

THE DENTAL ADVISOR™

"Improving Patient Care Through Research & Education"

July/Aug. 2008

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An Editors' Choice award is given to products recognized by our editors as being a unique or significant product.

RATINGS

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



Photography by Pari Karani, Ann Arbor, Michigan

Endodontic Update

To some, endodontics is a fascinating process. Techniques can be debated and argued, with each professional making their own decision on what works best for them and their patients. This issue of THE DENTAL ADVISOR discusses new products designed to improve the endodontic experience and present comparative properties of gutta percha and **Resilon**, NiTi rotary files and endodontic handpieces.

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PUBLISHER

Dental Consultants, Inc.

Please send inquiries and address changes to:
THE DENTAL ADVISOR,
3110 West Liberty, Ann Arbor, MI 48103
Call: 800.347.1330 • 734.665.2020
Fax: 734.665.1648
Email: info@dentaladvisor.com
Website: www.dentaladvisor.com

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Gutta Percha and Resilon

Gutta Percha and Resilon

One of the primary goals of endodontic therapy is to obtain a complete, three-dimensional obturation of the canal system. The filling material should be dimensionally stable, non-toxic and easy to place. Gutta percha, a natural material, has been the obturation choice since its introduction. Relatively new on the market is an obturation alternative called **Resilon** by *Resilon Research, LLC*. **Resilon** is a synthetic polymer of polyester, methacrylate resin, bioactive glass, calcium hydroxide and various radiopaque fillers. The sealer bonds to the root structure via a methacrylate resin adhesive. **Resilon** is available as **Epiphany**, *Pentron Clinical Technologies*; **RealSeal**, *SybronEndo*; **SimpliFil**, *Smart Endodontics by Discus Dental*; and **Resinate**, *Obtura Spartan*.

To completely fill the canal, methods have been devised to soften the gutta percha with heat and then compact the material into the canal. These methods soften the gutta percha or **Resilon** before insertion in the canal, heat the material during placement, or supply heat to the gutta percha within the canal space. Both are also delivered via heated or injection systems to soften the filling material in the canal. Each material has individual benefits, but each shares the need for an adequately shaped canal that allows placement and condensing of the obturation material. A sealer is recommended for use with all of the obturation systems. Some fast-set sealers exhibit accelerated setting times when used with thermoplasticised gutta percha or **Resilon** and are not recommended.

The use of sodium hypochlorite and peroxide-based lubricants are essential to cleaning and shaping of the root canal but may affect the bond of Resilon to the canal or the setting of the material in the canal. To counteract this effect, use EDTA followed by sterile water as the last step during irrigation. Chlorhexidine does not affect the bond strength and may be placed before the primer.

NiTi Rotary Files

NiTi rotary instruments utilize a superelastic, nickel-titanium (NiTi) alloy that permits the instruments to be rotated in curved canal systems. A very light touch must be used, keeping the handpiece at a constant speed within the canal.

Manufacturers of NiTi rotary instruments claim various advantages due to the cross-sectional geometry or the number of instruments required or the manner in which their instruments are used. Attention to canal anatomy and recognition of the difficulty in negotiating a particular canal will avoid breakage of an instrument.

Clinical Tips

- Practice on extracted teeth until you are familiar with the feel of the instruments and how they produce the desired results in your hands.
- Use pathfinder hand instrumentation before rotary files are used to the working length in the canal system.
- Hand instrumentation of the apical third of the canal system may be required.

