I would like the rings to fit tighter to provide even greater separation."*
- ▶ *"Increase the buccal-lingual length of the matrices."*

The Palodent Sectional Matrix System. Thirty-four consultants used **QuiXX** in over 630 posterior restorations.

Suggested Retail Cost

- \$149.95/base package

Product Features

The single shade of **QuiXX** and the 4-mm depth of cure make restorative procedures time efficient. Consultants found that **QuiXX** was easy to use and dispense. The material has a waxy, non-sticky viscosity that facilitates placement of occlusal anatomy before polymerization. The universal shade is quite translucent, which allows it to pick up color from the surrounding tooth structure. Small restorations blend well and

3M ESPE Adper™ Single Bond Plus + + + + ½

3M ESPE
800.634.2249
www.3MESPE.com

Description

Adper Single Bond Plus is a 5th-generation (total-etch, single-bottle) bonding agent, combining a dentin primer and adhesive in a single bottle. It is an improvement on the original **Single Bond** with the addition of 10% by weight of 5-nm spherical silica nano-filler. Use of a phosphoric acid etchant is required, followed by application of two to three coats of the adhesive. Light curing time is 10 seconds. **Adper Single Bond Plus** is indicated for use with direct light-cured restorative materials as well as for the treatment of cervical sensitivity. It may also be used in conjunction with resin cements when bonding laboratory-fabricated composite or ceramic restorations. The adhesive is available in either a 6-g bottle or unit-dose applicators. Each unit-dose applicator contains the adhesive in a foil blister pouch, which must be pressed to deliver the material to the brush tip. The unit-dose kit evaluated contains 40 applicators and a 3-ml syringe of etchant. Thirty consultants used the **Adper Single Bond Plus** in over 480 clinical cases.

Suggested Retail Cost

- \$78.30/unit-dose kit



Consultants' Comments

- ▶ *"The unit dose provides fresh material each time."*
- ▶ *"The addition of filler particles is not evident clinically – this handles just like the original material."*
- ▶ *"A great all-purpose bonding agent."*
- ▶ *"Provide more material in unit dose."*
- ▶ *"Smaller applicator tips would be nice for narrow preparations."*

Product Features

Consultants found **Adper Single Bond Plus** to be a very useful. The unit-dose applicators are easy to use and provide enough material for bonding procedures on one to two teeth. The brush tip can be bent at an angle for intraoral access. The shallow well in the foil pouch allows the bent brush to be returned for additional adhesive without having to straighten it first. The viscosity of the adhesive coats tooth surfaces well and provides very good wettability. After light curing, an even, glossy coat on the tooth is apparent. Eighty-four percent of consultants would purchase and recommend **Adper Single Bond Plus**.

Clinical Tips

- Press firmly and fold the unit-dose package to dispense product.
- Angle the package down to fully express the material. ■

material. The proximal contacts were rated very good as was the final polish. Fifty percent of consultants found **QuiXX** to be equivalent to or better than the universal composite they currently use. Forty-one percent would switch to **QuiXX** while 50% would recommend it to a colleague.

Clinical Tips

- Use on teeth needing deep restorations, such as endodontically-treated teeth.
- Use a layer of opaque on teeth with dark stains to mask the stain and promote better final color of the restoration. ■

Consultants' Comments

- ▶ *"The restorations do take on the color of the surrounding tooth."*
- ▶ *"There was a good finish with a rubber wheel."*
- ▶ *"Diamond burs can dig into the surface during finishing."*

can become undetectable. For larger restorations and those involving teeth with dark, stained dentin, the translucency results in a gray appearance. The cured composite offers little resistance to finishing, necessitating a light touch to avoid gouging the

