



2022 Innovations in Preventive Dentistry

Gordon J. Christensen DDS MSD PhD

Zufall Health Center



**CR Foundation
TRAC Research**



Practical Clinical Courses

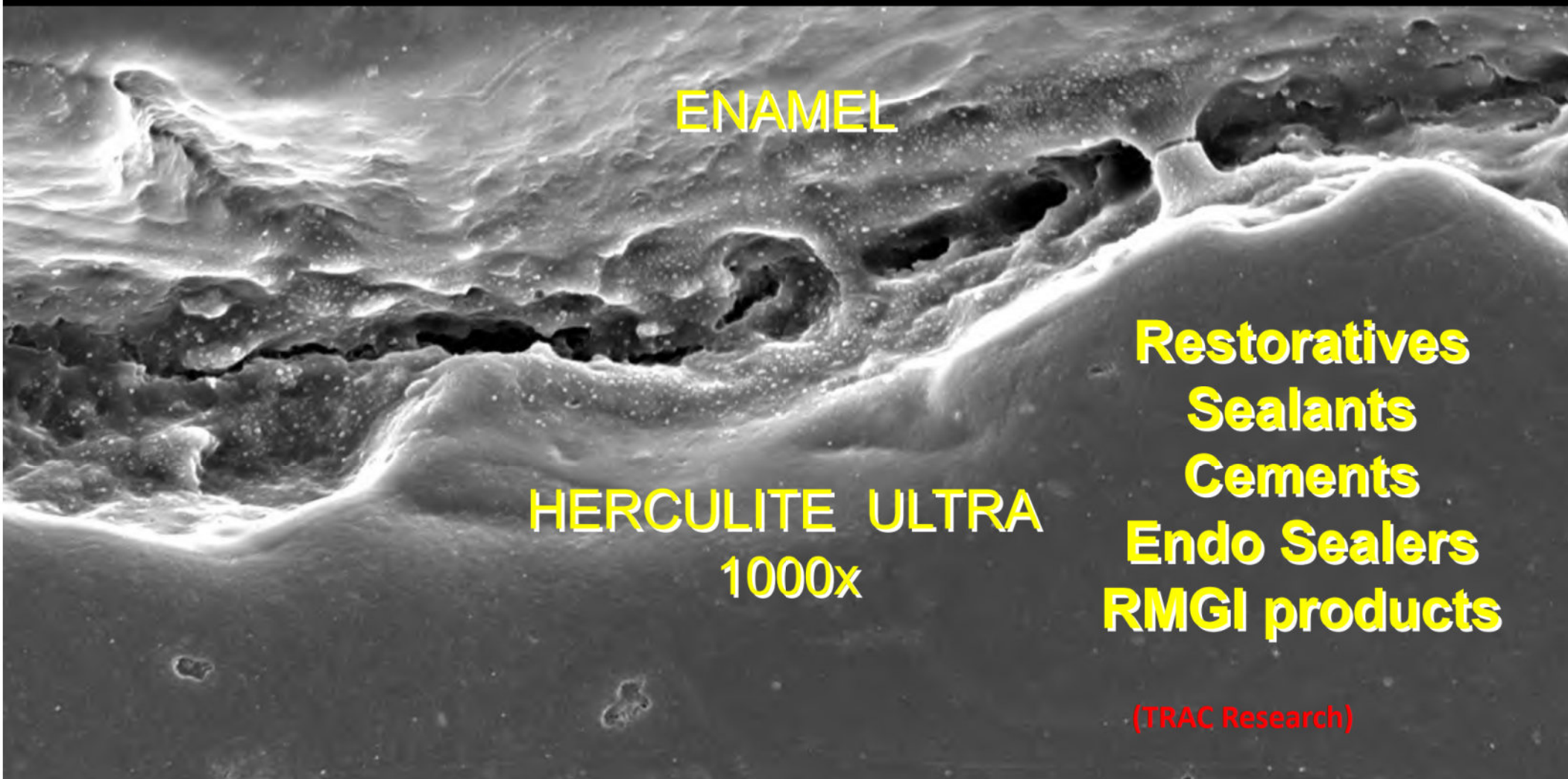


Practical Clinical Courses

Preventive Dentistry

Improved Glass Ionomers and New Preventive Concept

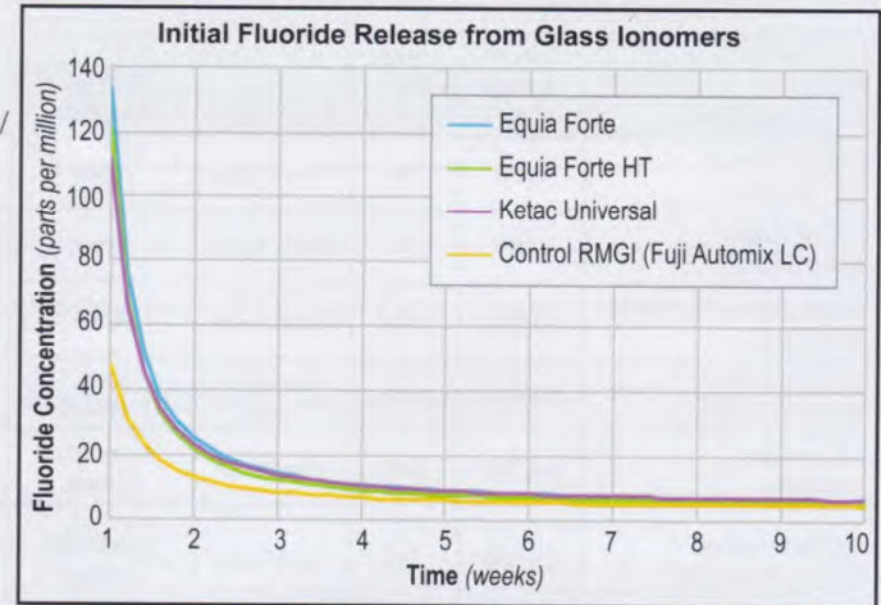
Polymerization Shrinkage = margin seal failure



Fluoride Release

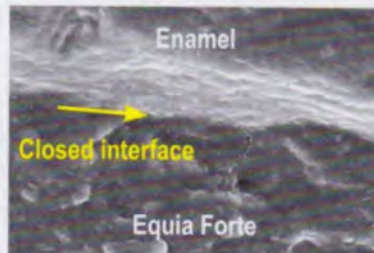
Glass ionomers generally release more fluoride than other types of materials, and the fluoride is reasonably sustained over time. The graph shows Equia Forte/ Equia Forte HT (GC America) and Ketac Universal (3M) compared to Fuji Automix LC (GC America), a resin-modified glass ionomer (RMGI). Data from TRAC Research.

- After initial fluoride burst, a level of 3–5 ppm continues to be released for a period of weeks to months.