Endodontic Obturation

Product	Company	Gutta Percha Delivery Method	Recommended Fill Technique	Temperature Control	Can be used with Synthetic Gutta Percha or Alternative Material	Temperature Display	Hot Pulp Testing	Recommended Endodontic Sealers
Calamus Flow Obturation Delivery System	DENTSPLY Tulsa	Injectable	Both	Yes	No	Yes	No	Resin
DENSFIL Obturation System	DENTSPLY Maillefer	Carrier-based	Neither	No	No	No	No	Resin
DownPak-Cordless Obturation Device	ei-endo ingenuity, a Hu-Friedy company	Heat and Condense plus Vibration	Both	Yes	Yes	Yes	No	Zinc oxide eugenol, Silicone, Resin
Elements Obturation Unit	SybronEndo	Injectable	Both	Yes	Yes, RealSeal	Yes	Yes	Any sealer for Gutta Percha
Endo-Eze Obturation	Ultradent Products	Standard Point	Total Fill	N/A	Yes	N/A	N/A	Methacrylate-based resin
GuttaFlow	Coltene/Whaledent	Injectable	Both	No	No	N/A	N/A	N/A
GuttaMax	Maximum Dental	Heat and Condense	Both	Yes	No	Yes	No	Resin
Obtura Gutta-Percha Delivery System	Obtura/Spartan	Injectable	Both	Yes	Yes, Resinate	Yes	No	Zinc oxide eugenol
Obtura III	Sybron Endo & Spartan Obtura	Injectable	Squirt	Yes	Real Seal	Yes	N/A	Any sealer for Gutta Percha
Quick-Fill	JS Dental manufacturing	Carrier-based	Total Fill	No	Yes	N/A	N/A	Any sealer can be used
SimpliFill (with HotShot Backfill)	Smart Endodontics by D iscuss Dental	combined	warm and cold technique	N/A	Yes, works w/GP and Resilon	Yes	No	Any sealer can be used
Soft-Core HD	AXIS Dental	Carrier-based	Both	No	No	No	No	Calcium Hydroxide, Zinc Oxide Eugenol, Resin
System B	SybronEndo	N/A	Vertical Condense	Yes	RealSeal	Yes	N/A	N/A
Thermique Termal Condenser	Parkell	Heat and Condense	Both	Yes	Yes, Gutta Percha and all Resilon products	Yes	No	Calcium Hydroxide, Zinc Oxide Eugenol, Resin, Silicone

For expanded comparative table information and additional endodontic product evaluations visit www.dentaladvisor.com

Ultrasonic Usage in Endodontics

Many practitioners prefer piezo electric ultrasonics, as compared to magnostriictive units for endodontic procedures for two main reasons. Piezo electric technology offers more cycles per second (40,000 cps versus 24,000 cps). Also, the tips of these units work in a linear back and forth effect, versus the figure 8 or elliptical motion that magnostriictive units use. This former motion is ideal for endodontics, in particularly when “troughing” the pulpal floor for hidden canals. Traditionally dentists have believed that ultrasonic use endodontics only has a surgical application. There are a growing number of practitioners who are using ultrasonics for

non-surgical endodontic procedures such as finding hidden canals, increasing the efficacy of the irrigation agents, removing posts and cores, and removing separated instruments.

Finding hidden canals

Piezo electric ultrasonics are excellent for removing the secondary dentin that often slopes off the mesial wall, which is what blocks the MB-2 canal in maxillary molars. Ultrasonics allow for slight removal of tooth structure without compromising the visual field. Ultrasonics also perform particularly well when breaking through the calcification that covers the canal orifice. A good tip to remember when searching for hidden canals is that secondary

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www.dentaladvisor.com

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NiTi Rotary Files

Product	Company	Tapers	Lengths	Speed, rpm	Cross Section	Type of Tip	Cost
EndoSequence	Brasseler USA	2	3	500-600	Triangular	Non-cutting tip	\$7.63-\$10.90 each
Engine NiTi	Medidenta	1	3	N/A	U-file	Non-cutting tip	6 @ \$29.95 = \$4.99 each
GT Series X	DENTSPLY Tulsa	3	2	300	Radial Landed, U-Flute	Non-cutting tip	\$9.09 each
Hero 642	Micro Mega	3	3	300-600	N/A	Non-cutting tip	N/A
Hornet Files	EndoSolutions	Various	3	350	Engineered by size and technique	Piloting tip	\$7.20 each
K3	SybronEndo	6	4	300-600	Triple Fluted asymmetrical	Non-cutting tip	6 @ \$49.95 = \$8.32 each
Liberator Rotary Endodontic Files	Miltex	3	2	1000-2000	Straight flute	Non-cutting tip	6 @ \$45.79 = \$7.63 each
LightSpeed LSX	Smart Endodontics by D iscus Dental	N/A	4	2500	Spade	Non-cutting tip	Depends upon number ordered
Mity Roto 360	JS Dental Manufacturing, Inc	1	2	max 300	U-file	Non-cutting tip	6 @ \$31.95 = \$5.32 each
ProFile GT	DENTSPLY Tulsa	5	4	300	Radial Landed, Vairable U-Flute	Non-cutting tip	\$7.66 each
ProTaper Universal Rotary Instruments	DENTSPLY Tulsa	Progressive Taper	4	300	Convex triangle	Non-cutting tip	\$8.76 each
Quantec LX	SybronEndo	6	3	N/A	Asymmetrical	Non-cutting tip	5 @ \$41.95 = \$8.39 each
Quantec SC	SybronEndo	4	3	N/A	Asymmetrical	Cutting tip	5 @ \$41.95 = \$8.39 each
RaCe	Brasseler USA	5	5	300-600	Triangluar	Non-cutting tip	\$7.63-\$10.90 each
TF-Twisted Files	SybronEndo	5	2	500	N/A	Non-cutting tip	N/A
V-Taper Rotary System	Guidance Endodontics, LLC	3	3	250-350	Parabolic	Non-cutting tip	\$7.49 each

For expanded comparative table information and additional endodontic product evaluations visit www.dentaladvisor.com

dentin is generally whitish or opaque, while the floor of the chamber is darker and more gray-like in composition. A fiberoptic on an ultrasonic can assist in visual identification of secondary dentin.