CLINICAL CONSULTANTS

R. Lieder, MI
M. Livernois, FL
J. Lockwood, MI
M. Lodge, MI
M. Man, NY
B. Manne, FL
N. Mansour, MI
N. Markarian, CA
D. Marsh, MI
M. Mason, NY
R. Mason, NY
W. Mason, MI
J. Mayer, OH
J.R. Meagher, NY
J. Mikesell, IL
C. Miller, PA
S. Miller, NV
R. Mizrahi, NY
L. Montes, NY
D. Montgomery, CA
P. Moratto, MD
M. Morin, MI
S. Munro, WI
W. Nagy, TX
J. Nash, MI
A. Nazarian, MI
J. Neme, MI
L. Neuberger, ND
C.J. Noe, MD
E. Odenweller, OH
R. Oshrain, NY
J. Paris, TX
D. Parris, GA
R. Parrott, CA
D. Parsons, NY
M. Patel, MI
T. Paumier, OH
L. Perratto, NY
S. Picazio, NJ
T. Pieper, WY
D. Pietz, NC
W. Piskorowski, MI
D. Pitak, MI
M. Pitzen, WA
D. Powers, MI
L. Pozarny, NY
C. Price, TX
D. Qualliotine, NC
G. Raichelson, Canada
S. Ratner, NY
R. Reichl, NC
G. Reskakis, NY
C. Rice, MA
J. Riggs, MI
R. Ritter, FL
J. Robison, MI
M. Rogers, PA
W. Roper, TX
F. Ross, WI
K. Ross, MI
K. Rowan, MO
R. Sambuchi, MI
A. Sandak-Albright, NY
P. Sandvick, WI
D. Schimmel, PA
G. Schultz, PA
J. Sedlock, WI
R. Shah, MI

Midwest Stylus + + + + ½

DENTSPLY Professional/Midwest
800.989.8825 • 717.767.8526
www.dentsply.com

Description

Midwest Stylus is a fiber-optic, high-speed, air-driven handpiece with a push-button chuck. A coupler with a 360° swivel allows the handpiece to be attached to either a 5-hole or 6-pin ISO hose. Two versions of the handpiece are available: **Midwest Stylus** and **Midwest Stylus Plus Easy Care Technology**, which does not require lubrication. The stainless-steel handpiece has a wide back end, tapering to a narrow front end with dimple grip for slip resistance. Other characteristics of the handpiece include: a medium-size head, four-port water spray, fused-rod fiber optics, a sealed exhaust in the coupler, and factory-lubricated ball bearings. The handpiece has an 18-month warranty, as well as a five-year warranty on the fiber optic rod. Eight consultants used and evaluated both versions of **Midwest Stylus** over a six-month period.

Suggested Retail Cost
• \$1,119.24

Equipment Features

The **Midwest Stylus** received good to excellent ratings for all categories evaluated. In particular, the push-button bur changer, lack of vibration, durability, ease



Consultants' Comments

- ▶ *"Very good torque and smooth operation."*
- ▶ *"Medium-size head with good water spray."*
- ▶ *"Somewhat heavy, yet well balanced."*
- ▶ *"The handpiece is tapered, requiring it to be held close to the head."*

of cleaning and sterilization all received excellent ratings. The handpiece was found to be relatively quiet during operation and torque output was rated very good. Balance and ergonomics of the handpiece received varied opinions and the medium-size head was rated very good, but not ideal for optimal field visualization. The quality of the air and water spray from the four ports in the head and the easy connection to the coupler were rated excellent. Consultants did not notice any difference in performance between the standard and **Easy Care** versions of the handpiece. Twenty-five percent of consultants would switch to **Midwest Stylus**, and 100% indicated that they would recommend it to a colleague. ■

EXAIMPLANT + + + +

GC America, Inc.
800.323.7063 • 708.597.0900
www.gcamerica.com

Description

EXAIMPLANT is a hydrophilic addition silicone impression material designed to be used for detailed impressions of implant sites. It is medium viscosity with high rigidity. The package contains two, 48-ml automix cartridges and four mixing tips. The working time is 1:45 with an intraoral setting time of four minutes. **EXAIMPLANT** can be used **exclusively** or in a combination technique with a **medium-** or **high-**viscosity tray material. Twenty-four consultants used **EXAIMPLANT** in 157 clinical cases.