- A separate analysis of extracted teeth shows high fluoride uptake into tooth structure immediately adjacent to the glass ionomer material, but little effect in other areas of the mouth. The fluoride benefit is highly localized.
- Fluoride helps protect and support teeth that have been affected by caries and cut by rotary instruments.

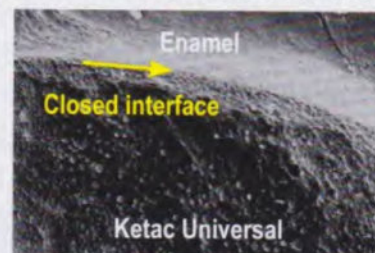


Seal at Margins

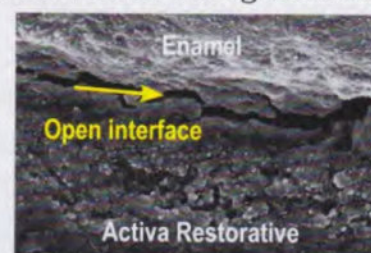
Glass ionomers chemically bond (*chelate*) with tooth structure, helping maintain margin integrity over time. Resin-based materials exhibit polymerization shrinkage, causing open cracks at the tooth-restoration interface. The following scanning electron microscope images were made from replicas that show in vivo margins from restorations that are part of TRAC's long-term clinical studies.