Increased efficacy of the irrigation agent

The cleaning efficacy can be enhanced by placing an ultrasonic tip into the irrigated space of the canal. Ultrasonics create both cavitation and acoustic streaming. The cavitation created is minimal and is restricted to the tip. However, the acoustic streaming effect is significant. These motions allow cleaning and flushing out of areas that files may not be able to negotiate.

Removing posts and cores

Piezo electric ultrasonics are a tremendous help in post removal and are often safer to use than post removal kits. When removing a post, it is critical to break the seal between the post and the tooth structure. This can be accomplished initially through the use of a surgical length 1/4 round bur, making sure you are along the long axis of the post. After creating a groove around the post, place an ultrasonic tip into the trough. Using a low setting and copious water will allow breakage of the seal between the tooth and post. Patience is always recommended when removing posts from canals.

Ultrasonic Usage in Endodontics

Removing separated instruments

Piezo electric ultrasonic units are also excellent for removing separated instruments. However, you must be aware of the importance of the location of the separated file. If a rotary file is separated past the canal curvature, it will be extremely difficult to remove. When removing a broken instrument in the coronal third of the tooth, a thin spreader tip will work nicely. Most

ultrasonic manufacturers have tips specifically designed to remove broken instruments. The tip should be inserted into the canal and moved in a counterclockwise motion around the broken fragment. This will generally dislodge the broken instrument. Instruments separated in the middle or apical third of a canal are best removed by an experienced clinician with the use of a microscope.

Product	Company	Frequency Range kHz	Adjustable Fluid Flow Rate	Separate Fluid on/off Switch	Diamond-coated tips	Tips with Water Ports	Root-end Preparation Tips	Can be Used with Other Manufactures Tips	Type of Irrigant Connection
ASI Ultrasonic Control System	ASI Medical	28-36	Yes	Yes	No	Yes	Yes	Yes	Reservoir
AZ Ultrasonic Multipurpose System	J. Morita USA	28-32	Yes	Yes	Yes	Yes	Yes	Yes	Quick Disconnect Water Line
Endo Irrigator	Vista Dental Products	24-28	Yes	Yes	Yes	No	Yes	Yes	Reservoir or Dental Unit Water Connection
MM1500 Sonic Air Endo System	Medidenta International	1,500 MHz per minute	Yes, water is adjusted with delivery unit	No	Yes	No, water port is located on the head	No	No	Reservoir or Dental Unit Water Connection
MiniEndo II	SybronEndo	25-32	Yes	Yes	Yes	Yes	Yes	Yes	Dental Unit Water Connection
P Max Newtron XS	ACTEON North America	28-36	Yes	Yes	Yes, original	Yes	Yes	Yes, tips must have standard threading, not metric	Reservoir
P-5 Newtron Piezo	ACTEON North America	28-36	Yes	No	Yes, original	Yes	Yes	Yes, tips must have standard threading, not metric	Dental Unit Water Connection
P-5 Newtron XS North America	ACTEON	28-36	Yes	No	Yes, original	Yes	Yes	Yes, tips must have standard threading, not metric	Reservoir
Piezo Advantage	Vista Dental Products	24-28	Yes	Yes	Yes	No	Yes	Yes	Reservoir or Dental Unit Water Connection
Piezo Plus	Vista Dental	24-28	Yes	Yes	Yes	No	Yes	Yes	Reservoir or Dental Unit Water Connection
ProUltra Piezo Ultrasonic Booster	DENTSPLY Tulsa Dental	27-35	Yes	No	Yes	Yes	Yes	Yes	Dental Unit Water Connection
SONICflex	KaVo Dental	It has 6.5 kHz of power	Yes	No	Yes	Yes	Yes	No	Both, depends upon practice
SP Newtron Piezo	ACTEON North America	28-36	Yes	Yes, depending on how it is installed	Yes, original	Yes	Yes	Yes, tips must have standard threading, not metric	Dental Unit Water Connection
SonicMax	Maximum Dental	6,500	Yes	Yes	No	Yes	Yes	Yes	Dental Unit Water Connection
Spartan MTS	Obtura/ Spartan	40	Yes	Yes	Yes	Yes	Yes	Yes	Dental Unit Water Connection
Varios 350	Brasseler USA/ NSK	28-32	Yes	No	Yes	No	Yes	Yes	Dental Unit Water Connection

