

THE DENTAL ADVISORTM

"Improving Patient Care Through Research & Education"



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

Digital Radiography

With the advent in the late 1980s of the first digital dental radiography systems, oral radiology began a shift away from the production of images on silver halide films towards digitally-captured images displayed on a computer screen. Significant changes in software and hardware have occurred during the last two decades. Today dentists have many choices in the way radiographs are digitally captured and viewed.

This issue of THE DENTAL ADVISOR provides a brief description of how digital radiography works compared to film-based radiography and helpful hints for making a successful choice for your practice.

2007

Vol. 24, No. 9
November

DIGITAL RADIOGRAPHY 2

EDITORS' EVALUATIONS

Clearfil Majesty Flow 7
(Flowable composite)

Clearfil Majesty Esthetic 10
(Universal composite)

CLINICAL EVALUATIONS

ALPHA-BOND 6
(Bonding agent)

JETLITE 5000 LED 6
(LED light-curing unit)

Clinical Performance of 8
Clearfil AP-X using Clearfil S³ BOND
or Clearfil PROTECT BOND at
6- and 12-months

Max Bond LC 9
(Bonding agent)

Multilink Sprint 11
(Self-adhesive resin cement)

Estelite Sigma 2-year 12
Clinical Performance
(Universal composite)

ZOOM! Advanced Power Chairside ..14
Whitening System - Effect of ZOOM!
Advanced Power Lamp on
Whitening
(Tooth whitening system)

S3 ACE Face Mask 16
(Face mask)

EDITORS' CHOICE

Soothe-Guard 13
(Lead apron)

Accolade SRO 16
(Flowable composite)

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

Ratings

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

EDITORS

John W. Farah, D.D.S., Ph.D.
John M. Powers, Ph.D.

ASSOCIATE EDITORS

William A. Gregory, D.D.S., M.S.
Peter Yaman, D.D.S., M.S.
Lori K. Brown, D.D.S.
Santine E. Anderson, D.D.S.
Charles I. McLaren, D.D.S., M.S.
John D. McLaren, D.D.S., M.S.
Larissa K. Bishop, D.D.S.

ASSISTANT EDITORS

Mert N. Aksu, D.D.S., J.D., M.H.S.A.
Mark T. Waranowicz, D.D.S., M.S.
Darren R. Marsh, D.D.S.
William T. Stevenson, D.D.S.
Robert Stevenson, D.D.S.
Nizar Mansour, D.D.S.
Sabiha S. Bunek, D.D.S.
Kathy L. O'Keefe, D.D.S., M.S.

CONTRIBUTING AUTHORS

James R. Geist, DDS, MS
Lisa Bouchez, BencoNet

ADVISORY BOARD

John O. Burgess, D.D.S., M.S.
Karl F. Leinfelder, D.D.S., M.S.
John A. Molinari, Ph.D.
Frederick A. Rueggeberg, D.D.S., M.S.
Edward J. Swift, Jr., D.M.D., M.S.
Charles W. Wakefield, D.D.S.

EXECUTIVE TEAM

Stephanie D. Farquhar
Annette M. Frederick
Tricia G. Price
Kathryn Tillison
Rhonda L. Tucker
Cara L. Voss
Mary E. Yakas, B.A., CMC
Ron Yapp, M.S.

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

No unauthorized duplication or reprints may be made. Inquiries concerning duplication may be directed to the publisher. Copyright ©2007, Dental Consultants, Inc. All rights reserved. Printed in the U.S.A. (ISSN 0748-4666) by University Lithoprinters.

Digital Radiography

What is Digital Radiography?

Since the early 20th century, dental radiographic images have been acquired and viewed on films containing silver halide crystals. X-rays directed toward the patient undergo absorption, transmission and scatter as they encounter the patient's tissues, and the remnant radiation exposes silver bromide and silver iodide crystals on the film placed inside the mouth. The film is then developed and exposed to reveal the image.

Digital radiography involves the same first steps as traditional x-ray but the image is captured on a sensor, is digitized and then appears on a computer screen. The image can be downloaded into a patient file and digitally enhanced, then emailed for consultation or printed.

Sensors

The two types of digital sensors are the direct digital sensors, consisting of charge-coupled device (CCD) or complementary metal oxide semiconductor (CMOS) arrays, and photostimulable phosphor (PSP) sensors, often referred to as phosphor plates.

Direct Digital Sensors

Advantages

- Image appears on the monitor quickly, usually within three seconds of exposure, because the sensor is directly connected to the computer.
- There are no additional steps between exposure and appearance of the radiograph. This can be helpful during surgical procedures or endodontic therapy when operative radiographs are often needed quickly.
- Since the sensor does not react to visible light, there is no need for a dark or dimly lighted area to store the sensor before or after exposure.

Direct Digital Systems

Product	Company	Website	Sensor Type
ACCENT	Air Techniques	www.airtechniques.com	CCD
CDR	Schick Technologies	www.schicktech.com	CMOS
CDR Wireless	Schick Technologies	www.schicktech.com	CMOS
DEXIS Digital Radiography System	Dexis	www.dexray.com	CCD
Dixi 3	Planmeca	www.planmecausa.com	CCD
Dr. Suni Plus	Suni	www.suni.com	CCD
EVA	AFP Imaging/Dent-X	www.dent-x.com	CMOS
EVA+	AFP Imaging/Dent-X	www.dent-x.com	CMOS
HDX	MediaDent	www.mediadentusa.com	CCD
RVG 6100	Kodak	www.kodakdental.com	CMOS
Sidexis XG	Sirona	www.sirona.com	CCD
VisionDX	Progeny	www.progenydenal.com	CCD
Visualix eHD	Gendex	www.gendex.com	CCD
XIOS	Sirona	www.sirona.com	CMOS



EVA (AFP Imaging/DentI-X)

Disadvantages

- The larger-than-film sensors can be difficult to place for some patients.
- Severe errors in exposure may produce radiographs that are unacceptable and cannot be repaired with electronic enhancement.
- The sensors represent the greatest cost in direct digital systems, so care must be taken to prevent damage or loss of the sensors.

Phosphor Plate Sensors

Advantages

- Using phosphor plate sensors is similar to using film. They have a tactile feel similar to dental film, and can be easily placed.

- There is no cable or cord connecting the sensor to the computer, making it easier to place and more comfortable for the patient.
- There is a fast learning curve for team members because of the similarity in technique with traditional dental film.
- With phosphor plate systems, the sensors are relatively inexpensive.

Disadvantages

- Plates must be scanned to retrieve the image.
- The sensors must also be placed in light-tight packets before use, which requires an additional step for auxiliaries. Transfer of the exposed sensors must be done using a transfer device, and a dimly lit area must be utilized for scanning.
- Darkrooms equipped with red safelights should not be used; the sensor is scanned by a red laser light, so exposure to red light in a darkroom could alter the image before the sensor is placed in the scanner.
- The sensors must be erased before reuse, but many phosphor plate scanners include erasure, eliminating the need for a separate erasing step.
- Phosphor plate sensors are considered hazardous waste in some states.