Suggested Retail Cost
• \$40.50/package



Consultants' Comments

- ▶ *"Perfect consistency for placing transfer coping back into the impression."*
- ▶ *"Rigidity made removal difficult."*
- ▶ *"Set hard, did not tear."*
- ▶ *"Not good for implant/natural dentition combination when using EXAIMPLANT only."*
- ▶ *"Include curved intraoral tips in the package."*

Product Features

Consultants found **EXAIMPLANT** easy to use, with no perceivable taste or odor. The viscosity rated well and the material was resistant to tears. The quality of the resulting impressions was very good. The material is expressed easily from the cartridge and has sufficient flow to adapt to the implant impression coping. Working time is adequate for any impression technique. The rigidity of **EXAIMPLANT** is excellent for accurate reproduction of the implant placement, but it is necessary to block out any undercuts that may be present. Otherwise, removing the impression from the mouth becomes difficult. Using the material around the implant only, in combination with a regular addition silicone, helps avoid any problem with impression removal. It also conserves material. Sixty-five percent of the consultants rated **EXAIMPLANT** equivalent to or better than their current material while 61% would purchase and 74% would recommend it. ■

Denti-Care 0.12% Chlorhexidine Oral Rinse + + + + ½

MEDICOM, Inc.
800.361.2862 • 514.636.6262
www.medicom.com

Description

Denti-Care 0.12% Chlorhexidine Oral Rinse is intended for professional use during periodontal and surgical procedures, as well as for home use by patients. It is indicated for the treatment of gingivitis and periodontitis as well as an irrigating solution and an adjunct for post-operative healing following dental surgery. **Denti-Care Oral Rinse** is packaged in a 16-ounce, dark bottle with a cap marked for half-ounce measurement. The undiluted rinse should be swished for 30 seconds, then expectorated without rinsing with water after use. Recommended use is

twice daily or as prescribed. **Denti-Care Oral Rinse** was evaluated by 10 consultants and hygienists and 35 patients who were recalled within a one-month period.

Suggested Retail Cost
• \$7.00/bottle

Features

Simple packaging and on-the-bottle instructions resulted in ratings of very good from both dentists and patients. Among the most-liked features were less tooth staining as compared to other chlorhexidine rinses and the acceptable taste with minimal bitterness. Although some dentists noticed a slight aftertaste, there were no complaints by patients who used the product at home. Taste and odor were judged

to be acceptable by all patients, and there was minimal interference with tasting after use. The rinse was also rated very highly for ease of dispensing as well as the appearance and feel of gums and teeth after use. Overall patient acceptance was very good. One hundred percent of consultants would both purchase and recommend **Denti-Care 0.12% Oral Rinse**. Similarly, patients appreciated the product, with 82% reporting that the anti-bacterial rinse was beneficial and they would recommend it. Three out of four indicated that they would also purchase it. ■



Consultants' Comments

- ▶ *"Tastes better than other chlorhexidine rinses."*
- ▶ *"Tissue looked healthy during use."*
- ▶ *"Minimal staining of teeth."*
- ▶ *"Very similar to other chlorhexidine rinses."*

CLINICAL CONSULTANTS

M. Shapiro, MI
J. Shea, MO
J. Sinkwits, MI
T. Slade, MI
R. Smith, NY
S. Smith, FL
M. Sonne, MI
J. Spingarn, FL
D. Stutman, NY
K. Swearingen, OH
M. Sylvester, CA
P. Symeonides, NY
J. Tabash, MO
H. Tetelman, OH
F. Tom, MA
R. Tonelli, WI
C. Trubschenck, CA
P. Tu, CA
S. Ura, NH
J. Utess, MI
H. Vann, MS
J. Van Tiem, MI
W. Walcott, MI
L. Walsh, MI
M. Waranowicz, MI
M. Warshanna, MD
J. Weissman, NY
R. Wilkie, MI
S. Williams, MO
R.G. Willis, SC
K. Wilson, MI
R. Wolf, IN
F. Wood, PA
H. Yeung, CA
D. Young, MI
S. Young, NY
M. Zahn, MI
P. Zanetti, MI
G. Zann, FL
S. Zimmer, MI

