



BUYING GUIDE

The Best Products for 2023

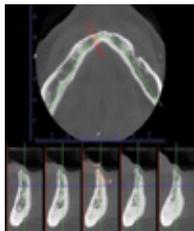
TOP CONCEPTS FOR 2023

Zirconia



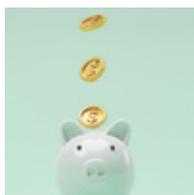
Manufacturers are reformulating their zirconia for greater translucence and improved esthetics, **but with a loss of strength and transformational toughening.** Ongoing patient-based studies by Dr. Rella Christensen and TRAC Research elucidate which types of zirconia are indicated for specific clinical situations. See page 9.

Cone Beam (CBCT)



Cone beam radiography continues to be **the most important technology available to you.** It is the standard of care for oral surgeons and endodontists, and its use is rapidly growing among general practitioners. Proven devices and companies are listed on page 11.

Lower Cost Dental Supplies



CR has found that many private-label house brands (Benco, Burkhart, Henry Schein, Patterson, etc.) and other lower cost brands **compete very well with premium products.** 42 of these lower cost products have been highlighted throughout this Buying Guide.

Glass Ionomer (GI) Cements



Although popular internationally, USA dentists have not used this “most cariostatic” cement due to sensitivity experienced when it was introduced in early 1990s. This has been overcome! **GI has unique chelating chemistry that binds to tooth without leakage** and retains crowns. Learn how to use it for moderate to high caries patients! See Cements, Glass Ionomer page 8.



Drs. Rella P. and Gordon J. Christensen, Founders

CR was founded in 1976 by clinicians who believed practitioners could confirm the efficacy and clinical usefulness of new products and avoid experimenting on patients with products that had not been proven.

Dental clinicians need unbiased, candid, practical information on products and techniques. The major purpose of the Gordon J. Christensen Clinicians Report® is to give readers KNOWLEDGE—knowledge that they can use in their practices. **CR has identified faster, easier, higher-quality, and affordable products and techniques every month for 47 years** in the quick-read Clinicians Report and in the longest-running continuing education course CR’s Dentistry Update.

CR’s mission is to make a long-lasting and significant positive impact for everyone involved in the dental profession. By identifying outstanding dental products and suggesting product and technique improvements, CR promotes better care for patients, fosters worthwhile innovation within the dental industry, and helps dentists’ practices thrive.

Gordon and Rella had the vision and created this unique gift for their beloved profession. They continue to be CR’s biggest contributors and have never received compensation for their years of service at CR Foundation. **They invite the support of dentists worldwide and encourage all dentists to become members of this esteemed effort!**

Clinicians Report helps dentists help themselves and their patients. Encourage others to join this worthy cause!

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CR BUYING GUIDE—How to Use This Guide

Every year Clinicians Report publishes an annual guide listing many of the best products for the upcoming year *based on CR testing and clinical evaluations*. The products presented in this report have been through rigorous, independent, non-manufacturer-sponsored evaluation and testing. **CR conducts research at three levels:**

1. **Product evaluation** among 450 actively practicing dentists as clinical evaluators in their own offices worldwide
2. **Basic science** laboratory testing in CR's extensive facilities and the CR University of Utah Dental Test Clinic
3. **Controlled long-term clinical research** completed by TRAC Research, the human studies section of CR

Products listed in this Buying Guide have been evaluated by the CR Science Team and CR Clinical Evaluators. Each product in this report is color-coded to identify why it has been included in this listing. Products that are not listed may not have been tested this year, may still be in testing, or were not among the highest rated. *This is not an all-inclusive list of successful dental products. For many other excellent products not mentioned, please review previous CR Buying Guides and Clinicians Reports at CliniciansReport.org.*

HIGHLY RATED NEW PRODUCTS

are listed alphabetically and in blue. They were identified by in-house science evaluations and CR Evaluator use *during 2022*. Only products with an overall grade of 3.0 or higher (*4.0 highest*) and an Evaluator recommendation of 70% or greater are included.

PROVEN PRODUCTS

are listed alphabetically and in red. These products have been determined by research and long-term clinical use and are commonly used and generally accepted by CR Evaluators. Some categories may not list proven products.

Stand out products are marked with a ★.

ANESTHETICS AND ACCESSORIES

See also *Clinicians Report* July 2022: "Can Dental Anesthetic Delivery Be Painless?"

Education, Sedation

Proven Products:

- **Academy of Dental and Medical Anesthesia**, admatraining.org
- **DOCS Education**, docseducation.com

Local Anesthesia

Proven Products:

- ★ **Articaine**, Various Companies (*fast onset, effective, most used*)
- **Bupivacaine**, Various Companies
- **Lidocaine**, Various Companies
- **Mepivocaine**, Various Companies



Orabloc (Proven Product), Pierrel

The 4% articaine formulation is **two times as strong as lidocaine** (may require less volume to achieve rapid onset). One-half cartridge injected slowly is usually successful for infiltration or blocks, including with the epinephrine 1:200,000 formulation. Lower cost.

\$49/Box of 50 (98¢/Cartridge)

See also *Clinicians Report* May 2022

Topical Anesthesia

Proven Products:

- **Benzocaine 20%**, Various Companies
- **Profound Dental Gel and TAP Dental Gel**, Compound Preferred



Dental Pain Eraser, Synapse Dental

Unique in-office/at-home pain inhibitor (electrical stimulation to block pain receptors). Dentists used to replace topical and for other spot pain relief. At-home for orthodontics, canker sores, tooth sensitivity, etc.

\$115/Pro Chairside; \$85/Home Device

See also *Clinicians Report* October 2022

DIAGNOSIS AND TREATMENT PLANNING

Cameras: Intraoral Video

Proven Products:

- **Various models from the following companies:**
 - ACTEON Group
 - Air Techniques
 - Carestream Dental
 - Dexis
 - Digital DOC
 - ★ **MouthWatch** (*lower cost*)
 - Video Dental Concepts



MouthWatch (Proven Product), MouthWatch

Intraoral camera with fixed focus lens suitable for patient show-and-tell. **Excellent picture for lower cost camera.**

\$299/Camera

See also *Clinicians Report* September 2022

Caries Detection

See also *Clinicians Report* January 2022: "Caries Detection: Optimizing and Augmenting Radiography"

CR Note: Radiographs are the most valuable diagnostic aid for caries detection, but with some limitations. Caries detection can be further augmented with transillumination, indicator dyes, fluorescence, and air slurry cleaning/polishing.

Proven Products: Caries Detection Equipment

- **CamX Spectra Caries Detection Aid**, Air Techniques
- **Logicon (various)**, Carestream Dental
- **SoproCARE and SoproLIFE**, ACTEON Group

Proven Products: Caries Indicating Dye

- ★ **Advantage Arrest (silver diamine fluoride)**, Elevate Oral Care (*lower cost, permanent stain*)
- **Caries Detector**, Kuraray Noritake
- **Seek**, Ultradent

Proven Products: Transillumination

- **LUM (visible)**, Digital DOC
- **Lumindex 3 (visible)**, Practicon
- ★ **Microlux 2 (visible)**, AdDent (*lower cost, simple, effective*)

ENDODONTICS

See also *Clinicians Report* January 2022: “Why Are Some Endodontic Treatments Failing?”

Endodontic Handpieces

Proven Products:

- **Endo-Express (reciprocating)**, EDS (Essential Dental Systems)
- **EndoSequence 2 (rotary)**, Brasseler USA
- **ProMark (rotary and reciprocating)**, Dentsply Sirona



ACE (Advanced Cordless Endo) MOTOR, Medidenta

Cordless handpiece with built-in apex locator and auto reverse. It has multi-function settings and can be **programed for eight rotary systems and three reciprocating systems**. Easy to use and accurate apex locator.