Sensor Sizes	Sensor Thickness (mm)	Computer Interface	Additional Components
1 and 2	5.7	Bluetooth, USB	One sensor with 4' cable
0, 1 and 2	5	USB	Size 2 sensor with 6' cable; USB box; software; positioning device
1 and 2	5	USB	Size 2 sensor; wireless receiver; software; positioning device
1	9	PC Card	One sensor with 6' cable; PC card; software; accessories; tutorial CD, on-sight training
0, 1 and 2	6	Ethernet, PC Card, USB	Size 2 sensor with 3' or 6' cable; USB box; ethernet box; software; positioning device
0, 1 and 2	3.2	USB	One sensor with 9' cable; USB box; software
1 and 2	4.75	USB	One sensor with 6' cable; USB box; imaging software; positioning device
1 and 2	4.75	USB	One sensor with 6' cable; USB box; imaging software; positioning device
1 and 2	Size 1: 5.7; Size 2: 5.6	USB	Size 2 sensor with 6' cable; USB box; software; positioning device
0 and 1	Size 0 & 2: 5.6; Size 1: 5.7	USB	One sensor with 7.5' cable; Software; Positioning device
1 and 2	Size 1: 4.0; Size 2: 5.0	Ethernet, USB	Size 2 sensor with 9' cable; USB box; software; positioning device
1 and 2	Size 1: 5.0; Size 2: 5.6	Ethernet, USB	Size 2 sensor with 7.5' cable; ethernet box; software; positioning device; drivers for existitng software
1 and 2	Size 1: 5.7; Size 2: 5.6	USB	Size 2 sensor with 9' cable; USB box, software; positioning device
1 and 2	5	USB	One sensor with cable, USB box, software, positioning device

Digital Radiography

Which sensor do I choose?

There are important considerations in choosing which system is best for your office. It is important to consider the way in which radiography is used in the practice. Direct digital sensors are best for clinical situations that require an immediate image. Phosphor plate systems do not provide an immediate image, but have a shorter learning curve for the team. Some offices choose to combine both technologies, and purchase hard wired sensors for immediate images.

Digital Radiography Accessories

Proper infection control techniques are vital in using intraoral sensors. Barrier devices are available to assist in the process:

Comfee's Sensor Sleeves/Flow Dental; **DEXIS Sensor Sheaths**/DEXIS; **Digital Sensor Barriers**/DENTSPLY Rinn; **Digital X-ray Sensor Protector**/Palmero; **Pinnacle Sensor Covers**/Kerr Corp.; **R.S. Barrier**/Steri-Shield; **Safe'n'Sure Phosphor Plate Envelopes**/Flow Dental; **Sensor Sheaths**/TIDI Products

Technique changes may be necessary, depending on the type of sensor you choose. The following positioning devices and sensor holders are available to assist you:

Aimer Ring & Bars/Steri-Shield; **Any-Ray**/MediaDent; **Eezee-Grip Digital Sensor Holder**/DENTSPLY Rinn; **Endo-Bite Senso**/Kerr Corp.; **Kwik-Bite Senso**/Kerr Corp.; **PositionIt System**/DEXIS; **SMART Positioning System**/Flow Dental; **Super-Bite Senso**/Kerr Corp.; **Uni-Grip**/DENTSPLY Rinn; **Uni-Grip AR**/DENTSPLY Rinn; **Wing-A-Ray**/Steri-Shield

Bringing Digital Radiography into Your Practice

There are many ways to integrate digital radiography into your practice. Answering questions about your current

software, hardware, wiring, and your goals for utilizing the technology in your practice can ease any stress of transition.

What hardware do you currently have?

An honest review of the capabilities of your current system is critical. If your computer is three years or older and does not have a Pentium 4.3 GHz with at least 1 GB of memory, you might want to consider investing in new equipment before making a decision to go digital.

What software do you currently have?

Make sure that you have the latest version of your management software. Older versions may not support your new digital technology. Gather a list of system requirements for integrating new technology in your practice and work with your tech support specialist to be sure your software will support any changes.

Compatibility of software and your digital radiography system is critical for a successful transition. Some digital radiography systems come with their own image capturing software, which may or may not integrate with your practice management software. Check with your digital radiography system manufacturer to determine the level of integration available for your practice management software.

There are three ways to integrate digital radiography into practice management software:

- **Seamless** – there is a special place inside your practice management software program that allows for access to take and store images. This special relationship has been made between the imaging software program and the practice management software to accept images into the charting software. Also, the practice management software dictates which imaging software will be compatible, limiting the choice of imaging hardware.
- **Software Bridges** – A separate imaging program that is available to be used with most practice management

Phosphor Plate Systems

Product	Company	Website	Sensors Accepted	Erasure	Scan Time*
CR 7400	Kodak	www.kodakdental.com	Sizes 0, 1, 2, 3, 4, ceph and pan	Built-in	6.7 sec (avg)
DenOptix QST	Gendex	www.gendex.com	Sizes 0, 1, 2, 3, 4, ceph and pan	Built-in	> 4 sec
OpTime	Soredex	www.soredexusa.com	Sizes 0, 1, 2, and 3	Built-in	4.3 - 7.5 sec
ScanX	Air Techniques	www.airtechniques.com	Sizes 0, 1, 2, 3, 4, ceph and pan	Built-in	17 sec (first image), 4 sec (subsequent images)
ScanX Duo	Air Techniques	www.airtechniques.com	Sizes 0, 1, 2, 3, and 4	Built-in	17 sec (first image), 4 sec (subsequent images)
Scan-X Intraoral	Air Techniques	www.airtechniques.com	Sizes 0, 1, 2, 3, and 4	Built-in	17 sec (first image), 4 sec (subsequent images)

software programs when pressing a separate icon that is located somewhere on your computer screen. This is the most flexible option and allows for more choices in imaging hardware because there is most likely a direct driver available from the hardware manufacturer.

- TWAIN – This is a generic driver that is used when the practice management software does not provide a seamless solution to digital imaging devices. TWAIN has limitations and is the least favorable method for integration because it does not use the software tools that are inherent to the imaging device.

What kind of wiring do you have for your internet connection and computers?

Often a step that is overlooked during the switch to digital radiography is the type of wiring you currently have in place. Unshielded, Category 5 or 5e cabling can allow interference from office lighting and office equipment. The newer Category 6 cabling will help your system work faster and guard against electromagnetic interference (EMI) which can affect overall performance of your network.

Direct sensors are connected by a USB or Firewire cable to the computer, so planning for a 16' maximum cable length is recommended, especially when planning the placement of computers in the operatory.

How many computers are on your network and do you need a server?

Depending on the amount of computers you have working on your network you may decide to purchase a server. Typically, if you have five or more computers, then you should have a server. The server will keep all of your computers working in top order; there is enough room to store all of your images and practice management documentation as well as backing up your entire system, automatically, on a regular basis.

How do I select the system that is right for my practice?

Educate yourself. Attend tradeshow and talk with the company representatives at the exhibits. Set up a time for them to come in and do a lunch and learn with your entire staff. System manufacturers have in-office demonstrations to show everyone how digital radiography works and how that system would work in your practice. Also, consult with a technology integration consultant throughout the education process. They will help guide you in finding an open system that does not limit your options.

Making the Decision to Go Digital

Most practitioners will be likely to switch to any new technology if a return on investment can be demonstrated. Making the decision to digitize your office begins with a solid plan. Prior to making any purchase, it is important to first consider the benefit to your office, the learning curve associated with implementing the technology, and whether or not the benefits outweigh the cost.

Overall, switching to digital radiography will, in the long run, save your practice time and money. Digital images are viewable for the patient on a monitor, which assists greatly in education. There are cost and labor savings associated with film, developing chemicals, disposal of chemicals, processor maintenance, darkroom space, and film accessories.

From a patient perspective, images are easier to see and understand, and images can be manipulated using software for educational purposes. There is a lower radiation exposure level for patients as well. The actual reduction depends on the speed of film and the type of digital system.