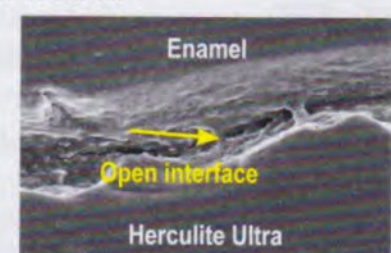
Glass Ionomer



Glass Ionomer

















Resin-Modified Glass Ionomer



Resin-Based Composite

Glass Ionomer and Resin-Modified Glass Ionomer Materials

Brand	Approx. Cost and Quantity per Capsule	Shades	Activation	Prep Conditioner (etch) Recommended	Mixing Time	Working Time	Set Time Before Finishing	Consistency (Minimal Stickiness)	Radiopacity (% aluminum)	Flexural Strength (MPa)	Compressive Strength (MPa)	Varnish Coat
Study Materials												
 Ketac Universal Aplicap 3M 	\$5.80 0.13 ml	6	Press in activator	Not specified	8–10 sec	110 sec	3.7 min	Good–Fair	320%	25	350	Optional before and after finishing
 Equia Forte HT GC America 	\$7.30 0.14 ml	8	Depress plunger	Yes	10 sec	90 sec	2.5 min	Fair	260%	13	170	Apply after finishing (optional before finishing)
Comparison Materials												
 Equia Forte GC America 	\$7.30 0.14 ml	8	Depress plunger	Yes	10 sec	75 sec	2.5 min	Fair	250%	31	260	Apply after finishing (optional before finishing)
 ChemFil Rock Dentsply Sirona 	\$6.80 0.10 ml	5	Depress plunger	Not specified	15 sec	90 sec	6 min	Good	270%	21	270	Not specified
 GC Fuji IX GP Extra GC America 	\$7.40 0.14 ml	8	Depress plunger	Yes	10 sec	75 sec	2.5 min	Fair	220%	31	200	Apply after finishing (optional before finishing)
GC Fuji II Capsule GC America 	\$8.70 0.12 ml	6	Depress plunger, click in applicator	Yes	10 sec	120 sec	15+ min	Exc–Good	290%	27	190	Recommended after initial finish, wait 15 minutes, apply after final finish
Riva Self Cure HV SDI 	\$6.30 0.12 ml	4	Depress plunger	Yes	10 sec	90 sec	5 min	Good–Fair	290%	25	370	Apply before and after finishing
IonoStar Plus Voco 	\$5.10 0.15 ml	4	Depress plunger	Not specified	10 sec	60 sec	3 min	Fair–Poor	250%	16	170	Recommended before and after finishing
Ketac Fil Plus Aplicap 3M 	\$6.80 0.14 ml	5	Press in activator	Not specified	8–10 sec	90 sec	7 min	Fair–Poor	340%	20	110	Optional before and after finishing

EQUIA Forte GC (Conventional glass ionomer)