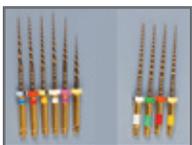
\$1,300/Handpiece System

See also *Clinicians Report* June 2022

Files

Proven Products:

- **EdgeFile, EdgeEndo (lower cost)**
- **EndoSequence CM**, Brasseler USA
- **Hyflex**, Coltene
- **K-Files, Roydent and others**
- **OneFile G Reciprocating File**, Pac-Dent
- **ProTaper and WaveOne Gold**, Dentsply Sirona
- **SafeSider**, EDS (Essential Dental Systems)
- **TF Adaptive**, Kerr



D-Perfect Files, D-Perfect (sold through BlueSkyBio)

Rotary (TG6) and reciprocating (TF4) endodontic files with lower cost, good strength, and pre-sterilized. **Multiple tapers similar to major brands available.**

TG6: \$30/Pack of 6 Files (\$4.99/File)

TF4: \$20/Pack of 4 Files (\$4.88/File)

See also *Clinicians Report* November 2022

Irrigation and Accessories

Proven Products: Active Irrigation

- **EndoVac (negative pressure irrigation)**, Kerr
- **GentleWave (multisonic cleaning)**, SonoDent
- **NaviTip (delivery tip)**, Ultradent
- **SmartLite Pro EndoActivator (sonic activation)**, Dentsply Sirona
- **Sonic M1500 Pro (sonic activation)**, Medidenta
- **Ultrasonic attachment tips**, Various Companies

Proven Products: Irrigation Solutions

- **Chlorhexidine 2%–4%**, Various Companies
- **EDTA 17%–18%**, Various Companies
- **Sodium Hypochlorite 3%–8%**, Various Companies

Proven Products: 2-in-1 Final Irrigating Solution

- **Irritrol Two-in-One**, EDS (Essential Dental Systems)
- **Qmix 2in1**, Dentsply Sirona
- **SmearClear Mix**, Kerr
- **SmearOFF 2-in-1**, Vista Apex



TRITON, Brasseler USA

All-in-one endodontic irrigation solution (lower concentration of NaOCL with EDTA and CHG) **dissolves dentinal debris well with fewer steps.**

\$200/480 ml Bottle (42¢/ml)

See also *Clinicians Report* October 2022

Retrievable Filler Materials

See *Implants: Prosthodontics, Retrievable Filler Materials* on Page 4

Sealers/Endodontic Cements

Proven Products:

- **AH 26 and AH Plus (epoxy)**, Dentsply Maillefer
- **Apexit Plus (calcium hydroxide)**, Ivoclar
- **Endo-Eze MTAFlow Cement (MTA) and EndoREZ (methacrylate resin)**, Ultradent
- **Endosequence BC Sealer (calcium silicate)**, Brasseler USA
- **GuttaFlow 2 (gutta percha)**, Coltene
- **NeoMTA 2 (MTA)**, Avalon Biomed
- **ThermaSeal Plus (epoxy)**, Dentsply Sirona
- **Tubli-Seal Xpress (zinc oxide, eugenol)**, Kerr



BIO-C SEALER ION+, Angelus

Premixed bioceramic (calcium silicate, magnesium silicate, potassium, and zirconium oxide in dispersing agent) root canal sealer in syringe simplifies obturation, is time effective, and **increases patient comfort.**

\$90/Four 0.5 gm Syringes

See also *Clinicians Report* April 2022



MTApeX Sealer Kit, Ultradent

Bioceramic root canal sealer (tricalcium silicate powder and proprietary gel mixture) with **potential to release calcium ions for possible bone regeneration** (being established in clinical trials).

\$137/Kit (5 gm powder, 5 ml gel, tips, and syringe) (\$6.86/Canal)

See also *Clinicians Report* November 2022

ESTHETIC DENTISTRY

See also *Orthodontics* on page 5; *Prosthodontics, Fixed/Removable* on page 8; and *Restorative/Operative/Pediatric* on page 12

Veneers

See also *Clinicians Report* July 2022: “Veneers are Back—A Great Practice Builder!” and October 2022: “Direct Resin Veneers—A Great Practice Builder!”

Proven Products: Direct Placement (see Restorative, Resin-based Composite Restoratives)

Proven Products: Laboratory Fabricated (see also Prosthodontics, Crowns)

- **Feldspathic Ceramic**, Various Companies
- ★ **IPS e.max and IPS Empress**, Ivoclar (*most used*)

Proven Products: Veneer Cements

- **Calibra Veneer LC**, Dentsply Sirona
- **Insure LC**, Cosmedent
- **NX3 Nexus LC**, Kerr
- **PermaShade LC**, Ultradent (*lower cost*)
- **RelyX Veneer LC**, 3M
- **Variolink Esthetic LC**, Ivoclar

**Panavia Veneer LC**, Kuraray Noritake

Light-cure resin cement developed for esthetic veneers and inlays and onlays less than 2 mm thick. Four shades (A2, clear, brown, and white) for simplicity while maintaining esthetics. Try-in pastes are available.

\$150/5 ml Intro Kit

\$80/1.5 ml Refill Syringe (\$53.33/ml)

See also *Clinicians Report September 2022*

IMPLANTS: PROSTHODONTICS**Attachments and Accessories****Proven Products:**

- **Ball attachments**, Various Companies
- **ERA and ORA (spherical)**, Sterngold
- ★ **LOCATOR Implant Attachment**, Zest Dental Solutions (*most used*)

**UDM (Universal Denture Material) Pickup Attachment**, Laboratory Distribution Network

Easy-to-use attachment pickup material with favorable clinical reviews. Pink, auto-mix, dual-cured composite available in 10 gm syringe with 15 mixing and intraoral tips. Lower cost.

\$152/Kit (\$8.90/gm)

See also *Clinicians Report February 2022*

Filler Materials, Retrievable

See also *Clinicians Report November 2022*: “Maintaining Internal Access to Implant Screws and Endo Canals”

Proven Products:

- **Liquid Magic (rubber-like resin)**, TAUB Products
- **Teflon tape**, Various Companies

**FirstPlug**, 35Newtons

Medical-grade polytetrafluorethylene (PTFE) filler in 1.5 mm diameter strand. Filler is packable, moldable, and **easily retrievable** to maintain internal access to screw head in implant-supported prostheses or placed above canal opening for temporary restoration of endodontic treatment.

\$50/210 cm (24¢/cm)

See also *Clinicians Report July 2022 and November 2022*

Occlusion, Implants

See also *Clinicians Report April 2022*: “Ready Reference for Implant Occlusion”

IMPLANTS: SURGERY**Implants**

CR Note: Small diameter implants are well proven to have the same clinical success as conventional diameter implants. They are most adequate for stability and retention of mandibular complete dentures.

Proven Products: Small Diameter Implants (Minis)• **Various from the following companies:**

- Glidewell
- Sterngold
- Intra-Lock
- Zest Dental Solutions
- Noris Medical

Proven Products: Conventional Diameter Implants• **Various from the following companies:**

- BioHorizons
- Nobel Biocare
- Dentsply Sirona
- Straumann (*most sold*)
- ★ **Implant Direct** (*most popular with general dentists; low-cost*)
- Zimmer Biomet

**Legacy Implants (Proven Product)**, Implant Direct

Lower cost implant most-used by general dentists. Save about 45% compared to premium brands.

\$170–\$245/Implant

See also *Clinicians Report October 2022*

INFECTION CONTROL/OSHA/EPA COMPLIANCE

Visit CliniciansReport.org → *Complimentary Information for a list of tested and proven infection control products, including:*

- **Air Purification**
- **Dental Unit Waterline Validation**
- **Eye Protection**
- **Face Masks**
- **Gloves**
- **Hand Antiseptics**
- **Instrument Cleaning and Disinfection**
- **Pre-Treatment Rinse**
- **Protective Clothing**
- **Sterilizer Monitors**
- **Sterilizers**
- **Surface Disinfectants**

Air Purification

See also *Clinicians Report May 2022*: “Are Dental Treatment Aerosols a Problem?” and *Clinicians Report August 2022*: “Are Lasting Effects of COVID Influencing You or Your Patients?”

CR Note: Aerosols ejected during active cutting at speeds up to 70 mph create a “bubble” of concentrated patient oral debris around the oral cavity in a zone occupied by the dentist and dental assistant. The most thorough solution was the effective use of high velocity evacuation (HVE, suction horizontal to occlusal plane), personal protective equipment (PPE), and surface disinfection combined with a powerful overhead downdraft fan HEPA filter to clear clinicians’ breathing zone.

Proven Products:

- ★ **ECM Phantom**, Gordon Cleanroom Inc. (*most effective downdraft HEPA filter*) Note: not affiliated with Dr. Gordon J. Christensen

Education, Infection Control**Proven Products:**

- ★ **Infection Control in the New COVID-19 World (video X2407) and Infection Control for Every Dental Practice (video V2452)**, Gordon J. Christensen PCCDental.com

Office Safety

See also *Clinicians Report September 2022*: “Office Safety: Minimizing Dental Occupational Hazards”

Protective Clothing

CR Criteria: To prevent splatter and aerosols from leaving the dental clinic, CDC recommends long sleeves with fitted cuffs; high closed neck; clinic jacket full and long enough to cover lap when seated, or pants that can be laundered after use or discarded; fabric that prevents pass through of body fluids; and tolerable comfort and appearance. Protective clothing must be discarded, sent to laundry, or laundered on site, **but not laundered at home.**

Proven Products:

- **Knee Length Disposable Lab Coat, Sara Glove**
- **MedFlex Premium Lab Coat, First Medica**
- **Safewear Hipster Jacket, Medicom**
- **Vestex Clinic Jacket, ProSafe Products**



TiSCRUBS, TiScrubs

Comfortable, lightweight, breathable, water-repellent scrubs in a variety of styles and colors.

\$38/Top, \$46/Pants, \$24/Long-Sleeve Underscrub

See also *Clinicians Report January 2022*

LABORATORY TECHNOLOGY

3D-Printed Material Polishers



Fuzzie for 3D Printed Materials #253MF-250-HP, Meisinger

Useful and **effective polishing wheels for 3D printed materials.** Accomplishes finish quickly.