Conclusion

Overall, the decision to move from traditional to digital radiographs is more about computerizing your office, not your x-ray system. The transition can be stressful, but following some simple guidelines can alleviate stress and ensure you and your team enjoy a technological advantage.

Tips

- Educate yourself about the technology and invite digital radiography manufacturers to your practice to demonstrate their system and the benefits to your individual practice.
- Consult with an expert to review your wiring, hardware and software and provide recommendations.
- Write a plan with your team for integration into your daily routine. Take it one step at a time and be sure to include proper training time away from patient care.
- Select a system that will allow for growth and change in your office, without limiting you to one manufacturer. ■

Computer Interface	Components
USB	Scanner, software
USB	Scanner, sensor carousel, software, sensors
Ethernet	Scanner, software, size 2 sensors (20)
USB	Scanner, USB card, size 2 sensor guides (4) Size 0, 1, and 3 sensor guides (1 ea), size 2 sensors (20), transfer box, barrier envelopes
USB	Scanner, USB card, size 2 sensor guides (2), size 1 and 1 sensor guides (1 ea), size 2 sensors (8), barrier envelopes
USB	Scanner, USB card, size 2 sensor guides (4), size 0, 1, and 3 sensor guides (1 ea), size 2 sensors (20), transfer box, barrier envelopes

ALPHA-BOND + + + +

Dental Technologies, Inc.
800.835.0885 • 847.677.5500
www.dentaltech.com

Description

ALPHA-BOND adhesive is a 5th-generation, acetone-based, light-cured bonding agent with dual-cured activator (available separately). **ALPHA-BOND** is indicated for direct bonding of light-, dual- and self-cured composites, cores and compomers; repairs of composite, ceramic, and metal restorations; bonding of indirect restorations (inlays, onlays, crowns, bridges and veneers); and post cementation. Bonding steps include etching with phosphoric acid, applying two consecutive coats of **ALPHA-BOND**, air-drying, and light curing for 10 seconds. To utilize the dual-cured component, etch the prepared tooth, mix two drops of **ALPHA-BOND** with one drop of **ALPHA-BOND Activator**, apply two coats, and air-dry. No light curing is required for the **ALPHA-BOND Dual Cure** mixture. The kit contains a 6-ml bottle of **ALPHA-BOND**. Twenty-seven consultants evaluated **ALPHA-BOND** with the dual-cure activator in over 540 clinical applications. This product received an 88% clinical rating.

Suggested Retail Cost

- \$42.00/6-ml bottle of adhesive
- \$21.00/3-ml bottle of activator



Consultants' Comments

- ▶ "Fairly low cost for a 6-ml bottle."
- ▶ "Coats the tooth well."
- ▶ "I like having a dual-cured activator for areas difficult to activate with light."
- ▶ "Include the dual-cure activator and etchant in the kit."

Product Features

ALPHA-BOND was highly rated for lack of postoperative sensitivity and ease of application. It has a good viscosity, making it easy to dispense, apply and coat the preparation. Application time was rated very good. The ability to bond to self-cured composites and areas inaccessible to light was also mentioned as a positive attribute. Refrigeration of **ALPHA-BOND** is recommended but storage at room temperature is acceptable. The adhesive must be at room temperature for use. Seventy percent of consultants reported **ALPHA-BOND** was equivalent to or better than their current bonding agent. Sixty-eight percent would recommend it to a colleague and 32% would switch. ■

Editor's Note: The instruction pamphlet is somewhat challenging to read because of the font size; however, Dental Technologies is enlarging the font with the next printing run.

JETLITE 5000 LED + + + +

J. Morita USA, Inc.
888.566.7482 • 949.581.9600
www.jmoritausa.com

Description

JETLITE 5000 LED curing light produces a blue light in the visible spectrum from 450-490 nm (peak is 470 nm). This light is recommended for use with light-activated resin materials such as sealants, restorative composites, bonding agents, and cements. The manufacturer claims curing up to 5 mm of restorative material in 5-10 seconds. **JETLITE 5000 LED** can be cordless (offering 300 to 400, 10-second curing cycles with a full charge) or plugged directly into the power source if needed. Two methods of heat management ensure constant performance for three modes: fast, standard, and ramp. Fast mode (up to 1500 mW/cm²) is indicated for general curing needs, standard (or pulse) mode (up to 1200 mW/cm²) is used when polymerization shrinkage is of

concern, and ramp mode is available when potential sensitivity is of concern. Each mode also has independently selectable light output durations. The last selected mode and time are recalled when the light is turned on again. Selected mode, battery status, and time can all be viewed on the LCD digital display located near the handle of the light. **JETLITE 5000 LED** is equipped with a holster-type charger base, a

Consultants' Comments

- ▶ "Solid, well-built unit."
- ▶ "Readouts were conveniently placed and easy to read."
- ▶ "Quality of cure is good."
- ▶ "Unit is heavier than most LED lights."
- ▶ "Would like a longer tip that doesn't swivel so easily."
- ▶ "Reduce the number of curing options/features."
- ▶ "Eliminate the ramp-off mode and make the unit smaller for hard-to-reach areas."

Clearfil Majesty Flow + + + + ½

Kuraray America, Inc.
800.879.1676 • 212.986.2230
www.kuraraydental.com

Description

Clearfil Majesty Flow is a light-cured, radiopaque flowable composite restorative. It contains 81% filler by weight and is indicated for direct Class I, II, III, and V restorations, cavity base/lining and intraoral repairs. **Clearfil Majesty Flow** is available in shades A1, A2, A3, A3.5, E2, CV, OA3, and BL2. The material is packaged as 3.2-g syringes with 20 dispensing tips. The syringes of **Clearfil Majesty Flow** were evaluated by 17 editors in over 350 procedures. This product received a 91% clinical rating.

Suggested Retail Cost

- \$60.00/syringe

Editors' Observations

Instructions/Packaging

Instructions are clear and concise. The syringes are packaged individually rather than as a kit and each syringe is clearly labeled. The editors would like to see more than 20 dispensing tips included with each syringe.

Exclusive
Review

EDITORS' EVALUATION

Editors' Comments

- ▶ "Stays put - excellent viscosity."
- ▶ "Nice consistency and shade assortment."
- ▶ "One of the better flowables I have used."
- ▶ "The material did not flow completely into sharp corners."



Viscosity/Ease of Placement

Most editors observed that the viscosity of **Clearfil Majesty Esthetic** was optimal. The material flows very well out of the syringe with precise dispensing from the tip and minimal overflow. Stackability is adequate, with some slumping in cervical areas. Wettability of tooth structure is excellent. Minimal bubbles were noted during placement. Keeping the tip within the material minimizes bubbles.

Ease of Finishing/Polishing and Final Esthetics

The material cuts nicely and polishes to a very good finish. Final esthetics is excellent. No concerns in these categories were reported by the editors. ■

power cord, an 11-7.5 mm tapered light guide (autoclavable), a built-in light meter, an eye protection shield, two no-glare cones, a curing depth tester, and an amber accessories box. **JETLITE 5000 LED** curing light was evaluated by thirteen clinical consultants during a four-month period. This product received an 86% clinical rating.