For expanded comparative table information and additional endodontic product evaluations visit www.dentaladvisor.com

Cynték Powder-Free Latex Exam Gloves + + + + 1/2

Cranberry USA
888.811.6839 • 707.553.6190
www.cranberryusa.com

Description

Cynték Powder-Free Latex Exam Gloves are a single-use, pH-balanced, lotion-coated glove for dental procedures. An inner coating of lanolin and vitamin E in the inner coating act as moisturizers to help soothe and soften skin. The outer surface is designed with a micro-roughened texture to ensure a superior grip for most operating conditions. The gloves are “First Touch” enhanced, which means they are manufactured, examined and packaged with zero skin contact. The gloves are green in color with a citrus-mint scent and are packaged 100 per dispenser box in ambidextrous sizes XS, S, M, L, and XL. Thirty-six consultants evaluated **Cynték Powder-Free Latex Exam Gloves** in over 1200 clinical procedures. This product received a 92% clinical rating.

Suggested Retail Cost
• \$8.95/box of 100 gloves

Product Features

Two of the most highly rated features of **Cynték Powder-Free Latex Exam Gloves** were ease of donning and ease of removing the gloves. A few consultants commented that their hands felt softer after the gloves were removed, probably a result of the inner coating of lanolin and vitamin E. The resistance to tearing,



Consultants' Comments

- ♦ “They are soft and did not tear.”
- ♦ “Nice gloves with no powder.”
- ♦ “Thinner feel with good tactile sensitivity.”
- ♦ “Hands feel sweaty after extended use.”
- ♦ “The grip can be improved.”

both during donning and use, and lack of discoloration were judged as very good. The tactile sensitivity and fit of the different sizes were acceptable; however, a few consultants reported that the fit was poor and that the designated size was larger than normal. It was generally agreed that the green color was good but the citrus-mint scent was only well received by some. Eighty-two percent of consultants rated **Cynték Powder-Free Latex Exam Gloves** equal to or better than the glove they were currently using, 57% would switch, and 74% would recommend them. ■

THE DENTAL ADVISOR Upcoming Fall Lecture Series

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Controlling your Overhead:
What you need to know
Thursday, September 18, 2008

Ready, Set, Go!:
The race to a “perfect” practice
Thursday, October 16, 2008

The Loyalty Connection: Keeping good patients and team members for a lifetime
Thursday, November 20, 2008

“Mastering Ceramic Laminate Veneers” Hands On Program
Presented by Dr. Stephen Poss
7 CE credit hours \$179.00 Doctors
8:00 a.m. to 4:30 p.m.
Friday, September 26, 2008

Saying “Yes” to the Best: (Hot Products in Hygiene!)
Presented By Dr. Sabiha Bunek
2 CE Credit Hours
\$65.00 each per Hygienist and Doctor
6:00 p.m. to 8:00 p.m.
Wednesday, October 15, 2008

7 Habits of Highly Effective Dental Labs
Presented by: Mark Murphy, DDS, FAGD 3 CE Credits
\$129.00 Lab Technician
6:00-9:00 pm
Wednesday, November 12, 2008

THE DENTAL ADVISOR HOSTS
Dr. Damon C. Adams
Impression Tips
Designed to Save Time and Money
2 CE Credits
\$129.00 Dentists \$40.00 Staff Members
5:30- 8:30 p.m.
Thursday, March 12, 2009

Prep Design ~Hands-On Workshop~
The Key to Beautiful All-Ceramics
6 CE Credits Doctors \$305.00 Two-Day Package. Attend both lectures for the premium price of \$375.00.
8:00 a.m. - 4:00 p.m.
Friday, March 13, 2009

All courses held at:
3110 West Liberty, Ann Arbor, MI
For More Information Call:
Jennifer Kalasz at 734-665-2020 x-109
To download a registration form visit:
www.dentaladvisor.com



DownPak Cordless Obturation Device + + + + 1/2

ei – endo ingenuity, a Hu-Friedy company
1.877.EIEndo1 • 949.581.9600
www.endoingenuity.com

Description

The **DownPak Cordless Obturation Device** is a cordless, rechargeable endodontic device indicated for softening of root canal filling material with heat and vibration. The temperature of the heated tip is adjustable from 70°C to 350°C, with the option of no heat. The vibration and the heat can be used together or separately. A blue LED screen is present to allow the clinician to view the temperature of the device and other settings. There is a wide variety of heat plugger tips available for all file systems and the **DownPak** can be programmed with multiple operating preferences. **DownPak** comes with three tip sizes and accessories. Seventeen consultants used the **DownPak** in over 250 endodontic procedures. This product received a 92% clinical rating.