\$20/Pack of 5 Wheels (\$4.04/Wheel)

See also *Clinicians Report October 2022*

3D Printers

CR Note: 3D printing allows clinicians to use digital impressions and design software to create and print study models, surgical guides, splints, provisional restorations, orthodontic aligners, etc., in their own office. Training and equipment for washing, curing, trimming, and polishing post-processing steps also available. Many manufacturers offer in-office dental 3D printing solutions including: 3D Systems, Asiga, DMG, Formlabs, Kulzer, SprintRay, etc.

Proven Products:

- **Form B3+, Form Wash, and Form Cure, Formlabs** (*easy to use*)

Dentures

Proven Products: Dentures

- **Lucitone 199, Dentsply Sirona**
- ★ **SP Ivocap, Ivoclar** (*accurate vertical dimension*)

Proven Products: Digital (CAD/CAM) Dentures

- **Various from the following companies:**
 - 3Shape
 - Dentsply Sirona
 - AvaDent
 - Ivoclar

Proven Products: Lower Cost Chairside Dentures

- **Benchmark Denture, Benchmark Dental**
- **One Step Denture, Larell**

Dentures: Repair, Rebase, Reline, and Polish

Proven Products: Chairside

- **CHAIRSIDE Soft Reline, Zest Dental Solutions**
- **Rebase II, Tokuyama**



EASYSOFT LINER, Karlin Dental Distributors

Soft denture liner with **impressive adhesion, esthetics, and texture.** Silicone formulation remains permanently soft. Sealer smooths any adjusted areas which also helps restore smooth surface and prevents cracking. Lower cost.

\$235/Starter Kit: 50 ml Liner (2), 50 ml Sealant, 10 ml bottle Adhesive, 24 Tips (\$2.33/ml)

See also *Clinicians Report May 2022*



Fuzzie Polishing Wheel Set #2530, Meisinger

Polishing wheels for finishing and polishing acrylic materials. Set of four wheels with fibrous material impregnated with a proprietary diamond and polish blend **to achieve a high shine on acrylic.** May be cleaned and sterilized.

\$22/Set of 4 (\$5.46 Each)

See also *Clinicians Report August 2022*

Proven Products: Laboratory

- **Coe-Soft, GC America**
- **Lynal Tissue Conditioner, Dentsply Sirona**

OCCUSION

See also *Clinicians Report April 2022*: “**Ready Reference for Implant Occlusion**” and *Clinicians Report June 2022*: “**Occlusal Splints: Simple, Effective, and Needed!**”

CR Note: Most accurate occlusal markings are accomplished by first having patient bite onto a 6-inch cotton roll to dry the occlusal surface, followed by immediate placement of articulation medium.

Proven Products:

- ★ **AccuFilm II, Parkell** (*most used, effective*)
- **Arti-Fol, Bausch Articulating**
- **Madam Butterfly Articulating Silk, Almore**
- ★ **Occlusal Indicator Wax, Kerr** (*fast indication of contacts*)
- **T-Scan Novus (digital occlusal analysis), Tekscan**
- ★ **Trollfoil Articulating Foil, Directa Dental** (*marks polished surfaces*)



TROLLFOIL 4.5 (Updated Proven Product), Directa Dental

Thin and accurate articulation foil conveniently pre-mounted in a holder for clear and precise markings. **Marks on wet, dry, or highly polished surfaces.**

\$38/Box of 80 (47¢/Pre-mounted Foil)

See also *Clinicians Report March 2022*

OPERATIVE DENTISTRY

See *Restorative/Operative/Pediatric on page 12*

ORTHODONTICS

Accessories



OrthoDots CLEAR, OrVance

Medical-grade silicone with moisture-activated adhesive **provides protection** from orthodontic appliances and clear aligners better than wax.

\$25/Box of 50 4ct Strips (12.5¢/Dot)

See also *Clinicians Report September 2022*

Interproximal Reduction

Proven Products:

- **ContacEZ IPR Strips**, Directa Dental
- **QwikStrip**, QwikStrips



MIR 2.0 (Interproximal Reduction), Microdont (sold through Pearson)

Sure-grip finger holds on strips that are single or double sided in four grits: coarse, medium, fine, and extra-fine. Color-coded. Grit-free saw strip and re-usable stainless steel handle also available.

\$48/8 Strips (~\$6/Strip)

See also *Clinicians Report June 2022*

PEDIATRIC DENTISTRY

See also *Restorative/Operative/Pediatric on page 12*

See also *Clinicians Report February 2022: “Best Pediatric Restorative Materials for 2022”*

Air Abrasion Cavity Preparation

Proven Products:

- **AquaCare**, Velopex
- **PrepStart and PrepStart H2O Hydro**, Zest Dental Solutions
- **RONDOflex plus 360**, KaVo

Glass Ionomer Restorative

CR Note: Glass ionomers provide highest fluoride release for prevention and chemical bond to tooth structure preventing bacterial ingress.

Proven Products:

- ★ **EQUIA Forte**, GC America
- **Ionostar Plus**, VOCO
- **Ketac Universal Aplicap**, 3M

Resin-Based Composites

See *Restorative/Operative/Pediatric, Resin-Based Composite Restoratives on page 14*

Resin-Modified Glass Ionomer Restorative

CR Note: RMGI is a combination of ~80% glass ionomer and ~20% resin. The resin component induces shrinkage not present in conventional glass ionomer restoratives.

Proven Products:

- **GC Fuji II LC, GC Fuji Filling LC, and Fuji Automix LC**, GC America (*Fuji Automix most convenient*)
- **Ketac Nano LC**, 3M
- **Riva Self Cure HV**, SDI

PERIODONTICS

See *Preventive Dentistry/Oral Hygiene on page 7*

CR Note: Conservative periodontal treatment can be as effective as periodontal surgery. This includes: 1) education, 2) tongue cleaning, 3) 2-to-3-month scaling and root planing, 4) sub-systemic antibiotics, 5) oral rinses, and 6) local antibiotics. However, **conservative periodontal treatment requires excellent patient compliance and thorough practitioner follow-up.**

Education, Periodontics

Proven Products:

- ★ **Successful Periodontal Treatment for GPs (video X4356)**, Gordon J. Christensen PCCDental.com

PHARMACOLOGY

Drug Interaction Resources

Proven Products:

- ★ **Lexicomp Online for Dentistry and The Little Dental Drug Booklet**, Wolters Kluwer (*online: thorough, booklet: quick reference*)



Lexicomp Online for Dentistry (Proven Product), Wolters Kluwer

Internet-based platform with review of disease and drug interactions. Provides suggestions to **help navigate the complexities of patients with long lists of medications.** Includes suggestions for many dental diagnoses and treatments.

\$399/Year Basic Package; \$499/Year Pro Package; \$899/Year PREMIUM

See also *Clinicians Report April 2022*

Medicaments and Pain Medications

See also *Clinicians Report May 2022: “Best Treatments for Oral Soft Tissue Lesions”*

Proven Products: Aphthous Ulcers (Canker Sores)

- **Canker Cover**, Dentemp
- **Canker Relief**, DenTek
- **StellaLife VEGA Oral Care Gel**, StellaLife
- **Zilactin-B**, Blairex Laboratories

Proven Products: Herpes Simplex 1 (Cold Sores)

- **Abreva and Acyclovir (Zovirax) Rx**, GlaxoSmithKline (GSK)
- **Blister Balm**, Blister Balm
- **Carmex Cold Sore**, Carma Labs
- **Penciclovir (Denavir) Rx**
- **Valacyclovir (Valtrex) Rx**

CR Note: A combination of ibuprofen (400–600mg) and acetaminophen (500mg) every 6 hours provides effective pain relief comparable to opioids **without the complications or dangers of opioids.** Combining analgesics that work differently provides more pain relief than a single analgesic can on its own.

Proven Products: Pain Medications, Transient Soft Tissue Irritation

- ★ **Acetaminophen (e.g., Tylenol)** (*most used*)
- ★ **Ibuprofen (NSAID, e.g., Advil)** (*most used*)
- **Naproxen (NSAID, e.g., Aleve)**

PRACTICE MANAGEMENT

See also *Clinicians Report February 2022: “Why Everyone Needs to be Thinking about Retirement—NOW”* and *Clinicians Report March 2022: “Twin Troubles: Worker Shortages and Inflation—Advice”*

Education: Self and Team

See also *Clinicians Report September 2022: “Gordon Answers 20 Tough Questions”*

Proven Products:

- **American Dental Assistants Association, ADAUSA.org**
- ★ **CR Dentistry Update Courses and Clinicians Report (monthly publication)**, CR Foundation (*independent, current*)
- **Lexicomp The Little Dental Drug Booklet and Lexicomp Dental Office Medical Emergencies (book)**, Wolters Kluwer (Amazon)
- ★ **PCC DVDs, Videos, and Courses**, Gordon J. Christensen PCCDental.com (*faster, easier, better clinical techniques*)
- **The Six Habits of Monday Morning Millionaires, Monday Morning Millionaire** (Amazon)

Insurance Coding

See also *Clinicians Report* May 2022: “Demystifying Dental Treatment Coding”

Proven Products:

- **CDT Coding**, ADA www.ada.org
- ★ **Dental Coding with Confidence, Medical Dental Cross Coding with Confidence, and Dental Administration with Confidence**, eAssist Publishing (*practical*)
- ★ **The Ultimate Cheat Sheets, Ultimate Cheat Sheets** (*quick reference*)



Dental Coding with Confidence (Updated Proven Product), eAssist Publishing

An **essential resource** to manage insurance claims with confidence and help **increase insurance reimbursements**.