Suggested Retail Cost

- \$990.00/light

Product Features

The **JETLITE 5000 LED** is a well-packaged curing light that is easy to assemble and provides an excellent cure. The unit's stable base makes the light easily portable. The convenient dual-power choice gives flexibility and consistent results. The battery life, after a full charge, is excellent. The LCD screen is conveniently placed and easy to read. The handpiece is easy to clean and disinfect, but consultants

would have preferred a smaller, less bulky appearance and better ergonomics. During operation, the handpiece stays cool, but a few consultants thought the fan was noisy. When the unit is turned off, the light fades over two seconds rather than shutting off immediately. The light guide has a good taper and length but rotates too easily. This rotation can make it hard to reach difficult areas of the mouth and to keep the light focused on one spot. A number of consultants noted that there were too many curing options. In addition, some consultants reported that the modes and curing times are not easy to change and the ramp mode stays on too long and is unnecessary. The position of the on/off switch made changing modes or repeating cycles difficult intraorally.

Clinical Tip

- Use a disposable sheath to cover the light. ■

Kuraray America, Inc.
800.879.1676 • 212.986.2230
www.kuraraydental.com

Description

Clearfil AP-X is a light-cured, radiopaque, microhybrid composite indicated for both anterior and posterior restorations. The material contains 85% filler by

weight and is reported to have polymerization shrinkage of 1.9%. The composite is available in six Vita shades and two translucent shades, both in syringes and Pre-Loaded Tips (PLTs). The **Clearfil AP-X** PLT introductory kit includes 10 tips each of A2, A3, B2, and XL (translucent extra-light) shades, and **Clearfil SE BOND** self-etching primer and adhesive.

Clearfil PROTECT BOND is a 6th-generation bonding system comprised of a self-etching primer and a light-cured adhesive. It contains the same proprietary technology and physical properties as **Clearfil SE BOND** with two additional features: long-term fluoride release and the MDPB monomer that has an antibacterial, cavity-cleansing effect. The introductory kit includes 6 ml of primer, 5 ml of adhesive, a dispensing case, and accessories. This product received a 96% clinical rating.

Clearfil S³ BOND is a 7th-generation bonding system comprised of a self-etching primer/adhesive in a single bottle. It is indicated for bonding light-cured composite restorations, porcelain repair, desensitizing indirect preparations, and desensitizing dentin. It is available in a 4-ml bottle or 0.1-ml single-dose applicators. This product received a 97% clinical rating.

Suggested Retail Cost

- \$109.00/**Clearfil AP-X PLT** introductory kit
- \$98.00/**Clearfil S³ BOND**, 4-ml bottle
- \$250.00/**Clearfil S³ BOND**, 100 unit-dose kit
- \$185.00/**Clearfil PROTECT BOND** introductory kit

Purpose

Some composite restorations show microleakage with the use of 6th- and 7th-generation bonding agents. The purpose of this study was to determine the clinical performance of **Clearfil AP-X PLT** with 6th- and 7th-generation bonding agents at six and 12 months.

Clinical Evaluation Protocol

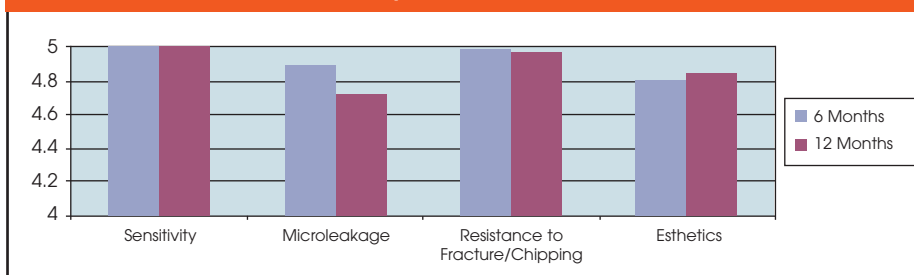
- 160 **Clearfil AP-X** restorations were placed in 82 patients.
- All restorations were bonded with either **Clearfil S³ BOND** or **Clearfil PROTECT BOND**.
- Ninety-one restorations were recalled at six and 12 months. Of those recalled, 60% were bonded with **Clearfil S³ BOND** and 40% with **Clearfil PROTECT BOND**.
- At the time of recall the following parameters were assessed on a scale of 1-5 (1 = poor, 2 = fair, 3 = good, 4 = very good, and 5 = excellent):
 - Lack of sensitivity
 - Resistance to marginal staining/microleakage
 - Resistance to fracture/chipping
 - Shade match/esthetics/discoloration

Clinical Observations

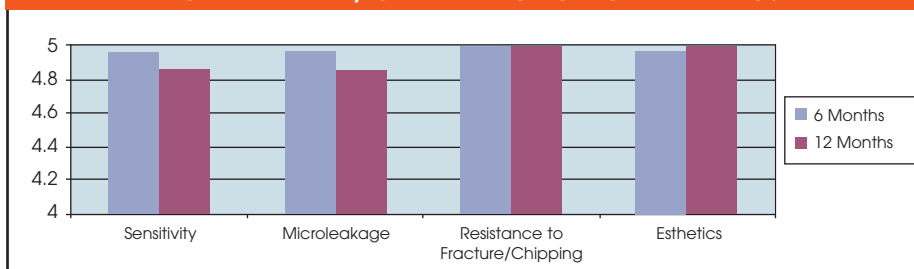
Sensitivity

Sensitivity was based on the patients' reporting of discomfort after placement of the restoration. One hundred percent of **Clearfil S³ BOND** restorations recalled at six-months and one-year were rated as excellent, with no reported sensitivity. Ninety-seven percent of restorations bonded with **Clearfil PROTECT BOND** were rated as excellent at the time of recalls. One patient treated with **Clearfil PROTECT BOND** reported slight sensitivity at both the six-month and one-year recall, rating the sensitivity as mild.

CLEARFIL AP-X / CLEARFIL S³ BOND - RATINGS



CLEARFIL AP-X / CLEARFIL PROTECT BOND - RATINGS



Clearfil S³ BOND or Clearfil PROTECT BOND at 6- and 12-months

Microleakage

Restorations were evaluated by visual observation for marginal staining as an indicator of microleakage. Nine percent of **Clearfil S³ BOND** restorations recalled at six-months and 16% of restorations recalled at one-year exhibited evidence of mild-to-minimal marginal staining. Eight percent of **Clearfil PROTECT BOND** restorations recalled at six months and 14% of restorations recalled at one-year showed signs of mild-to-minimal staining.

Resistance to Fracture/Chipping

One hundred percent of the **Clearfil PROTECT BOND** restorations were resistant to fracture and chipping, receiving an excellent rating at both six-month and one-year recalls. Of the 55 **Clearfil S³ BOND** restorations recalled, one restoration, tooth #15-O, showed signs of slight chipping. This restoration was recontoured and replacement was not required. The remaining **Clearfil S³ BOND** restorations rated excellent at recall.

Esthetics

The overall esthetics of **Clearfil AP-X PLT** using both bonding systems was very good. Eighty-six percent of **Clearfil S³ BOND** restorations and 92% of **Clearfil PROTECT BOND** restorations received ratings of excellent

for esthetics at recalls. Although no discoloration was noted, some clinicians reported the restorations appeared grainy.

Summary

The clinical performance of 6th- and 7th-generation self-etching adhesives has improved significantly, allowing adhesive restorations to be placed with a highly predictable level of clinical success. The performance of both **Clearfil S³ BOND** and **Clearfil PROTECT BOND** was excellent during this one-year clinical study. Both bonding systems were found to be equivalent in lack of sensitivity and resistance to microleakage, with only a small number of restorations exhibiting mild-to-minimal microleakage.