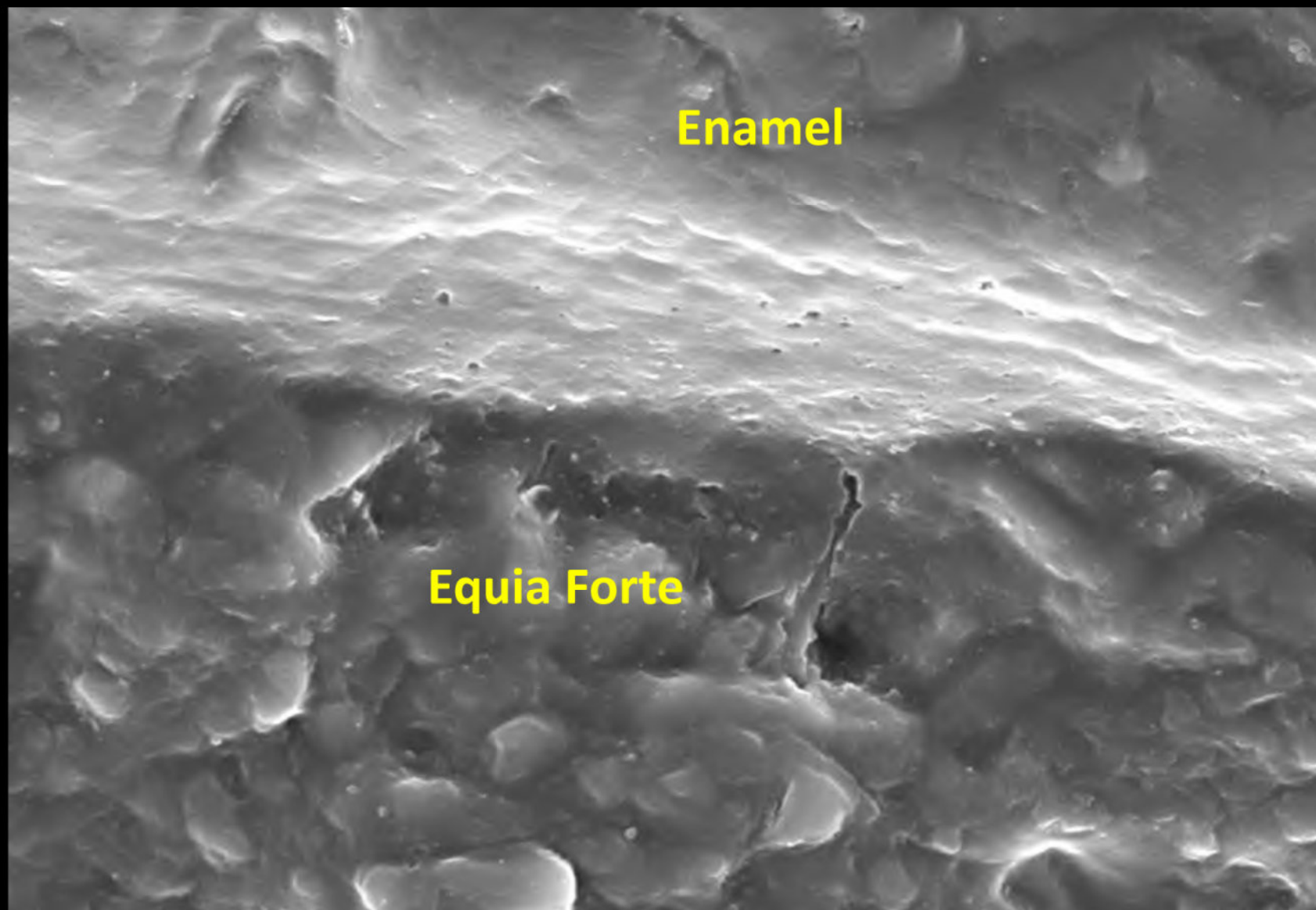
Ketac Universal 3M (Conventional glass ionomer)





Conventional Glass Ionomer

Equia Forte
3 years service
1000X
TRAC Research



Silamat



Resin-Modified Glass Ionomers

GC Fuji II LC



GC Fuji Automix LC



3M Ketac Nano



riva light cure HV (High Viscosity)

Resin-modified glass ionomer restorative material
Southern Dental Industries



Compomers



Dyract Xtra
Dentsply Sirona
(Compomer)

A New Anti-Microbiologic Material!

infinixTM
advanced dental restoratives

WELCOME TO THE FUTURE OF BIOPROTECTION

The only composites cleared by FDA to
Reduce Demineralization
which is part of the caries-formation process

BIOPROTECTION BY
nobioTM



1.5% by weight
quaternary ammonium silica-dioxide particles

Microbes die
ON CONTACT WITH THE SURFACES

There is no leach or release of chemical

Glass Ionomer Plus Composite Layer

TWO DIFFERENT USES OF GLASS IONOMER

The Sandwich Technique

Margins
stay intact
and sealed
due to chelation (*chemical bonding*)
with calcium within the tooth.