\$150/Spiral-bound Book

See also *Clinicians Report* November 2022

PREVENTIVE DENTISTRY/ORAL HYGIENE

Air-Slurry Polishers

Proven Products:

- **AIR-FLOW Handy 3.0**, EMS (*lower cost*)
- **Cavitron Jet Plus**, Dentsply Sirona
- **PROPHYflex 4**, KaVo

Desensitizers, Cervical

Proven Products:

- **Fluoride Varnish 5000 ppm**, Various Companies
- **Gluma Desensitizer PowerGel**, Kulzer
- **Predicta Desensitizer**, Parkell
- **Shield Force Plus**, Tokuyama
- **TEETHMATE Desensitizer**, Kuraray Noritake



Colgate Sensitivity Relief Serum, Colgate Professional

Fluid-gel (serum) for **rapid oral sensitivity relief** in office and at home. Initial application in office instructed by clinician with patient applying with fingertip and re-applying later at home as needed. Arginine technology and calcium carbonate seal pathway to tooth nerve.

\$10/5 ml Tube (\$99.99 for 10 tubes)

See also *Clinicians Report* January 2022

Fluoride Dentifrice

Proven Products: Dentifrices

- ★ **PreviDent 5000 (various)**, Colgate Professional (*most effective*)

Oral Rinses

Proven Products:

- **CloSYS Mouthrinse (various, chlorine dioxide)**, Rowpar Pharmaceuticals
- **Crest Pro-Health Rinse (cetylpyridinium chloride)**, Procter & Gamble
- ★ **ioRinse RTU (molecular iodine)**, ioTech International (*COVID-19 kill*)
- **LISTERINE (essential oils, alcohol)**, Johnson & Johnson
- **Peridex (CHG, alcohol)**, 3M (*most used, effective*)
- **PerioGard (CHG, alcohol)**, Colgate Professional
- ★ **Tooth and Gums Tonic**, Dental Herb Company (*essential oils and herbs*)



StellaLife VEGA Oral Care Rinse, StellaLife

Natural antimicrobial oral rinse **promotes healing, hydrates oral cavity, and freshens breath**. Ingredients include homeopathic components Azadirachta (tissue disinfectant), Calendula (anti-inflammatory), Echinacea (immune system support), Plantago (antiseptic), and Propolis in addition to inactive components xylitol, purified water, and peppermint oil.

\$30/Bottle 16 oz (473 ml) (6¢/ml)

See also *Clinicians Report* April 2022

Prophylaxis: Disposable Angles and Cups

Proven Products: Disposable Prophyl Angles

- **Densco Latex-free**, Waterpik and Various Companies
- **LOTUS Disposable Prophyl Angle (soft)**, AJK Engineering
- **ProphyMagic (soft)**, Medidenta
- **Ultrapro Tx**, Ultradent
- **Vera Classic Petite Web and various cups**, Young Innovations



Disposable Prophyl Angles, Darby

Lower-cost house-brand disposable prophyl angles **save up to 77%** compared to premium brands.

\$25/Box of 100 (25¢/Angle)

See also *Clinicians Report* October 2022

Prophylaxis: Prophyl Handpieces, Corded

Proven Products:

- **Integrity Prophygiene II**, Osseo Scientific (*lower cost*)
- **Nupro RDH**, Dentsply Sirona
- **Pastel Plus**, Lares Research
- **Prophy Star 3**, DentalEZ



Prophy Magic NLR Hygiene Handpiece, Medidenta

Ergonomic, lightweight (2.5 oz) air handpiece **designed for clinicians with smaller hands**. Lube free, low speed (5,000 RPM), and has 360 degree swivel with friction grip nose cone that accommodates most disposable prophyl angles.

\$399 Each

See also *Clinicians Report* March 2022

Prophylaxis: Prophyl Handpieces, Cordless

Proven Products:

- **Freestyle Pro Cordless**, Medidenta (*lower cost*)
- **iStar Cordless**, DentalEZ
- **Nupro Freedom Cordless**, Dentsply Sirona



ProMate CL Hygiene Handpiece, Pac-Dent

Lightweight **cordless prophyl handpiece** improves mobility and freedom from cord drag. Accommodates most disposable prophyl angles, lighter weight than leading cordless model, and six speeds (500–4000 RPM).

\$813/Handpiece

See also *Clinicians Report* May 2022

Scalers, Curettes: Hand

Proven Products:

- **Montana Jack R138**, PDT (Paradise Dental Tech)
- **Various**, HuFriedyGroup
- **Various**, Nordent



HARMONY Scaler, HuFriedyGroup

Hand scaler with a unique scientifically designed handle **reduces pinch force** and pressure on the tooth. Ergonomic handle has double-helix texture for **tactile sensitivity** and allows easy roll and move of instrument during use. Sharp EverEdge 2.0 tips.

\$70.08/Scaler

See also Clinicians Report June 2022

Scalers, Ultrasonic and Sonic

Proven Products:

- **Cavitron (various magnetostrictive)**, Dentsply Sirona
- **EMS Piezon (various piezoelectric)**, EMS Dental
- **Lil' Beaver 2.0 (magnetostrictive)**, Vector R&D (*lower cost*)
- **Newtron (various piezoelectric)**, ACTEON Group
- **Titan Blis-Sonic (sonic)**, Dental EZ
- **TurboSENSOR+, TurboSENSOR, and TurboVUE (magnetostrictive)**, Parkell

Toothbrushes

Proven Products: Automated

- **Oral-B (various)**, Procter & Gamble
- **PRO-SYS VarioSonic Powerbrush**, Benco
- **Sonicare (various)**, Philips

PROSTHODONTICS, FIXED/REMOVABLE

CR Note: PREVENTING BLACK TRIANGLES. Black triangles (near canine in upper left image) can be predictably prevented (see canine lower right image) when making implant impressions (upper right image) by preparing guide-planes on both adjacent teeth parallel to the path of insertion (lower left image).



Cements

See also Clinicians Report April 2022: “Cements 2022: Concrete Suggestions for Every Restoration”

Cements, Glass Ionomer

CR Suggestions: Glass ionomer (GI) cements should be considered for patients with moderate to high caries.

Continued next column

CR Note: Points to consider about introducing the **new** glass ionomer (GI) cements:

- Delivery systems are powder/liquid or triturator capsules
- GI cements are used heavily in other countries.
- GI fell out of popularity in North America because practitioners reported increased sensitivity with GI after cementing crowns in the early 1990s. CR has shown **sensitivity can be reduced or eliminated with two one-minute applications of a glutaraldehyde/HEMA primer**. (See desensitizers page 12.)
- GI has unique chelating chemistry that assists in retaining crowns.
- GI is more cariostatic than RMGI and other cements.
- **GI has almost no dimensional change on setting.**

Proven Products:

- **GC Fuji I**, GC America
- **Ketac Cem**, 3M

Cements, Provisional

Clinical Tip: Clinicians may select provisional cements on the basis of reducing sensitivity (eugenol-based). In CR tests, eugenol-based provisional cement had no significant influence on the shear bond strength of final cements after 10–14 days and with thorough cleaning of preparations.

Proven Products: Temporary Clear Esthetic

- **ClearTemp LC (resin, veneer only)**, Ultradent
- **NexTemp Clear (resin)**, Premier Dental
- **Telio Link (resin, non-eugenol)**, Ivoclar
- **Temp-Bond Clear with Triclosan (resin, non-eugenol)**, Kerr
- **TempoCemID (non-eugenol)**, DMG America

Proven Products: Temporary Resin

- **E.T.C. (resin, non-eugenol)**, Parkell
- **NexTemp and NexTemp Clear (resin, non-eugenol)**, Premier Dental

Proven Products: Temporary Non-Resin Cement

- **Durelon (polycarboxylate)**, 3M
- **Fynal and IRM (zinc oxide, eugenol)**, Dentsply Sirona
- **GC TEMP ADVANTAGE (zinc oxide, non-eugenol)**, GC America
- **RelyX Temp E and RelyX Temp NE (zinc oxide)**, 3M
- ★ **Temp-Bond and TempBond NE (zinc oxide with or without eugenol)**, Kerr (*most used, lower cost*)
- **TempoCem (zinc oxide with or without eugenol)**, DMG America
- **UltraTemp (polycarboxylate)**, Ultradent

Cements, Resin: Adhesive (with Separate Self-Etch Primer)

Proven Products:

- ★ **C&B-Metabond Quick**, Parkell (*well known especially for salvage*)
- **ESTECM II**, Tokuyama
- ★ **Multilink Automix**, Ivoclar (*most used*)
- **Panavia F2.0 and Panavia V5**, Kuraray Noritake
- **RelyX Ultimate**, 3M



C&B-Metabond Quick (Proven Product), Parkell

The cement clinicians use for **solutions to significant dilemmas** because of its ability to bond to enamel, dentin, cementum, porcelain, composite resin, acrylic, or non-precious, semi-precious, or noble alloys.