Clinical Tips

- The adhesives stick to metal matrix bands, making removal difficult. Use an instrument such as a spoon excavator to remove cured adhesive from internal aspect of the matrix band before composite placement or lubricate the band before placement.
- Use hemostats and firm pressure to assist in the removal of matrix band.
- Use a phosphoric acid etchant on uncut enamel. ■

Max Bond LC™ + + + +

J. Morita USA, Inc.
800.831.3222 • 949.581.9600
www.jmoritausa.com

Description

Max Bond LC is a 6th-generation (Type II) self-etching, light-cured adhesive designed to bond light-cured composite restorative materials to enamel and dentin. The **Max Bond LC** kit contains two bottles, Agent A and Agent B; 10 mixing wells; 50 disposable brushes; and a brush handle. A drop from each bottle must be mixed for five seconds before applying to slightly moist enamel and dentin for 20 seconds. The layer is air dried to thin it and to remove the volatile components and then light cured for 10 seconds before the composite is placed. **Max Bond LC** was evaluated by 22 consultants placing over 450 restorations. This product received an 87% clinical rating

Suggested Retail Cost

- \$119.90/kit

Consultants' Comments

- ▶ "No separate etch needed."
- ▶ "I like the one-step etch and bond."
- ▶ "I liked the ease of use, compatibility with different products, and the viscosity."
- ▶ "I prefer a one-bottle system."
- ▶ "Make bottle opening smaller to dispense a smaller drop."

Product Features

Max Bond LC is easy to use and is packaged with well-written instructions. The material dispensed efficiently from the two-bottle system. **Max Bond LC** has a fluid viscosity that can be applied smoothly to the prepared tooth surface. Once dispensed, the mixture must be used within three minutes. This working time was considered to be short by many consultants who found the material would set with ambient light and become too thick to use. **Max Bond LC** has a slight odor. There were some reports of cavosurface-margin staining and challenges with removing matrix bands. During the evaluation period, there were no reports of postoperative sensitivity in teeth treated with **Max Bond LC**. Overall, 81% of consultants found **Max Bond LC** equivalent to their current bonding agent, and 55% would recommend it to a colleague. ■

Clearfil Majesty Esthetic + + + + ½

Kuraray America, Inc.
800.879.1676 • 212.986.2230
www.kuraraydental.com

Description

Clearfil Majesty Esthetic is a light-cure, nanofilled, radiopaque composite for anterior and posterior Class I – V restorations, veneers, and intraoral repairs. The composite was designed with a nano-filled composite filler and high refractive matrix that reportedly diffuses light to mimic the translucence and refraction of natural teeth. The natural translucency means that **Clearfil Majesty Esthetic** can be applied in a single layer without affecting the esthetics of restorations. **Clearfil Majesty Esthetic** is available in 18 Vita shades: A1, A2, A3, A3.5, A4, B1, B2, B3, C3, T, E1, E2, E3, OA2, OA3, OA4, BL1, and BL2 in a 2 ml (shade T has 3.7 g; the others have 3.6 g) syringe or 20, 0.26 g unit-dose tips. Nineteen consultants used **Clearfil Majesty Esthetic** in nearly 400 clinical applications. This product received a 91% clinical rating.

Suggested Retail Cost

- \$70.00/syringe
- \$70.00/20 count pack of unit-dose



Editors' Comments

- ▶ "Great esthetics! Ranks with some of the best composites I have used."
- ▶ "I really liked the way it blended with the natural tooth structure."
- ▶ "The light diffusion is interesting; it has about the same opacity as the tooth."
- ▶ "It is a little stickier than what I like; especially in the posterior region."
- ▶ "Stacked well but had good flow properties."

Editors' Observations

Manufacturer's Instructions and Packaging

The instructions for use are clearly written with comprehensive tables on depth of cure, cure time and curing light requirements. Editors would have preferred to evaluate a kit, where the necessary materials are in one place, rather than refill syringes.

Ease of Dispensing and Placing

The majority of editors found the material easy to dispense from syringes. It was however somewhat sticky to place and sculpt. The handling was enhanced by coating the instrument in an unfilled resin. Most editors preferred the unit delivery system because it minimized the need to manipulate the material and resulted in less stickiness.

Viscosity, Stackability and Wettability

The material has a medium viscosity which stacks well, does not slump and is easily contoured to adapt to the shape of teeth. Most editors reported that the handling properties of **Clearfil Majesty Esthetic** made it ideal for anterior and single surface posterior regions.

Shade Match and Blending

While editors noted a slight shade shift after curing, the resulting shade match was excellent and blended very well with the existing tooth structure. The translucency and refraction of the material are very similar to natural teeth, making it difficult to detect the demarcation line between tooth and the restoration.

Radiopacity and Ambient Light

Editors found the radiopacity to be very good for an esthetic composite. Several found the material to be somewhat sensitive to ambient light.

Finishing and Polishing

The composite finishes and polishes very well with minimal effort. Editors found that reduction happens rapidly with coarse discs or diamonds and recommend using rubber points, cups and fine discs for final polish. The polished restoration achieved a high shine and luster and the final appearance was esthetically pleasing.

Final Esthetics

Clearfil Majesty Esthetic has excellent esthetics. The wide selection of shades, the excellent blending with the natural tooth, and excellent balance of translucency and opacity were all favorites of the editors. ■

Multilink Sprint + + + + 1/2

Ivoclar Vivadent, Inc.
800.533.6825 • 716.691.0010
www.ivoclarvivadent.us.com

Description

Multilink Sprint is a self-adhesive, dual-cured luting composite for cementation of the following indirect restorations: metal and metal/ceramic, high-strength alumina and zirconia all-ceramics, lithium disilicate ceramics, and fiber-reinforced posts. The total volume of inorganic fillers is approximately 48% with a mean particle size of 5 microns. It is packaged in a 9-g dual-barrel syringe and dispensed through an auto-mix tip. The cement does not require any additional primers, activators or adhesives. It is available in three shades with varying degrees of translucency: Transparent (high translucency), Yellow (high translucency) and Opaque (low translucency). The intraoral working time is 2.5 minutes, and the setting time is 4.5 minutes. The kit evaluated contains a 9-g syringe in each of the three shades plus 45 mixing tips and laminated instruction cards. Twenty-six consultants evaluated **Multilink Sprint** in 365 clinical procedures that included cementation of crowns, bridges and posts. The product received a 93% clinical rating.

Suggested Retail Cost

- \$260.28/kit
- \$96.40/9-g refill syringe

Product Features

The dual-barrel syringe with the auto-mix tips produces a consistent mix and allows delivery of the cement directly into the restoration. The viscosity of the mixed cement and working time, which is more than adequate, combine to allow complete seating of the restoration. The excess cement must be removed within the working time before complete set, particularly in areas of difficult access such as the interproximal areas. Ideally the cement should be light cured for two seconds before removal of any excess. Simplicity, ease of use and removal of excess were the most frequently mentioned positive characteristics of **Multilink Sprint**. The available shades were adequate for all of the cement's clinical indications. Four restorations debonded, but the consultants commented that they did not stabilize the restoration during cleanup and that may have caused the restorations to be dislodged. Eighty-three consultants rated **Multilink Sprint** equal to or better than a similar product they were currently using, while 63% would switch to **Multilink Sprint** and 83% would recommend it.