LABORATORY CONSULTANTS

Alpha Dental Studio, MI
Armstrong Laboratory, KY
D.H. Baker Dental Laboratory, MI
Davis Dental Laboratory, MI
Dental Prosthetic Services, IA
Dickerson Dental Studio, Inc., OH
Edmonds Dental Prosthetics, MO
Gnathodent Lab Corp., NY
Harmony Dental Laboratory, MD
Nellmar Laboratory, LLC, MI
New Image Dental Laboratory, GA
Noble Craft Prosthetics, Inc., NY
Oral Arts Dental Laboratory, GA
Ramsey Dental Ceramics, MI
Scullin Dental Laboratory, OH



Coltolux® LED + + + + ½

Colténe/Whaledent
800.221.3046 • 330.916.8800
www.coltenewhaledent.com

Description

The **Coltolux LED** curing light is designed for intra- and extra-oral polymerization of light-cured composites with camphorquinone (CQ) photo-initiators. Light output range is 450-470 nm. The unit consists of a cordless LED handpiece that seats in a charger base when not in use. The wand-style light contains the LED at the tip, covered by a replaceable light lens. During charging, the light on the charger base is red. When fully charged, the lights on the base and on the handpiece are green. Initial charging requires about three hours. The **Coltolux LED** was used over 500 times by 12 consultants.

Suggested Retail Cost

- \$767.00

Product Features

Coltolux LED is very simple to use with its compact slim size and light weight. The small size of the base is also a positive feature since it requires very little counter space. The base was stable, making it easy to seat the handpiece for charging or when not in use. The light is easy to activate and very quiet during operation. A single button controls the unit, which beeps at 10-second intervals. The unit produces high-intensity light,



Consultants' Comments

- ▶ "Feels great, ergonomic."
- ▶ "Lightweight, portable, quiet."
- ▶ "Best LED light I have used."
- ▶ "Great charging base design."
- ▶ "Very easy to use."
- ▶ "A smaller head would be beneficial."
- ▶ "Increase the angle of the tip for easier posterior access."
- ▶ "On/off button would be easier to activate if it were further away from the tip."

and the quality of cure was judged to be excellent. Two areas that concerned some consultants were the lack of rotation of the head and the size of the head. A smaller head would make the **Coltolux LED** more accessible in the posterior areas of the mouth. Half of the consultants indicated that they would switch to this light, while 90% noted that they would recommend it to a colleague.

Clinical Tips

- Always replace handpiece in charger so it does not roll off of the countertop.
- Order additional light lenses and replace when the surface becomes marred. ■



Safe Gauze 3D + + + + ½

MEDICOM, Inc.
800.361.2862 • 514.636.6262
www.medicom.com

Description

Safe Gauze 3D is a 4-ply, non-woven, non-sterile gauze pad. The 3-D technology used in the manufacturing process provides a broad surface area for high absorbency rate and capacity. The polyester/rayon blend provides a non-adherent surface. **Safe Gauze 3D** can be sterilized in an autoclave. Pads are available in three sizes, 2" x 2", 3" x 3" and 4" x 4" in sleeves of 200 pads. Thirty-five consultants evaluated the 2" x 2" size of **Safe Gauze 3D** in over 1500 applications.

Suggested Retail Price

- 2" x 2" – \$2.30/sleeve, \$58.00/case (25 sleeves)
- 3" x 3" – \$4.50/sleeve, \$90.00/case (20 sleeves)
- 4" x 4" – \$7.40/sleeve, \$74.00/case (10 sleeves)



Consultants' Comments

- ▶ "Gauze pads do not stick together."
- ▶ "Great absorption with little bulk."
- ▶ "Pads do not leave lint."

Product Features

Overall, **Safe Gauze 3D** was found to be a quality product. It has a soft texture and does not stick to mucosa, providing additional comfort to patients. Absorption was rated very good for routine procedures. The gauze does not produce lint or leave fibers on instruments after procedures, resulting in easier clean up. Easy separation of individual pads results in less waste and the use of fewer pads per procedure. Ninety-one percent of consultants found

Safe Gauze 3D equivalent to or better than the gauze pads they are currently using; 60% would switch and 87% would recommend it.

Clinical Tip

- If sterile gauze is required, **Safe Gauze 3D** may be autoclaved. ■