Suggested Retail Cost
• \$1,599/unit

Equipment Features

The cordless nature of the **DownPak** makes it unique and easier to use and navigate than other comparable devices. The **DownPak** unit is small and easy to hold but is somewhat back-

Consultants' Comments

- ♦ “I loved the fact that DownPak is cordless.”
- ♦ “Vast selection of tip sizes.”
- ♦ “Works just as well as my other devices and I love that it is cordless.”
- ♦ “This works great! I wish it were combined with a cordless backfill device.”
- ♦ “Buttons are hard to reach at certain angles.”

weighted, affecting its balance. The blue LED display has low contrast and the buttons are difficult to access during procedures. Consultants liked the vibration and the potential for enhancing the lateral movement of warmed gutta percha. Several evaluators commented that if this device were packaged with a backfill device it would be more useful. Fifty-nine percent of consultants found the **DownPak** to be equal to or better than their current device. Sixty-five percent of consultants would recommend and switch to the **DownPak**.

Clinical Tips

- Keep the heated tip at least 5 mm from the apex to avoid pulling out the apical plug of gutta percha when you remove the device.
- Turn the vibration mode off for searing off coronal gutta percha; turn it on for vertical/lateral condensation. ■

ALPHA-PRO Kid's Pack + + + +

Dental Technologies, Inc.
800.835.0885 • 847.835.0885
www.dentaltech.com

Description

ALPHA-PRO Kid's Pack is a children's flavor variety of prophylaxis paste for cleaning and polishing teeth. The paste contains 1.23% fluoride and is available in medium grit. The unit-dose cups come in *Berry-Licious*, *Chocorific Chocolate*, *Sweet Cotton Candy*, and *Watermelon Wonder* flavors in a 200 count (50 of each flavor) re-sealable container. The container also has a cup ring and reward stickers for patients. Thirty-one clinical consultants and their hygienists used the **ALPHA-PRO Kid's Pack** in over 800 prophylaxis procedures. This product received an 86% clinical rating.

Suggested Retail Cost
• \$29.95/200-count container

Consultants' Comments

- ♦ “My patients really liked the flavor selection and taste!”
- ♦ “This medium grit paste seemed more like fine.”
- ♦ “I liked the re-sealable container and texture of the paste.”
- ♦ “I would prefer the flavors to be printed on each unit-dose cup rather than on the canister.”

Product Features

The convenient plastic canister is re-sealable and was well received by consultants. The flavors are color-coded and printed directly on the canister. Consultants noted that there was plenty of paste in each cup for a routine prophylaxis. The smooth paste polished well and the patients appreciated the flavors. Some consultants would have liked to have additional grits. Some hygienists reported that **ALPHA-PRO Kid's Pack** splattered more than their usual prophylaxis pastes and was more difficult to rinse off. Stain removal was rated as fair. Fifty-nine percent of consultants found **ALPHA-PRO Kid's Pack** to be equal to or better than their current prophylaxis paste, while 42% would recommend and switch to it. ■

DiaRoot BioAggregate + + + + 1/2

DiaDent Group International
877.342.3368 • 604.451.8851
www.diadent.com

Description

DiaRoot BioAggregate is a radiopaque, root canal repair material composed of biocompatible, white ceramic nano-particles. The material is indicated for the repair of root perforation, repair of root resorption, root end filling, apexification, and pulp capping. Each regular kit contains six **BioAggregate** powder pouches, eight vials of **BioA Liquid**, mixing cups and spatulas. To use, mix one packet of **BioAggregate** powder with one vial of **BioA Liquid** in the provided mixing cup. Mix for about two minutes until the powder is hydrated well and develops into a thick paste. **DiaRoot BioAggregate** has a working time of about five minutes with a complete setting time between four and 72 hours. The material can be placed directly into the preparation with a carrier of the dentist's choice. Nineteen consultants used **DiaRoot BioAggregate** in over 100 procedures. This product received a 92% clinical rating.