Clinical Tips

- Use a paper point or periodontal probe to place cement into post space.
- Keep seating pressure on restorations during initial cleanup.
- Remove excess cement after a two-second tack cure. ■

Consultants' Comments

- ▶ *"This is a very convenient delivery system."*
- ▶ *"The mixed cement has a good flow."*
- ▶ *"Translucency of cement contributes to vitality of ceramic restorations."*
- ▶ *"The viscosity was a little thin."*
- ▶ *"The need for refrigeration is inconvenient."*
- ▶ *"Include some narrow applicator tips for dispensing the cement into post spaces."*

SENIOR CLINICAL CONSULTANTS

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

CLINICAL CONSULTANTS

M. Aksu, MI
A. Albright, NY
A. Alexander, PA
J. Allen, MI
J. Amara, CT
S. Anderson, MI
R.M. Arnett, MI
R. Averbach, CO
M. Bannan, MI
D. Barnes, MD
F. Berman, PA
M. Beyramian, MI
L. Bishop, MI
T. Bizga, OH
J. Bostic, OH
D. Bowen, MI
R. Bozell, MI
M. Braverman, NY
L. Brimhall, MT
M. Briskin, NY
C. Brown, LA
L. Brown, MI
W. Brownscombe, MI
H. Buckwald, NJ
J. Bush, PA
H. Cadorette, MI
Z. Campbell, MI
P. Campo, NY
M. Chaben, MI
D. Chacko, TN
S. Cheff, TX
R. Cherry, FL
P. Chiaravalli, MI
A. Colarusso, NY
M. Conrad, PA
M. Cooks, MI
L. Covato, PA
K. Dancy, GA
M. Danner, IL
S. Dillingham, NY
J. Dingman, WI
J. DiPonziano, NJ
R. Donelli, NY
R. Dost, VA
J. Doueck, NY
M. Dwoskin, MI
M. Eannaccone, NY
B. Eggart, AR
R. Engle, IL
K. Fairbanks, MI
T. Faiver, MI
R. Fay, TX
N. Fehmi, MI
M. Feinberg, NY
L. Feldman, NJ
J. Fine, NJ



Tokuyama Dental Corp./Tokuyama America Inc.
800.831.3222 • 949.581.9600
www.tokuyama-us.com

Description

Estelite Sigma is a universal composite for direct restoration of anterior and posterior teeth. The composite is filled 71% by volume with sub-micron spherical particles. **Estelite Sigma** is available in 18 radiopaque shades - 11 Vita shades, four opaque shades plus cervical, incisal, and bleach white shades. It is supplied in 3.8-g syringes and 0.2-g unit-dose tips. The introductory kit contains six, 3.8-g syringes or 40, 0.2-g unit-dose tips and a *One-Up Bond F Plus* mini kit. **Estelite Sigma** received a 96% clinical rating for clinical performance at two years.

Suggested Retail Cost

- \$220.00/syringe introductory kit
- \$160.00/pre-loaded tips introductory kit
- \$50.00/3-g syringe refill
- \$67.00/0.2-g pre-loaded tips refill

Clinical Evaluation Protocol

- One hundred thirty-four restorations in 62 patients were evaluated for clinical performance at two years.
- Sixty-one anterior and 73 posterior restorations were evaluated (Figure 1).
- Restorations were evaluated on a 1 - 5 rating scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Clinical Observations

Resistance to Fracture/Chipping

Ninety-eight percent of recalled **Estelite Sigma** restorations showed no chips or fractures at two years. This universal composite is proving to be very durable in anterior and posterior teeth. Two restorations exhibited minor chipping, neither of which required repair or replacement (Figure 2).



Consultants' Comments

- ▶ "The bleach white shade is opaque enough to block out underlying stains."
- ▶ "Nice visibility on radiographs."
- ▶ "Restorations are very smooth."

Esthetics

The standard **Estelite Sigma** shades have adequate translucency to blend well with tooth enamel. Opaque shades should be chosen to block out dark or stained dentin. While the opaque, standard and incisal shades may be layered for complex esthetic restorations, the majority of restorations evaluated were placed using a single shade. The composite maintained a smooth, glossy texture at two-year recall (Figure 2).

Microleakage

Eighty-four percent of restorations showed no staining at the margins. Sixteen percent of restorations recalled showed slight to moderate marginal staining. These restorations were placed using a variety of 5th-, 6th- and 7th-generation bonding agents (Figure 2).

Wear Resistance

Ninety-six percent of **Estelite Sigma** restorations received ratings of excellent for wear resistance. Consultants evaluated the surfaces of the restorations visually for signs of wear. Occlusal anatomy and continuity with the tooth surface were well maintained. No wear facets on the composite surfaces were observed. Five of the recalled restorations showed slight wear at two years (Figure 2). ■

FIGURE 1

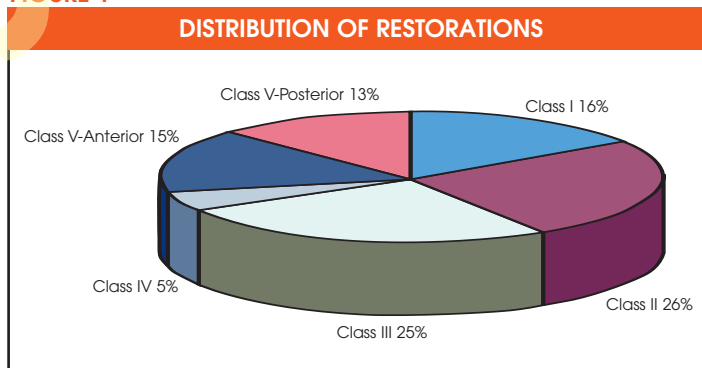
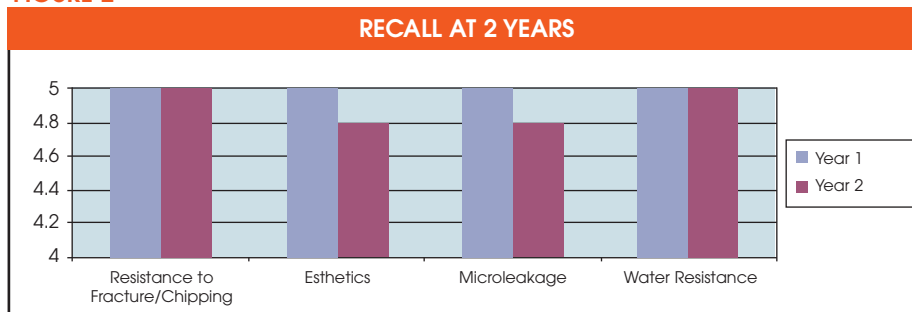


FIGURE 2



DENTSPLY Rinn
800.323.0970
www.rinncorp.com

Description

Soothe-Guard protective aprons are designed to provide protection to patients during radiographic procedures. They are available in both adult and child sizes in buttercup yellow and navy blue colors. A *Pano-Cape* and separate collar are also available. **Soothe-Guard** comes in either 0.3-mm or 0.5-mm lead equivalency. The "adult apron with collar" style of the **Soothe-Guard** aprons was evaluated by 21 clinical consultants in over 500 uses. All styles of the 0.3-mm aprons were evaluated by our in-house clinic. This product received a 98% clinical rating.

Suggested Retail Cost

- \$121.95/adult apron
- \$149.95/adult apron with collar
- \$89.95/child apron
- \$117.95/child apron with collar
- \$49.95/protective collar
- \$179.95/pano-cape apron



Product Features

Soothe-Guard protective aprons were rated very high by most consultants. This product performed exceptionally well when evaluated for overall form and fit, durability, flexibility, and ease of cleaning. Consultants as well as patients seemed comfortable with the apron weight (0.3-mm version tested) and found the colors pleasing. **Soothe-Guard** protective aprons are offered with and without collars. Comments about the fit of the apron collar and collar use varied. While most consultants loved the smoothness and indicated this was the best lead apron they ever used, others noted the slippery texture made placement difficult. Some consultants suggested that the addition of a textured patient surface would be helpful to prevent the apron from slipping. Overall, 86% of consultants would switch to **Soothe-Guard**, 76% would recommend it, and 81% rated it better than their existing lead apron.