SEM part of TRAC Research
long-term clinical studies.

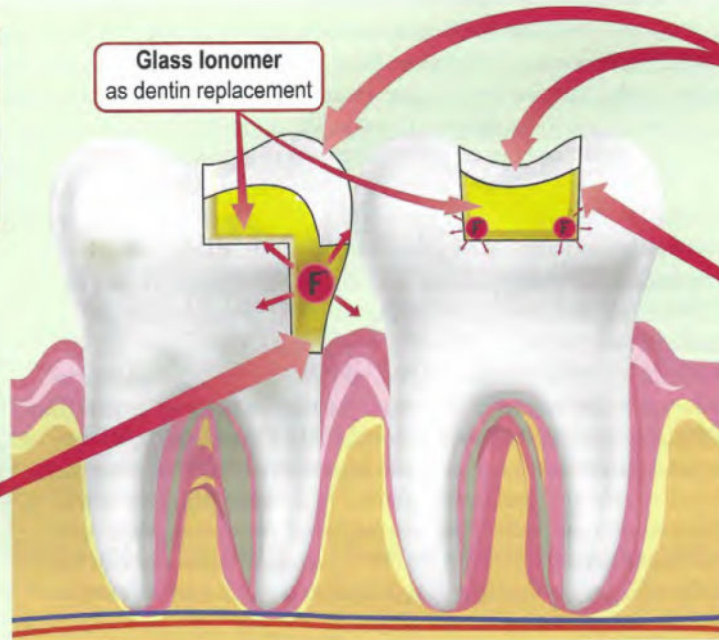


Glass Ionomer
as dentin replacement

Resin Restoratives
placed over GI base
provide needed strength,
wear characteristics, and
esthetics for finishing

"Closed" Sandwich
used when sufficient
marginal enamel remains
for resin bonding

"Open" Sandwich
used when there is no
enamel remaining at
gingival margin



F **Fluoride Release**
to surrounding
dentin and high caries
areas is a big benefit of
glass ionomers.

Steps:

1. Pretreat dentin with glutaraldehyde (two 1-minute applications).
2. Place GI as dentin replacement and allow to cure.
3. Etch enamel with phosphoric acid for 20 seconds and rinse.
4. Place and cure resin adhesive and composite resin.