Suggested Retail Cost
• \$200.00/kit

Product Features

The instructions were adequate, with detailed instructions for all five indications. Consultants mentioned that illustrations would be a nice addition for quick reference. Regarding the packaging, most thought that there was too much material in each packet for one use. Smaller unit-dose packages should be available. The material was easy to mix, but some found the two-minute mixing time was too time-consuming. Consultants and editors found the material easy to load and inject into the preparation using their carrier of choice. There were conflicting opinions regarding the viscosity of the material. Many consultants thought the material was too thin and runny, while others found the mixed material too thick or dry for easy placement. The working time is listed as five minutes, which is an adequate amount of time to place and remove excess before hardening occurred. The retention of the material was excellent, with no reported failures.



Consultants' Comments

- ♦ "I used it twice as a pulp cap and the teeth are asymptomatic."
- ♦ "The white color is great."
- ♦ "Great for pulpotomies or small pinpoint exposures."
- ♦ "There is too much material in each package which seems wasteful."
- ♦ "DiaRoot BioAggregate is a good material that works fairly well as a pulp cap but better in the canal."
- ♦ "I would prefer a shorter setting time."

Clinical Tips

- Use a Centrix-type syringe with a long, thin metal tip for easier placement.
- Pat the mixture dry with a cotton pellet or swab to make it more retentive.
- Remove the excess material before it sets; otherwise, it is difficult to remove.
- Add the powder incrementally to customize viscosity.
- The viscosity of the material can be varied by increasing or decreasing the amount of liquid added to the mix.

Editor's Note: BioA Liquid provided (1 vial x 0.38 ml) is the exact amount required for 1.0 g of powder. Excessive addition or lack of BioA liquid may alter the setting time and material consistency, properties, and viscosity. ■



Seltzer Institute
800.229-8967
www.tlcdentist.com



Technology Lighting Center (TLC) + + + + 1/2

Description

TLC (Technology Lighting Center) is a fiber-optic operatory light integrated with a high-resolution, flat-panel monitor/multimedia display that is track-mounted on the ceiling over the patient chair. The system allows patients to watch TV, intraoral camera or computer images, videos, or movies either in an upright or reclined position. The center includes a fiber-optic dental light that is composed of two independent spotlights. Three light modes are selected by rotating a knob: Normal—White light; Orange—Composite-safe light; Opaque—No light (blocks the light). The light requires two minutes to reach full intensity at the start of the day. Light and monitor positions can be adjusted for customized patient comfort. The 17" or 19" flat-panel monitor comes with a removable acrylic screen cover. The monitor tilts from a vertical to horizontal position or any angle in between. The **TLC** may receive inputs from cable TV, DVD, computer, intraoral camera, video games, and more. A universal remote is included to control all components. **TLC** was evaluated by 11 consultants over a seven-month period. This system received a 95% clinical rating.

Suggested Retail Cost
• \$5995 (Basic Unit Configuration)

Equipment Features

TLC is a modern, high-tech unit that combines function for the doctor with comfort for the patient. The system is well-built and glides smoothly along the track. The monitor has excellent clarity with the acrylic splash cover removed. The dual fiber-optic lights provide the user with excellent illumination of the oral cavity while remaining cool to the touch. The lights have a narrow focal spot which may be enlarged by spreading the two lights to widen the beam and adjusting the convergence; however, they are somewhat stiff and not easily adjusted with one hand. The lights are intense and some consultants would like a dimmer option. Consultants appreciated the orange light filter for use during composite placement. Patients are able to view TV, videos, or video games, depending on the components the user chooses to connect to the system. Any programs run through a computer to the **TLC**, such as digital radiographs, intraoral camera images and patient education software, can be displayed for the patient to see. Eighty-eight percent of consultants found **TLC** to be better than their current system for patient education and entertainment, and 100% would recommend it to a colleague.



Consultants' Comments

- ♦ "TLC adds a 'wow' factor to my office!"
- ♦ "The operator's manual on DVD is helpful."
- ♦ "It would be great if the lights moved independently of the monitor."
- ♦ "Great viewing angle - my patients love to watch movies during long procedures."
- ♦ "Calms even my fussiest patient."