Clinical Tip

- Have the patient lean forward and tuck the upper flaps behind their shoulders to prevent the apron from slipping. ■

Editors' Note: Lead equivalency is a measurement of the protection of lead from radiation. The thickness of the lead in the **Soothe-Guard** protective apron is 0.3 mm or 0.5 mm.

Consultants' Comments

- ▶ "The patients found it comfortable."
- ▶ "Wonderful - very easy to use."
- ▶ "Not as bulky - feels softer than most aprons."
- ▶ "This is a huge improvement over aprons of the past."
- ▶ "No negative comments from patients."
- ▶ "Kind of slippery."
- ▶ "Add grommets to improve ease of storing on hooks."

CLINICAL CONSULTANTS

K. Fischer, IN
M. Frankman, AZ
S. Galster, ND
D. Garber, CA
R. Gardner, MI
N. Garlisi, OH
L. Gee, OK
A. Giovanardi, MI
B. Goldsmith, NY
I. Goldstein, NJ
K. Goodman, MI
S. Graber, IL
A. Gray, MI
W. Gregory, MI
D. Griggs, OH
P. Gronet, GA
J. Grover, MI
B. Gursky, MI
E. Gutman, NY
D. Haas, Canada
H. Hamerink, MI
S. Harden, GA
A. Herrero, MI
B. Hermann, CA
R. Herwig, KS
M. Hewko, OH
J. Heys, MI
S. Hoekman, MI
S. Hondrum, GA
J. Hoste, MI
M. Hovel, WI
S. Hutt, NJ
P. Indianer, MI
G. Isaacson, NJ
S. Isaacson, NJ
J. Jacobs, NY
J. Jaghab, MI
I.F. Jarjoura, MI
T. Jowett, KS
D. Juliani, MI
C. Kamin, OH
J. Kaminski, MI
T. Kaminsky, PA
D. Kaplan, NY
M. Kastner, OH
S. Kelly, OH
D. Keren, NY
J. Kim, NY
B. Klym, MI
J. Kostohryz, TX
J. Kotnour, WI
M. Kruscke, MI
F. Leal, VA
S. Lever, MD
I. Levine, NY
R. Lezell, MI
R. Lieder, MI
M. Livernois, SC
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
C. McLaren, MI
J. McLaren, MI
J.R. Meagher, NY
M. Migdal, MI
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
N. Nealis, IL
L. Neuberger, ND
C.J. Noe, MD
P. Nolan, MI

ZOOM! Advanced Power Chairside Whitening System - Effect

Discus Dental, Inc.
800.422.9448 • 310.845.8200
www.discusdental.com

Description

ZOOM! Advanced Power Whitening System

is a light-assisted, in-office, tooth whitening system. The **ZOOM!** procedure utilizes three, 15-minute applications of 25% hydrogen peroxide gel in conjunction with the **ZOOM! Advanced Power Lamp**. The latest version of the lamp, **Advanced Power**, has been modified to include a new, high-output, sodium-free, short-arc bulb; advanced optical alignment; intuitive LCD control panel; locking casters; and a sleek, ergonomic design that folds down for easy storage. The *Chairside Whitening Procedure Kit* comes in a dual pack containing two individually sealed procedure trays, two plastic cases for take-home trays, gauze and two light guides. Each tray includes instructions, two pre-treatment swabs; two 1.3-g syringes of *Liquidam Dental Dam*; protective lip cream; vitamin E oil; a paint brush, two face bibs, one syringe of Relief ACP desensitizing gel, and a 2.4-g syringe of touch up material. Touch up options include; *DayWhite ACP*, *NiteWhite ACP* or *NiteWhite ACP Turbo*. Retractors are sold separately.



Overall, patients who received treatment with the **ZOOM! Advanced Power Lamp** were more satisfied with the results of their in-office whitening treatment when compared to those patients who received the whitening treatment without the lamp. Patients who received treatment with the **ZOOM! Advanced Power Lamp** had a higher rate of satisfaction and found the treatment to be more effective. However, patients who received treatment with the lamp also reported more sensitivity during treatment. Many patients reported the lamp was too intense and produced a burning sensation.

Conclusions

Whitening with use of the **ZOOM! Advanced Power Lamp** resulted in a greater shade change compared to whitening without the lamp immediately after treatment, after 7-10 days, and after 30 days. Results immediately after whitening and at 30 days with the use of the **ZOOM! Advanced Power Lamp** showed that maxillary teeth on average were 1.9 shades lighter and mandibular teeth were 0.7 shades lighter as compared to whitening without the lamp.

Clinical Evaluation Protocol

Seventeen patients received **ZOOM! Advanced Power Whitening System** using the new **ZOOM! Advanced Power Lamp**.

Eleven patients received **ZOOM! Advanced Power Whitening System** without use of the lamp.

All patients had a start shade of Vita A3 or darker, and no tetracycline stains were treated.

“Before” and “After” shades were taken on each patient using the Vita Classic value-arranged shade guide. The shade change immediately following the in-office procedure was recorded.

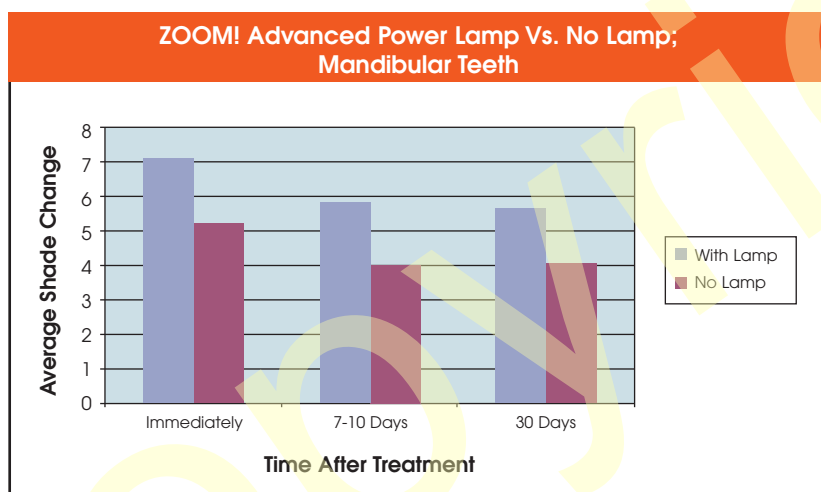
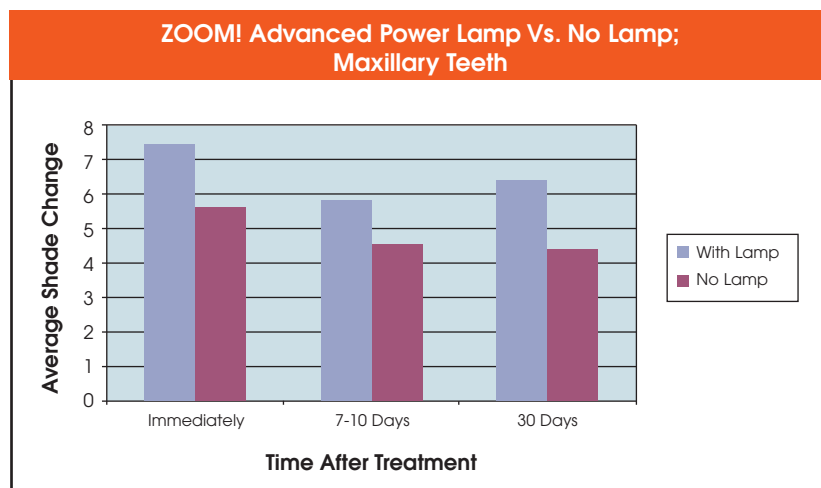
All patients were recalled at 7-10 days and again at 30 days after the in-office procedure to evaluate final shade and patient satisfaction. Patients were given a survey and asked to rate the effectiveness of treatment, sensitivity, satisfaction, and their overall opinion of the treatment.