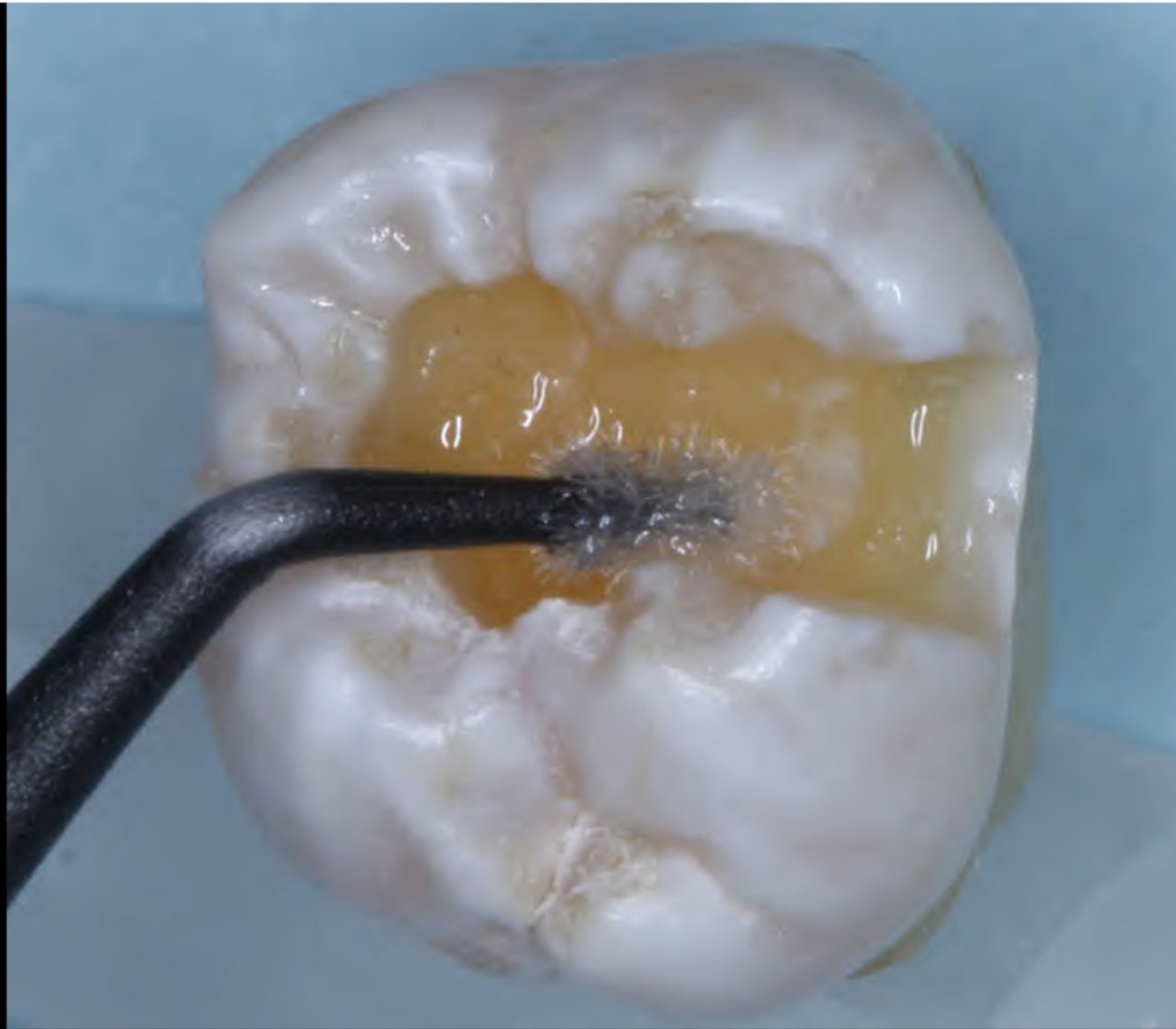


BEFORE

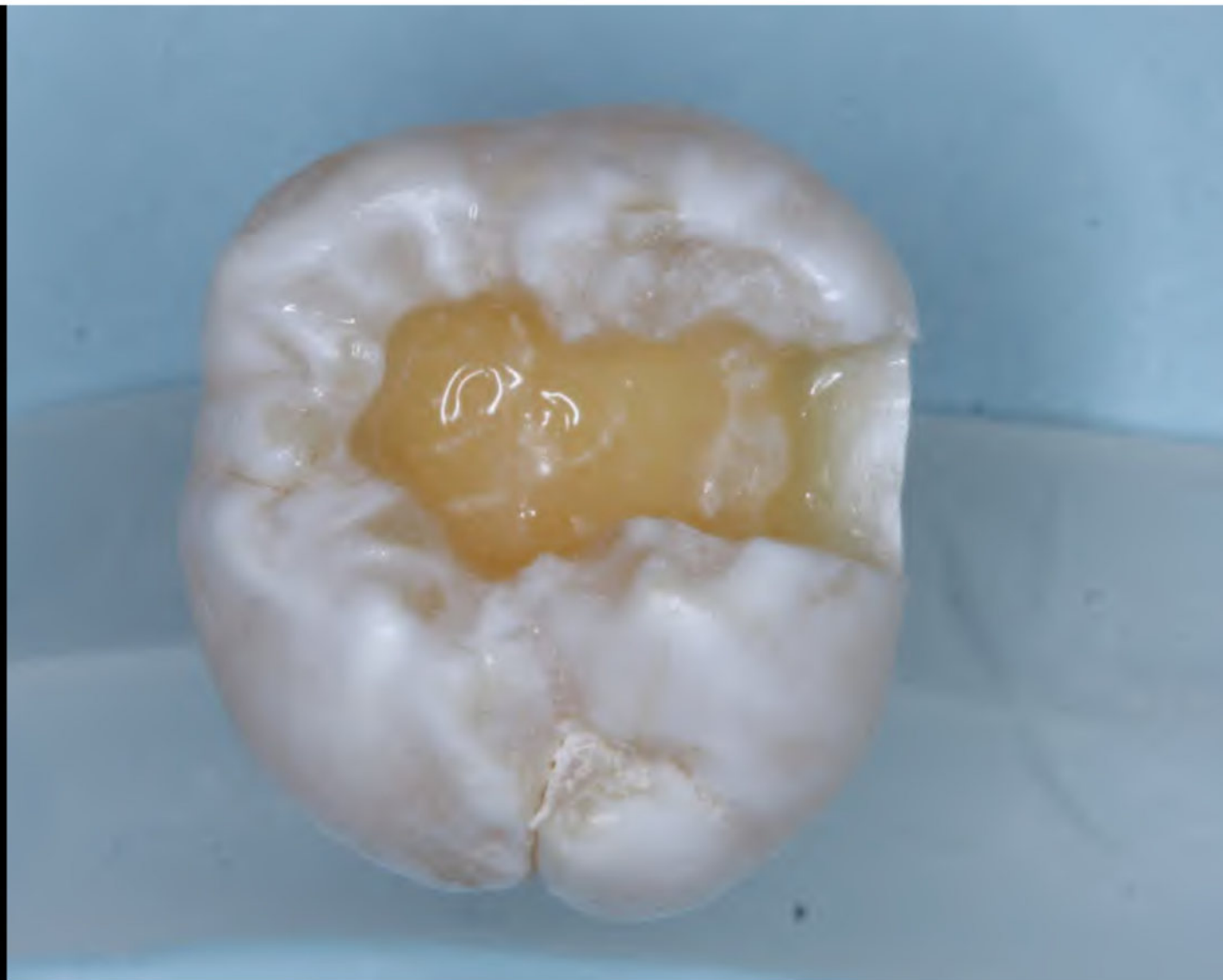


AFTER composite is
cured over the GI

**Two 1-minute applications of
5% glutaraldehyde – 35% HEMA