\$504/Kit

See also Clinicians Report March 2022

Cements, Resin: Esthetic, Veneer (with Separate Adhesive and Light Cure)

See Esthetics, Veneers on Page 3

Cements, Resin: Self-Adhesive (No Separate Primer)

Proven Products:

- Calibra Universal, Dentsply Sirona
- G-CEM ONE, GC America
- Maxcem Elite Chroma, Kerr
- Panavia SA Cement Universal, Kuraray Noritake
- ★ RelyX Universal Resin Cement, 3M (improved on RelyX Unicem 2)
- SpeedCEM Plus, Ivoclar



G-CEM ONE (Proven Product), GC America

Universal, self-adhesive, dual-cure resin cement dispensed from an auto-mix syringe indicated for all cementing applications. Use of primer and light cure further improved bond.

\$129/Starter Kit (\$26.85/ml)

See also Clinicians Report February 2022

Cements, Resin-Modified Glass Ionomer and Similar

CR Note: Zirconia test restorations seated with resin-modified glass ionomer cements had fewer de-bonds than those seated with resin cements.

Proven Products:

- Breeze RMGI, Pentron
- CALIBRA BIO (calcium aluminate and GI), Dentsply Sirona
- Ceramir (calcium aluminate and GI), Doxa Dental
- ★ GC Fuji PLUS (triturator mixed) and GC FujiCEM Evolve (RMGI) (easy placement, cleanup, higher radiopacity), GC America
- Meron Plus QM, VOCO
- Nexus RMGI, Kerr
- ★ RelyX Luting Plus (RMGI), 3M (most popular)

Crowns

See also Clinicians Report January 2022: “Zirconia Restorations: What Questions Are Still Present?” and November 2022: “High vs. Low Translucent Zirconia: Should I be using BOTH?”

CR Note: Zirconia types and their service longevity indicate clinical uses. Physical properties present in Tetragonal (3Y) zirconia impart a “margin of safety” from fracture not present in the Cubic Containing and “Exceptions” formulations in this study. Based on this, CR suggests the following indications:

- Tetragonal zirconia: 1) molars, 2) posterior multi-units, 3) minimal preps, 4) abusive occlusion, 5) occlusal adjustment expected, 6) endo entry expected, 7) high risk lifestyle, and 8) maximum longevity wanted.
- Cubic Containing and “Exceptions” zirconias: If optimum zirconia translucence is demanded by the patient and/or dentist.

Proven Products: Ceramic

- CZR Press (pressed ceramic), Kuraray Noritake
- ★ IPS e.max (lithium disilicate), Ivoclar (most esthetic)

Proven Products: Gold

- Full Gold Alloy, Various Companies

Zirconia, Cubic Containing: ~75% tetragonal phase, ~25% Cubic phase (4Y, LT, Translucent, Esthetic, MT, Medium Translucent), and Cubic Containing ~50% Tetragonal phase, 50% Cubic phase (5Y, Translucent, Esthetic, UT, Ultra Translucent)

- BruxZir Esthetic (5Y), Glidewell
- CubeX² Ultra (5Y), Dental Arts Laboratories
- Katana Zirconia STML (5Y), Kuraray Noritake
- Lava Esthetics, 3M

Zirconia, “Exceptions” claim strength similar to Tetragonal zirconia, but CR/TRAC data indicate clinical outcome similar to Cubic Containing zirconias.

- Alien HT and Alien Multi-Layer, Alien Milling Technologies
- ArgenZ HT+, Argen
- Zirlux Transition, Zahn Dental

Zirconia, Tetragonal ~100%, Cubic phase 0% (3Y; LT, Low Translucent, Full Strength).

- BruxZir Full Strength, Glidewell (most popular posterior)
- IPS e.max ZirCAD LT (3Y) and IPS e.max ZirCAD Prime (3Y core, 5Y incisal), Ivoclar
- Zirlux 16+, Zahn Dental

Dentures

See Laboratory Technology on page 5

Impression Materials: Bite Registration

Proven Products:

- ★ Blu-Mousse, Parkell



MARK3 MAX BITE, sold through dental distributors

Bite registration material that is stiff yet flexible for removal. No major slump when used. **Lower cost than comparable major product.**

\$22/Two 50 ml Cartridges

See also Clinicians Report July 2022

Impression Materials: VPS/Polyether

Proven Products:

- Aquasil Ultra+, Dentsply Sirona
- EXA Advanced (VPS) and EXA'lence (VPES), GC America
- Flextime (VPS) and Xantasil (VPS-alginate alternative), Kulzer
- Impregum Super Quick (Polyether) and Imprint 4 (VPS), 3M
- Reflection (VPS), Patterson
- Splash! Max (VPS), DenMat
- Take 1 Advanced (VPS), Kerr
- Thermo Clone VPS, Ultradent
- Vaccu-Sil Impression Material, HO Dental Company (lower cost)
- Virtual XD (VPS), Ivoclar



MARK3 eXact VPS Impression Material, sold through dental distributors

VPS impression material with results **similar to popular brands at lower cost.** Available in Fast Set (1 min. working time, 1 min. set time) and Regular Set (2 min. working time, 1 min. set time).

\$36/Four 50 ml Cartridges (18¢/ml)

See also Clinicians Report September 2022



VP MIX HP, Henry Schein

Lower cost VPS impression material about 1/5th the price of premium materials.

\$51/Four 50 ml Cartridges (25¢/ml)

See also Clinicians Report October 2022

Impression Trays and Accessories

See also *Clinicians Report* April 2022: “Light-Cure Resins for Custom Trays and Other Applications”

CR Note: Make sure stock and custom trays have adequate retention, multiple holes 3 mm or more in size, rim locks (undercuts on the periphery), other retentive features, and adequately set adhesive including the borders (**VPS adhesives require at least 10 minutes at 70° F to set; polyether requires 90 seconds or more**). See *Clinicians Report* June 2021. The popular Triad Trutray (custom tray material) is no longer available.

Proven Products:

- ★ **Directed Flow Tray (stock), 3M** (*excellent stock tray*)
- ★ **Quad-Tray Xtreme (dual-arch), Clinician's Choice** (*rigid tray*)
- ★ **Triple-Tray (sideless dual-arch) and Triple-Tray Anterior (dual-arch, sided), Premier Dental** (*most used*)



Easy Cure 2, Henry Schein

Lower cost light-cure oven for custom trays. 6 LED arrays above silvered drawer for cure. **Fast 30–90 second cure depending on material.** Cooler.

\$427/Oven

See also *Clinicians Report* April 2022



Megatray Custom Tray Material, Various Companies

Lower cost custom tray material (blue, pink) in 1.4 mm and 2 mm sheets. **Improves impression accuracy, reduces cost** of materials, and represents an excellent task for expanded-function auxiliaries.

\$1.38/Sheet

See also *Clinicians Report* April 2022



ProCure, Keystone

Light-cure oven for custom trays and other resin base uses. Two halogen bulbs and rotating glass pedestal for fast cure (30–60 seconds depending on material), but hotter.

\$626/Oven

See also *Clinicians Report* April 2022



SternTek Custom Tray Material, Sterngold

Lower cost custom tray material (blue, pink, rose) Improves impression accuracy, reduces cost of materials, and represents **an excellent task for expanded-function auxiliaries.**

\$71/Box of 50 (\$1.41/Sheet)

See also *Clinicians Report* April 2022

Impressions: Digital

Proven Products: Intraoral Scanners

- **Various from the following companies:**
 - 3Shape
 - Dentsply Sirona
 - Align Technology
 - Planmeca
 - Dexis

Pins

Clinical Tip: Use pins when extra retention is needed. **Pure titanium pins are preferred** due to biocompatibility and flexibility to minimize tooth cracking.

Proven Products: Titanium Pins

- **Dentine Retention Pins, Nordin SA**
- **Filpin, Filhol Dental**
- **Stabilok, Fairfax Dental (Various Companies)**

Primers, Cleaners, and Ceramic Etch for Indirect Restorations

CR Note: The use of sandblasting (see page 11) remains an effective way to clean **full-strength zirconia** and provide additional mechanical retention. (The intaglio of a zirconia crown is milled smooth.) Do NOT use on 4Y or 5Y zirconia or lithium disilicate!