Clinical Tips

- The manufacturer recommends leaving the light on in Normal mode throughout the day. Using the Opaque mode without powering down the unit will generate heat around the bulb, reducing bulb life.
- Remove the acrylic screen cover to reduce glare on the monitor.
- Since the **TLC** is a track-mounted, slide the unit to the toe of the chair before dismissing the patient.
- Install the optional knob extension handle to facilitate changing from white to orange light during treatment.
- To reduce the light intensity in the working area, focus one of the spots on the mouth, and point the other one at the floor.
- Rotate the spotlights 90° to give the dental assistant more head clearance. ■

M250 Soniclean + + + + 1/2

Midmark Corporation
800.643.6275 • 937.526.3662
www.midmark.com

Description

Soniclean ultrasonic cleaners are available in three sizes: 1.5-, 2.5-, and 5.5-gallon capacities. The **M250 Soniclean**, 2.5-gallon unit, was evaluated. The 14-lb unit measures 29.2 x 24.1 x 15.2 cm (11.5" x 9.5" x 6.0") and can be recessed or placed on the counter. It has two, 40-kHz sweeping transducers that provide uniform cleaning with a 180-W maximum input power. Controls are located on top of an angled panel rising from the back edge of the cleaner. When the unit is installed recessed, the tank cover is flush with the countertop, and only the control panel projects above. The mechanical timer is turned clockwise to activate the unit in one-minute intervals, up to 60 minutes. A hold function allows continuous operation, during which the water-based solution will stabilize at 60°C (140°F). **M250 Soniclean** has a built-in drain and is supplied with a tank drain kit. Also included are a cover, perforated insert tray, instrument basket, and instruction/installation manual. **M250 Soniclean** was used by 12 consultants during a nine-month evaluation period. This ultrasonic cleaner received a 92% clinical rating.

Suggested Retail Cost
• \$1,712/unit

Equipment Features

The smooth surfaces and rounded edges of **M250 Soniclean** are esthetic, easy to clean, and provide few areas for debris to accumulate. The small footprint and top-mounted controls take minimal space on a busy counter top. Consultants found the unit made discernable noise during operation. When recessed,

Consultants' Comments

- ◆ "The tank is very spacious."
- ◆ "Simple controls."
- ◆ "Very easy to drain and clean."
- ◆ "The noise during operation is low."
- ◆ "Standard cassettes do not fit in the tank."

consultants appreciated the compact form and the noise was reduced. Consultants preferred having the unit shut off after completing a cycle, rather than using the available hold function. Smooth instruments are cleaned more effectively than those with serrated surfaces. The highest scores were for the ease of draining. The drain kit connects to an opening on the side of the unit and has a valve, hose adapter, drain tube, and a protective cap to cover the drain when not in use. The 14-page operator's/installation manual contains helpful illustrations, tables and ordering information for consumables and accessories for the **M250 Soniclean**. Seventy-five percent of consultants found **M250 Soniclean** equal to or better than their current ultrasonic unit and 63% would recommend and switch to this unit.

Clinical Tips

- Run the unit 5 to 10 minutes after new solution is placed to drive out the dissolved gasses, raise the temperature of the solution and allow for more effective cleaning.
- Do not place objects directly on the bottom of the tank—this may damage the transducers. Use the supplied wire basket or suspend objects into the tank from wires.
- **M250 Soniclean** will not accept standard 20.3 x 27.9 cm (8" x 11") cassettes. Special order 20.3 x 26.7 cm (8" x 10.5") cassettes. ■

John M. Powers, Ph.D., Editor, **THE DENTAL ADVISOR**, co-authored six papers presented at the 86th General Session of **The International Association for Dental Research** in Toronto, July 2-5, 2008.

Projects included:

- Effects of water storage on 7th-generation bonding agents
- Bond strength of self-etch adhesive combined with 4th-generation adhesive
- pH of self-etching cements
- Color shifting of resin composites
- Changes in color, translucency and glass of aged resin composites
- Tensile properties of impression materials



PowerAir™ Oil-less Dental Air Compressor + + + + +

Midmark Corporation
800.643.6275 • 937.526.3662
www.midmark.com

Description

PowerAir Oil-less Dental Air Compressor is available in five models, each standard with a double- or triple-head. All models include a 0.01-micron coalescent filter to provide clean air and the capacity to capture 99.99% of compressed air contaminants that may be found in a typical dental mechanical room. The fresh air intake helps the compressor heads "breathe" in cool air, enabling the compressor to operate more efficiently. **PowerAir** utilizes a desiccant drying system that allows the compressed air to dry below 0°F dew point. A unique exhaust silencer/filter reduces noise and filters purge air to a nearby drain, allowing for a clean mechanical room floor. The quick-connect, optional sound cover is designed to further reduce the noise of compressor operation. The service access manifold houses all critical compressor operating controls in one location. **PowerAir** comes with a five-year/ 3,500-hour product warranty. The Model P52 compressor evaluated is designed for five to seven users and has a 3.2-horsepower motor and a 20-gallon tank. Eleven consultants evaluated **PowerAir** over a nine-month period. This compressor received a 96% clinical rating.