Clinical Results

I. Shade Change Immediately Following Zoom! In-Office Bleaching Treatment		
	Average Shade Change – Maxillary	Average Shade Change – Mandibular
Advanced Power Lamp	7.6 (1.8)*	7.1 (1.7)
No Lamp	5.7 (2.0)	6.2 (1.8)
II. Shade Change 7-10 Days After Zoom! In-Office Bleaching Treatment		
	Average Shade Change – Maxillary	Average Shade Change – Mandibular
Advanced Power Lamp	5.9 (1.8)*	5.9 (2.1)
No Lamp	4.7 (2.1)	5.0 (2.4)
III. Shade Change 30 Days After Zoom! In-Office Bleaching Treatment		
	Average Shade Change – Maxillary	Average Shade Change – Mandibular
Advanced Power Lamp	6.4 (2.0)*	5.8 (2.0)
No Lamp	4.5 (1.8)	5.1 (2.3)

*Means with standard deviations in parentheses.

of ZOOM! Advanced Power Lamp on Whitening



CLINICAL CONSULTANTS

E. Odenweller, OH
R. Oshrain, NY
J. Paris, TX
D. Parris, GA
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
S. Pomerance, MI
D. Powers, MI
L. Pozarny, NY
C. Price, TX
D. Qualliotine, NC
G. Raichelson, Canada
C. Ramsey, FL
S. Ratner, NY
R. Reichl, GA
G. Reskakis, NY
C. Rice, MA
A. Ridall, TX
J. Riggs, MI
M. Rogers, PA
W. Roper, TX
F. Ross, WI
K. Ross, MI
K. Rowan, MO
R. Sambuchi, MI
P. Sandvick, WI
D. Schimmel, PA
G. Schultz, PA
J. Sedlock, WI
M. Shapiro, MI
J. Shea, MO
J. Sinkwitts, MI
R. Smith, NY
S. Smith, FL
M. Sonne, MI
J. Spingarn, FL
S. Steedman, WA
R. Stevenson, MI
W. Stevenson, MI
K. Stoffers, MI
D. Stutman, NY
K. Swearingen, OH
M. Sylvester, CA
P. Symeonides, NY
J. Tabash, MO
H. Tetalman, OH
F. Tom, MA
R. Tonelli, WI
G. Trompeter, MI
C. Trubschenck, CA
P. Tu, CA
S. Ura, NH
J. Utess, MI
H. Vann, MS
W. Walcott, MI
L. Walsh, MI
M. Waranowicz, MI
M. Warshanna, MD
R. Wilkie, MI
S. Williams, MO
R.G. Willis, SC
K. Wilson, MI
R. Wolf, IN
F. Wood, PA
P. Yaman, MI
H. Yeung, CA
D. Young, MI
S. Young, NY
M. Zahn, MI
J. Zanetti, MI
P. Zanetti, MI
G. Zann, FL
S. Zimmer, MI

LABORATORY CONSULTANTS

Alpha Dental Studio, MI
Apex Dental Milling, MI
Nellmar Laboratory, LLC, MI

Accolade SRO + + + + ½

Danville Materials

800 827 7940 • 925 973 0710

www.danvillematerials.com

Description

Accolade SRO (Super RadiOpaque) is a fluoride releasing, flowable composite designed to have life-like fluorescence. It has a radiopacity reported to be similar to titanium. This radiopacity exceeds that of other composite materials and is designed to make radiographic identification of restorations easy. The manufacturer recommends its use in low-functional wear situations and as a first layer for all restorations. **Accolade SRO** is classified as a micro-hybrid with an average filler particle size of 0.70 µm. The material is available in 1-g or 5-g syringes in three shades: A2, A5 and Extra-Light. There are no cautions on what type of curing lights are appropriate. This evaluation was conducted in 27 dental offices for treatment of 564 cases. This product received a 94% clinical rating.



Consultants' Comments

- ▶ "High radiopacity of a flowable is a very helpful characteristic."
- ▶ "Adapts well to the floor of preparations."
- ▶ "Use as a sealant – good flow."
- ▶ "Express the material slowly to avoid excessive flow."
- ▶ "I would like more shades."

Suggested Retail Cost

- \$11.95/1-gm syringe
- \$52.95/5-gm syringe and syringe tips

Product Features

The packaging of **Accolade SRO** is compact and easily accessible. The material is easy to extrude from the syringe; however, a narrower tip could help to control flow. The viscosity of the material is good; however, some consultants would prefer it slightly thicker. It flows well and is easy to control once placed on the tooth. Consultants reported excellent radiopacity and cavity wetting action of **Accolade SRO**. The shade match with the tooth before and after cure is very good. The material is easy to polish and provides a smooth surface. Some bubbles were reported. Fifty-two percent of consultants considered **Accolade SRO** to be equivalent to or better than their current flowable composite.

Clinical Tips

- Use this as a liner under composite restorations for future radiographic determination of recurrent caries.
- Use smaller tips to avoid excess material flowing from the tip. ■

S3 ACE Face Mask + + + +

Cranberry USA

www.cranberryusa.com

Description

S3 ACE is an ear-loop face mask indicated for dental procedures. **S3 ACE Face Masks** have bacteria filtration efficiencies (BFE) of greater than 99% and particle filtration efficiency (PFE) at 0.1 micron. The mask is 100% latex-free and chemical-free. S3 ACE is made with a lint free, soft cellulose inner layer, and has a fluid-resistant outer layer for increased protection. The inner surface of the mask is micro-coated with Active Aloe, vitamin C and vitamin E to

moisturize the skin. The dispenser box contains 50 flat, pleated style, ear-loop-retained face masks. The masks are available in blue, pink, lavender, and white. **S3 ACE Face Mask** was evaluated by 32 consultants in over 705 uses. This product received an 89% clinical rating.

Suggested Retail Cost

- \$9.95/50-count box

Product Features

The aloe, vitamin C, and vitamin E lining of **S3 ACE Face Mask** has a moisturizing effect on the skin. Several consultants commented that their face did not feel as dry after wearing these masks. The 100% latex-free, chemical-free, and lint free cellulose layers were considered favorable for clinicians with sensitive skin. The cushioned ear loops and thin material made the masks comfortable to wear and easy to breathe through. Several consultants reported the wire nose guard was not as stiff as their current masks and more difficult to form around the nose, resulting in fogging of glasses. Fifty percent of the clinical consultants rated the **S3 ACE Face Mask** equal to or better than their current face mask. ■

Consultants' Comments

- ▶ "Loved the feel."
- ▶ "Lightweight on my face."
- ▶ "Great for my staff with sensitive skin."
- ▶ "Easy to breath."
- ▶ "Like the variety of colors."
- ▶ "A longer or stiffer wire might provide a better fitting."