Proven Products: Ceramic Etch (for glass ceramic)

- **Monobond Etch & Prime, Ivoclar**
- **Porcelain Etch and Silane, Ultradent**
- **Porcelain Etchant, Bisco**

Proven Products: MDP and Silane combined (for glass ceramic, metal, or zirconia)

- **CLEARFIL CERAMIC PRIMER PLUS, Kuraray Noritake**
- **GC Ceramic Primer II, GC America**
- **Monobond Plus (adhesive), Ivoclar**
- **Premier Universal Primer, Premier Dental**
- **Scotchbond Universal Plus (adhesive), 3M**

Proven Products: MDP (for metal or zirconia)

- **Peak-ZM, Ultradent**
- **Z-Bond, Zest Dental Solutions**
- **Z-Prime Plus, Bisco**
- **ZR-P Universal Primer, Vista Apex Dental**
- **Zirconia Prime, DenMat**

Proven Products: Silane (for glass ceramic)

- **Calibra Silane, Dentsply Sirona**
- **Porcelain Primer/Bis-Silane, Bisco**
- **Silane, Ultradent**
- **Vitique Silane, DMG America**

Proven Products: Zirconia/Ceramic Cleaner

- **Ivoclean, Ivoclar**
- **★ KATANA Cleaner, Kuraray Noritake (quick, easy)**
- **ZirClean, Bisco**

Provisional Materials

Proven Products: Bis-acryl Resins

- **Clip Flow, VOCO**
- **Inspire, Clinician's Choice**
- **Integrity Multi-Cure, Dentsply Sirona**
- **★ LuxaCrown and Luxatemp Ultra, DMG America (Ultra most used, semi-permanent provisional restorations)**
- **★ Protemp Plus, 3M (esthetic)**



MARK3 C&B Material, sold through dental distributors

Bis-acryl provisional material with results similar to popular major brands **at a lower cost.** Esthetic, relatively long-lasting, and has low exotherm.

\$100/50 ml Cartridge (\$2/ml)

See also *Clinicians Report* August 2022



Temporary Crown and Bridge Material, Patterson

Lower cost house brand temporary material can **save up to 53%** compared to premium brands.

\$122/50 ml Cartridge (\$2.44/ml)

See also *Clinicians Report* October 2022

Sandblasters

See also *Pediatric Dentistry, Air Abrasion Cavity Preparation on Page 6*

Proven Products:

- ★ **MicroEtcher (various), Zest Dental Solutions** (*proven classic*)



MicroEtcher IIA (*Updated Proven Product*), Zest Dental Solutions

Chairside sandblasting has many desirable uses including easily removing saliva contamination from tetragonal zirconia (3Y; BruxZir Full Strength and others) following try-in. Additional uses described by manufacturer.

\$450 /device

See also *Clinicians Report February 2022*

Veneers

See *Esthetic Dentistry on page 3*

RADIOLOGY: ORAL AND MAXILLOFACIAL

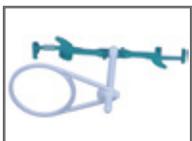
Alignment Systems/Sensor Holders

See also *Clinicians Report October 2022: “Sensor Alignment Devices—What’s the Angle?”*

CR Note: Optimize image quality and minimize alignment challenges by aligning sensor and x-ray head with anatomy landmarks. Use smaller sensors or phosphor plates when access is limited.

Proven Products:

- ★ **Rinn XCP, Dentsply Sirona** (*most used*)



ComfyRay XT Skinny, DentiMax

Unique design eliminates need for various bite blocks, rings, and rods when doing an FMX. One holder for every type of shot—anterior, posterior, vertical and horizontal bitewings, and endo. Lower cost.

\$120/Two systems

See also *Clinicians Report October 2022*



RINN XCP-ORA (*Updated Proven Product*), Dentsply Sirona

System that combines all rods and rings into a single rod/ring combination that is color coded to help direct correct assembly configurations for the various positions in an FMX. **Best universal sensor holder.**

\$397/1 Ring System

See also *Clinicians Report October 2022*

Cone Beam

See also *Clinicians Report September 2022: “The Increasing Value of Cone Beam in General Practice”*

CR Note: Cone beam radiography is a maturing technology that is used by nearly all endodontists and surgical specialists—and now includes approximately one third of general practitioners. **Units provide both 2D imaging for routine use and 3D imaging for demanding situations.** Excellent models are available from many companies.

Proven Products:

- **Various models from the following companies:**
 - Carestream Dental
 - Dentsply Sirona
 - Dexis
 - Planmeca
 - Vatech



Green X (*Updated Proven Product*), Vatech

CBCT with 2D and 3D imaging. Field of view from single tooth to full head. **Small voxel size resulted in excellent detail and image quality.** Features include low-dose imaging mode, preview image for positioning, artifact filter, and intuitive software with short learning curve.

~\$115,000

See also *Clinicians Report September 2022*



Viso G7 (*Updated Proven Product*), Planmeca

CBCT with 2D and 3D imaging. Field of view from single tooth to full head. **Intuitive touchscreen interface and four built-in cameras for live patient positioning.** Features include low-dose imaging mode, preview image for positioning, adjustable artifact filter, and CALM image movement correction.

~\$125,000

See also *Clinicians Report September 2022*

Intraoral Digital Sensors

See also *Clinicians Report March 2022: “DC-Air: Wireless Intraoral Sensor with Improved Image Quality”*

CR Note: Rigid CMOS intraoral sensors have limitations which manufacturers are working to overcome. To optimize image quality, use proper alignment, adequate exposure, and minimal use of digital enhancement tools.

Proven Products:

- **DEXIS Titanium, Dexis**
- **Schick 33, Dentsply Sirona**
- **Various models from the following companies:**
 - Air Techniques
 - Carestream Dental
 - DentiMax
 - Dexis
 - Sota Imaging
 - Vatech
 - XDR Radiology



DC-Air, FTG (Freedom Technologies Group)

Bluetooth intraoral x-ray sensor (size 2) which uses direct conversion technology and produced **superior image quality with convenient wireless use.** Docking station charges sensor and provides secure storage between patients.

\$10,614/Sensor, docking station, and sensor positioning system

See also *Clinicians Report March 2022*

X-Ray Generators, Handheld

Proven Products:

- **EzRay Air P, Vatech**
- **NOMAD Pro 2, Dexis**

RESTORATIVE/OPERATIVE/PEDIATRIC

See also *Clinicians Report* October 2022: “Saving Money with Low-Cost Private-Label Dental Supplies”

Adhesives

CR Note: Several generations of adhesives provide a variety of advantages, but also have limitations. Generally, multi-bottle and multi-step adhesives have longest clinical success, but take longer to apply; self-etch adhesives have less postoperative sensitivity; single-bottle universal systems have gained popularity due to fewer steps, have compatibility for multiple uses, and have had initial positive results. **Clinicians may choose adhesives based on their individual preferences.** Be aware of proven degeneration of dentin bond over time in the mouth.

Proven Products:

- **Adhese Universal, Ivoclar** (*lower cost*)
- **All-Bond Universal, Bisco**
- **Brush&Bond MAX, Parkell**
- **CLEARFIL SE BOND 2 and CLEARFIL Universal Bond Quick, Kuraray Noritake** (*SE Bond 2 first to add MDP monomer*)
- **G-Premio BOND, GC America**
- **ONE COAT 7 UNIVERSAL, Coltene**
- **OptiBond eXTRa Universal and Optibond FL, Kerr**
- **Peak SE, Ultradent**
- **Scotchbond Universal Plus, 3M** (*most used*)



Brush&Bond MAX (*Updated Proven Product*), Parkell

Improvements to popular and successful 4-META dentin/enamel composite bonding agent. Easy application (no scrub); single bottle **combines etchant, adhesive, and desensitizer** (activator brush required); and low film thickness.

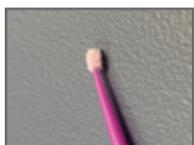
\$181/3 ml Bottle and 100 Activator Brushes (\$60.47/ml)

See also *Clinicians Report* August 2022

Applicator Brushes

Proven Products:

- **Applicators (various), Practicon**
- **Benda Brush (various) Applicators, Centrix**
- **Multi-Brush Applicator, Denbur**



Perfect Touch Micro Applicator Brushes, Dental Creations

Lower cost micro applicator brush has **bendable shank for precise application** of etchants, sealants, bonding agents, and desensitizers in hard-to-reach areas.

\$12/100 Brushes (12¢/Brush)

See also *Clinicians Report* November 2022

Bases/Liners and Pulp Capping

CR Note: Liners are well-proven for insulating/protecting deep dentin and lowering post-op sensitivity.