Consultants' Comments

- ◆ "It's great not to have to check or change the oil."
- ◆ "Works efficiently and is virtually maintenance free!"
- ◆ "The sound cover makes a big difference in the noise level."

Suggested Retail Cost
• \$8,450/unit
• \$900.00/sound cover (optional)

Equipment Features

PowerAir (Model P52) provided adequate power to all six operatories in the test facility, and consultants noted no changes in power when multiple operatories were in use. All consultants rated ease of maintenance, small filter size, and the oil-less feature very highly. The consultants also appreciated the small size and appearance of the unit. Most evaluators commented that without the sound cover the compressor was louder than desired, so this option was included for evaluation and significantly reduced the noise level. Throughout the clinical evaluation, the compressor was dependable and no maintenance issues were encountered. One hundred percent of consultants rated **PowerAir** better than the compressor they were currently using, and 90 percent would recommend it to a colleague. ■

ALPHA-SEAL® + + + +

Dental Technologies, Inc.
800.835.0885 • 847.835.0885
www.dentaltech.com

Description

ALPHA-SEAL is a glass-filled, fluoride-releasing, light-cured pit-and-fissure sealant. It is available in opaque and clear shades. The **ALPHA-SEAL** kit contains three, 1.5-gram syringes of opaque or clear **ALPHA-SEAL** with 10 black disposable applicator tips; one, 4-gram syringe of **ALPHA-ETCH37** with 10 blue disposable applicator tips; and 20 disposable brushes. Twenty-six consultants evaluated **ALPHA-SEAL** opaque in over 330 clinical cases. This product received an 86% clinical rating.

Suggested Retail Cost
• \$38.50/ kit

Product Features

ALPHA-SEAL sets very hard when light cured. A number of consultants reported that the margins were undetectable. The

Consultants' Comments

- ◆ "I liked the fluoride content."
- ◆ "ALPHA-SEAL blends smoothly with the tooth."
- ◆ "I would prefer a more viscous material."
- ◆ "Sealant material contains some bubbles."

opaque white color allows good visualization of the material, and the fluoride release was viewed as a positive. The low viscosity of **ALPHA-SEAL** tends to encourage flow into deep grooves, but it also makes it difficult to spread evenly and causes it to run off of maxillary molars. The material continues to extrude from the tip after being utilized. Fifty-four percent of the consultants rated **ALPHA-SEAL** equivalent to or better than the material they were currently using. Twenty-nine percent would recommend it and 27% would switch to **ALPHA-SEAL**.

Clinical Tips

- Use of an adhesive may increase retention of the sealant.
- Dispense in small amounts to avoid overflow. ■

KaVo Dental Corporation
800.323.8029 • 847.550.6800
www.kavousa.com

Description

GENTLEsilence 6500B is a cellular-optic, air-driven, high-speed handpiece for tooth preparation in restorative and crown and bridge procedures. It has a quick connect attachment to the **KaVo MULTIflex LUX** coupler with 360° swivel. The handpiece operates at 38 psi and features a low noise output of 57dB. It has a medium-size head, 4-port water spray and push-button chuck. **GENTLEsilence 6500B** now provides a replaceable microfilter to increase water spray quality and avoid clogged spray ports and an anti suck-back cartridge system. Sterilization by autoclave at 135°C is recommended. If maintained with **KaVo QUATTROcare**, the handpiece warranty, including the turbine, is 18 months. Ten consultants used **GENTLEsilence 6500B** over a nine-month period. This handpiece received a 96% clinical rating.

Suggested Retail Cost

- \$1,378.00

Consultants' Comments

- ◆ "Smooth operation."
- ◆ "Low vibration."
- ◆ "My favorite handpiece!"
- ◆ "Easy to attach the handpiece to the coupler and insert the bur."
- ◆ "Design a similar handpiece with a smaller head for pediatric patients and those with small mouths."

Equipment Features

GENTLEsilence 6500B is a well-balanced, light-weight, ergonomically designed handpiece. The surface is slightly textured to prevent slipping. **KaVo MULTIflex LUX** coupler allows quick connection and smooth 360° swivel. Minimal noise and vibration were noted during operation. The size of the head and angle of the handpiece enable the operator to maximize access to posterior areas. The quality of the water spray and illumination were excellent, with no reports of clogging or reduction in light emission. Assistants reported easy maintenance using the **KaVo QUATTROcare**. No malfunctions were reported during the nine-month evaluation. Ninety percent of consultants reported **GENTLEsilence 6500B** is equal to or better than their current handpiece and would purchase and recommend it to a colleague. ■

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CLINICAL CONSULTANTS:

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