- RMGI liners are **clinically proven** and **most used** for indirect pulp capping, but have not yet been submitted to FDA for 510K clearance on pulp capping.
- **MTA** is highly suitable for pulp capping, but has been previously criticized for long setting time, poor handling properties, and high cost. **Newer MTA materials have improved these challenges.**
- **CR suggested indirect and direct pulp cap technique:**
 - 1) provide informed consent and decide with patient to proceed,
 - 2) remove caries (avoid exposure of pulp), 3) two 1-minute applications of GLUMA or equivalent (including on minimally exposed pulp, direct cap), 4) layer of MTA or other over pulp,
 - 5) conventional glass ionomer (Equia Forte or others) to replace dentin (open or closed preparation), and 6) place composite.

Proven Products:

- **Dycal (calcium hydroxide), Dentsply Sirona**
- **Endo-Eze MTAFlow White (MTA), Ultradent**
- **EQUIA Forte (GI) and GC Fuji Lining LC (RMGI), GC America**
- **NeoMTA 2 (MTA) and NeoPUTTY (MTA), Avalon Biomed**
- **TheraCal (various) and TheraBase (calcium silicate), Bisco**
- **Vitrebond Plus (RMGI), 3M** (*most used*)



Ceramir Protect LC Syringe, Doxa Dental

One component, moisture tolerant, light-cured, radiopaque material contains calcium aluminate and polymerizable methacrylate monomers that allow a precise flow, calcium release, and a **desirable high pH.**

\$59/1 gm Syringe

See also *Clinicians Report* April 2022

Cements

See *Prosthodontics, Fixed/Removable* on page 8

Curing Lights, Resin

See also *Clinicians Report* July 2022: “Curing Lights: Laser Diode versus Other Light Sources”

CR Note: Today’s highest intensity lights are very bright: **eye protection must be used.** Exercise caution to avoid overheating oral tissues and pulp by using air from syringe while curing.

Proven Products: LED curing lights

- **Various models from the following companies:**
 - 3M
 - DentLight
 - GC America
 - Ivoclar
 - ★ **Ultradent** (*Valo models: most used, durable, high intensity*)



Monet Laser Curing Light, CAO Group

High irradiance output and collimated beam (minimal loss of energy over distance) produced **faster and deeper polymerization** than other lights tested. Eye protection is mandatory.

\$2,499/Light system

See also *Clinicians Report* July 2022

Desensitizers: Preparation Disinfection

Proven Products: Glutaraldehyde 5%/HEMA 35%

- ★ **G5, Clinician’s Choice** (*lower cost*)
- ★ **GLUMA Desensitizer, Kulzer** (*original formulation*)
- ★ **MicroPrime G, Zest Dental Solutions** (*lower cost*)

Diamonds: Crown Preparation

CR Note: CR research has found lower cost single-use diamonds are as effective as premium-priced multi-use diamonds.

Proven Products: Carbide Burs

- **Various designs from the following companies:**
 - Brasseler USA
 - Dentsply Sirona
 - Kerr
 - Meisinger
 - Microcopy
 - SS White Dental

Proven Products: Diamonds, Lower Cost (Single-Use)

- **Alpen, Coltene**
- **Dollar Diamond, Dollar Diamonds**
- **NeoBurr and NeoDiamond, Microcopy**
- **Single-Use Diamonds, Patterson**
- **Solo, Premier Dental**
- **Spring Health Diamond, Spring Health Products**



Optimum Disposable Diamond Burs, Benco

Lower cost single-use diamonds **save almost 89% compared to multi-use brands.**

\$31.50/Box of 25 (\$1.26/Bur)

See also *Clinicians Report October 2022*

Finishers/Polishers for Resin-Based Composite

Proven Products:

- **AstroPol and Politip, Ivoclar** (*cost effective; best reusable system for both posterior and anterior*)
- **DiaComp Intraoral Composite Polishing Points, Knife-Edge Discs, Feather Lite Discs, Cups, Brasseler USA** (*best posterior system*)
- **DiaComp Intraoral Composite Polisher, Feather Lite Discs for anterior; Points, Knife-Edge Discs, Feather Lite Discs, and Cups for posterior, Brasseler USA** (*best reusable system for both posterior and anterior*)
- **Enhance Finisher/Enhance PoGo, Dentsply Sirona** (*best disposable system for both posterior and anterior*)
- **EPITEX, GC America**
- **Jiffy Natural Universal, Ultradent** (*cost effective; best reusable system for both posterior and anterior*)
- **Kenda Polishers, Coltene**
- **Sof-Lex Finishing and Polishing, 3M**
- **Super-Snap X-treme Discs, CompoSite Polishing Paste, and Buff Disc, Shofu** (*best anterior system*)
- **Top Finisher System, Cosmedent**



Composite Singles (COS11), Meisinger

Resin-based composite (RBC) rotary polishing instruments with new “squid” shape (pictured). Kit has 16 single-use polishers in 4 shapes.

\$34/Kit (\$2.10/Polisher)

\$94/50 Pack of 1 Shape (\$1.88/Polisher)

See also *Clinicians Report January 2022*

Glass Ionomer Restoratives

See *Pediatric Dentistry on page 6*

Handpiece Maintenance

See also *Clinicians Report August 2022: “What Is Optimal Handpiece Maintenance?”*

Proven Products:

- **Assistina Twin, W&H**
- **iCare, NSK America**
- **Lubrina 2, Morita**
- **Midwest Automate, Dentsply Sirona**
- **QUATTROcare Plus, KaVo**
- **STATMATIC, SciCan**



i.Clean, Medidenta

Automated handpiece maintenance system **quickly and thoroughly lubricates and purges handpieces.** Handpiece capacity is 3, cycle time is 45 seconds, and aerosol lubricant is \$40. 9 adapter couplings available (\$70 each).

\$1,900/System

See also *Clinicians Report August 2022*

Handpieces, Non-Surgical

See also *Clinicians Report March 2022: “Electric Handpieces make Good Dentistry Better”*

CR Note: CR recommends increased use of electric handpieces because of their ability to provide constant speed, increased torque, less noise, and fine control (especially when refining margins) compared to air driven handpieces.

Proven Products: Electric

- **ELECTROmatic, KaVo**
- **OPTIMA MCX Set, Bien-Air**
- ★ **Ti-Max, and NLZ E Electric Micromotor System, NSK** (*lower cost*)

Proven Products: High Speed Air

- **430SWL Torque LubeFree, DentalEZ**
- **557 ProStyle SF Lite SLC and LEGACY 5, Lares Research**
- **MASTERtorque, KaVo**
- **Maxso M200E, Beyes Canada** (*lower cost, excellent, but no swivel or light*)
- **Midwest Stylus Plus, Dentsply Sirona**
- **Synea Series, W&H**
- **Ti-Max Z800L, NSK**
- **Tornado, Bien-Air**
- **XLR8 Plus, Benco**

Headlamps

Proven Products:

- **Various models from the following companies:**
 - DenMat
 - DentLight
 - Designs for Vision
 - LumaDent (*lower cost*)
 - Orascoptic
 - SurgiTel
 - Ultralight Optics
 - Univet

Magnification

CR Note: A current trend has been to increase the declination angle of loupes—to as much as 90°. Although not accepted by all users, this can promote better vertical posture and reduce strain on neck and back muscles.

Proven Products: Loupes

- **Various models from the following companies:**
 - Designs for Vision
 - Orascoptic
 - SurgiTel
 - Univet
 - Zeiss

Proven Products: Operating Microscopes

- **Various models from the following companies:**
 - Global Surgical Corp
 - Zeiss

Matrices/Wedges

See also *Clinicians Report* June 2022: “Sectional Matrices: A Clinical Product Comparison”

Proven Products:

- **9-Micron Mylar Matrix**, HO Dental Company
- **AutoMatrix, Palodent Plus, and Wedgeguard**, Dentsply Sirona
- **Bioclear Biofit, Bioclear Matrix System**
- **Composi-tight (various), NiTin Sectional Matrix System, and Fender Wedge**, Garrison Dental
- **Contact Matrix**, Zest Dental Solutions
- **Dual-Force Active-Wedges**, Clinician's Choice
- **Eon**, Benco
- **Greater Curve, Brass Bands (Tofflemire type)**, Greater Curve
- **iMatrix**, Pac-Dent
- **Triodent V3 and WedgeGuard**, Ultradent



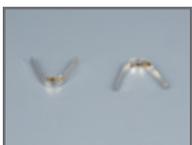
QuickmatFLEX, Polydentia

Ultra-thin (0.03mm) sectional matrix made of titanium to provide excellent elastic memory. They can be burnished to contour and keep overall original shape.

\$72/Box of 100 Molar/Premolar (72¢/Matrix)

\$49/Box of 50 Molar Deep (98¢/Matrix)

See also *Clinicians Report* March 2022



Ultra-Thin Tofflemire Matrix Bands, Cosmedent

Tofflemire-type matrix bands with **pre-contoured shape** for natural contacts. Available in regular and primary teeth sizes.

\$23.65/Package of 24 Bands (99¢/Matrix Band)

See also *Clinicians Report* May 2022

Moisture Control/Isolation/Rubber Dam

Moisture Control Concepts:

- **Dentapops**, Primotec
- **DryShield**, Solmetex
- **DryTips**, Young Innovations
- **Isolite, Isodry, and Isolite Core**, Zyris
- **Mr. Thirsty One-Step**, Zirc
- **NeoDrys**, Microcopy
- ★ **OptraGate (small, regular, and junior)**, Ivoclar (*easy, effective, anterior access*)
- **Perfect Cheek Retractors**, Dental Creations
- **SoftDry (Parotid PAD)**, Pac-Dent
- **Umbrella Tongue, Lip, and Cheek Retractor**, Ultradent



OptraGate (Updated Proven Product), Ivoclar

OptraGate provides **unsurpassed comfortable lip/cheek isolation, protection, and retraction**. NEW are the pink and blue colors for junior and small sizes for children.

\$150/Box of 80 Adult (\$1.88 Each)

\$85/Box of 40 Junior or Small (\$2.12 Each)

See also *Clinicians Report* August 2022

Proven Products: Rubber Dam

- **Hygenic Elasti-Dam and Hygenic FlexiDam (formed, non-latex)**, Coltene
- **Smart Dam (latex free)**, Cranberry

Proven Products: Rubber Dam Clamps

- **Rubber Dam Clamps, Coltene** (see also *Clinicians Report* October 2019)
 - #0, #00: Properly sized clamp for Class V on single-rooted teeth
 - #4, #5, #7: Properly sized clamp for molar teeth
 - #8A: Properly sized clamp for partially erupted molar teeth
 - #9: Properly sized clamp for most anterior teeth
 - #14A: Properly sized clamp for partially erupted molar teeth
 - #212: Properly sized clamp for premolar teeth

Resin-Based Composite Restoratives

See also *Clinicians Report* February 2022: “Why Composite Restorations Fail... and How to Manage Them”

Proven Products: Dual-Cure

- **BulkEZ**, Zest Dental Solutions
- **Fill-Up!**, Coltene
- **HyperFIL**, Parkell

Proven Products: Light-Cure

- **Aura**, SDI
- **CLEARFIL MAJESTY**, Kuraray Noritake
- **ESTELITE sigma QUICK and OMNICHROMA**, Tokuyama (*OMNICHROMA one shade*)
- **Filtek Supreme Ultra and Filtek Universal Restorative, 3M** (*most used*)
- **G-aenial Universal Injectable and Kalore**, GC America
- **Harmonize**, Kerr
- **Mosaic**, Ultradent
- **Renamel NANO Plus and Renamel Microfill**, Cosmedent
- **TPH Spectra ST**, Dentsply Sirona
- **Tetric EvoCeram**, Ivoclar
- **Venus Pearl**, Heraeus Kulzer

Resin-Based Composite Restoratives: Flowables

CR Note: Flowable resins are best used for small restorations, sealants, temporary crown repairs, etc. Although formulations have improved, in general they still have higher shrinkage and lower physical properties than conventional composites, making them less than ideal for use as liners under restorations, or as enamel replacement layers in high-wear, large, or stress-bearing restorations.

Proven Products:

- **BeautiFil Flow Plus and FIT SA**, Shofu
- **Filtek Supreme Flowable Restorative, 3M** (*most used*)
- **G-aenial Universal Flo**, GC America
- **OMNICHROMA Flow and Estelite Universal Flow**, Tokuyama
- **SDR Flow+**, Dentsply Sirona (*low shrinkage stress*)
- **Tetric EvoFlow**, Ivoclar



Natural Elegance Premium Flow, Henry Schein

Flowable **comparable to premium brands at lower cost**. Available in six shades (A1, A2, A3, A3.5, B1, and C2) and received highest position in a recent comparison of flowables (*Clinicians Report* July 2021).

\$84/Four 2 gm Syringes (\$16.80/ml)

See also *Clinicians Report* February 2022

Resin-Modified Glass Ionomer Restorative

See *Pediatric Dentistry* on page 6

Veneers, Direct Placement

See *Resin-Based Composite Restoratives* above and *Esthetic Dentistry* on page 3

SLEEP MEDICINE

CR Note: Sleep testing to determine patient AHI (Apnea Hypoxia Index), snoring, sleep apnea, and frequency and severity of grinding and clenching bruxism is an expanding part of dental practice. Oral sleep appliances are usually accepted well by patients, especially the 40% of patients who cannot tolerate a CPAP.

Proven Products: Mandibular Advancement Devices

- **CustomTAP, Airway Management** (helpful for bruxers, keeps mouth closed)
- **Dorsal Appliance, Various Labs**
- **dreamTAP and TAP 3, Various Labs** (dreamTAP helpful for bruxers, keeps mouth closed)
- **EMA, Various Labs**
- **Herbst Sleep Appliance, Various Labs**
- **Panthera D-SAD, Various Labs**
- **Silent Nite, Glidewell** (most used)
- **SomnoDent Classic, Various Labs**

SURGERY, ORAL AND MAXILLOFACIAL

See also *Clinicians Report* June 2022: “Use Wisdom with Third Molar Surgery”

Bone Grafting Materials, Membranes, and Harvester

Proven Products:

- **Bio-Oss, Geistlich**
- **DynaBlast Paste, Keystone Dental**
- **Foundation, Morita**
- **Grafton DBM, BioHorizons**
- **L-PRF IntraSpin System, Intra-lock**
- **LifeNet OraGRAFT Bone, Salvin Dental**
- **Osteogen Plug and OsteoGen Strip, Impladent**
- **Puros, ZimVie Dental**
- **Zmatrix (porcine peritoneum collagen membranes), Osteogenics Biomedical**



OsseoScrape Angled Bone Scraper, Salvin Dental

Disposable bone harvester is sharp and has clear casing to observe collected bone. **Chamber holds 1 cc of patients own graft** for only the cost of the scraper.

\$28/Instrument (\$140/Box of 5)

See also *Clinicians Report* July 2022

Education, Oral Surgery

CR Note: The reader is encouraged to seek education and review *Clinicians Report* June 2022 “Use Wisdom with Third Molar Surgery” as well as surgical items in *Clinicians Report* May 2021, July 2021, November 2021, and August 2022. Understand that prevention of cross contamination is paramount. Use autoclavable handpieces and cords (both suction and handpiece (or sleeved)), rear exhaust air rotors, and sterile packs.

Proven Products:

- ★ **Oral Surgery in General Practice (video V4116) and Extraction Techniques for the General Dentist (video X4111), Gordon J. Christensen PCCDental.com**

Handpieces, Surgical

Proven Products:

- **AEU-7000-70V Implant Surgical Motor, and AEU-6000-70V with endo function, Aseptico**
- **Implantmed Classic SI-915, W&H**
- **Various, Hall**
- **Various, Zimmer Biomet**



Surgic-Pro Non-Optic, Brasseler USA

Surgical electric handpiece system with 1:2 straight handpiece, non-optic, irrigation tubing with hanger, and 2-year warranty.

\$5,500/System

See also *Clinicians Report* June 2022

Instruments

See also *Clinicians Report* August 2022: “First Look at a New Technology that May Simplify Oral Surgery”

CR Note: See also *Clinicians Report* May 2021 “Surgical Extraction: You’re Only As Good As Your Instruments!”

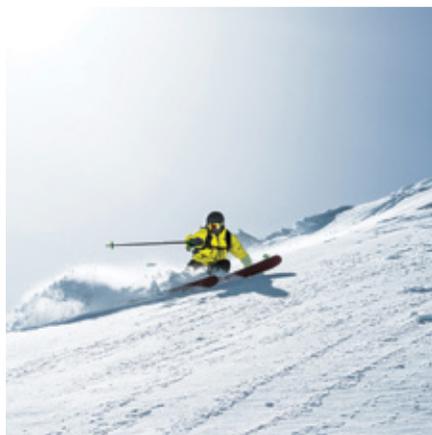


Osseotouch Magnetic Mallet, from Dental Enterprises LLC

New technology is an **innovative alternative to surgical mallets, chisels, osteotomes, elevators, and “skinny bur” osteotomy**. Delivers a mallet-like strike via a force generated by magnetic pulses. Various instrument configurations available.

\$4,495/Control/power unit, Mono-impulse Foot Pedal, Autoclavable “Plus Handpiece,” Five Autoclavable Curved Extraction Instruments, and Five-year Warranty

See also *Clinicians Report* August 2022

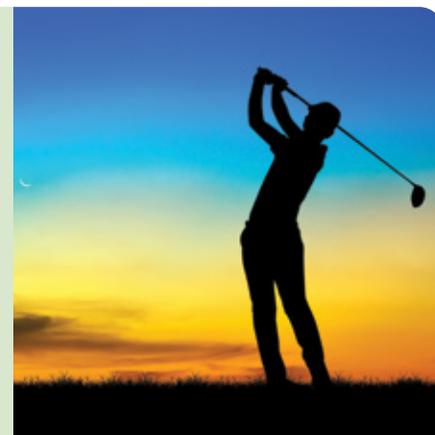


CR DENTISTRY UPDATE

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