Gluma
Microprime G**



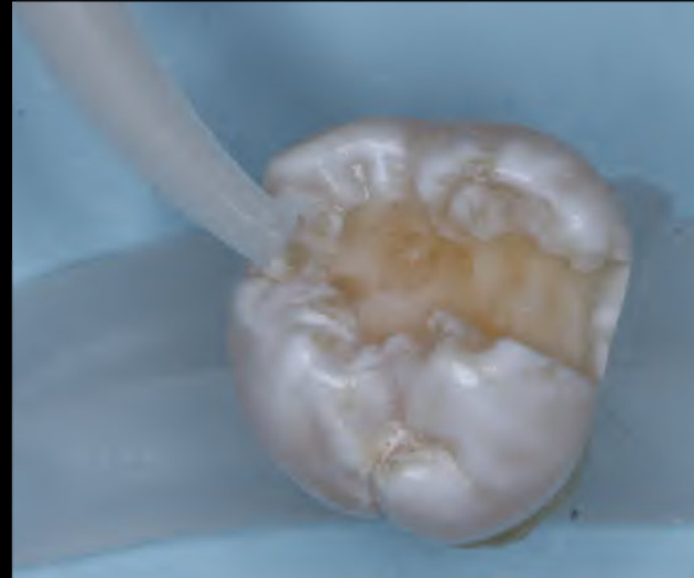
**Suction the liquid off.
Don't blow!**



**Squeeze the conventional
GI into the prep avoiding
margins as much as possible.**

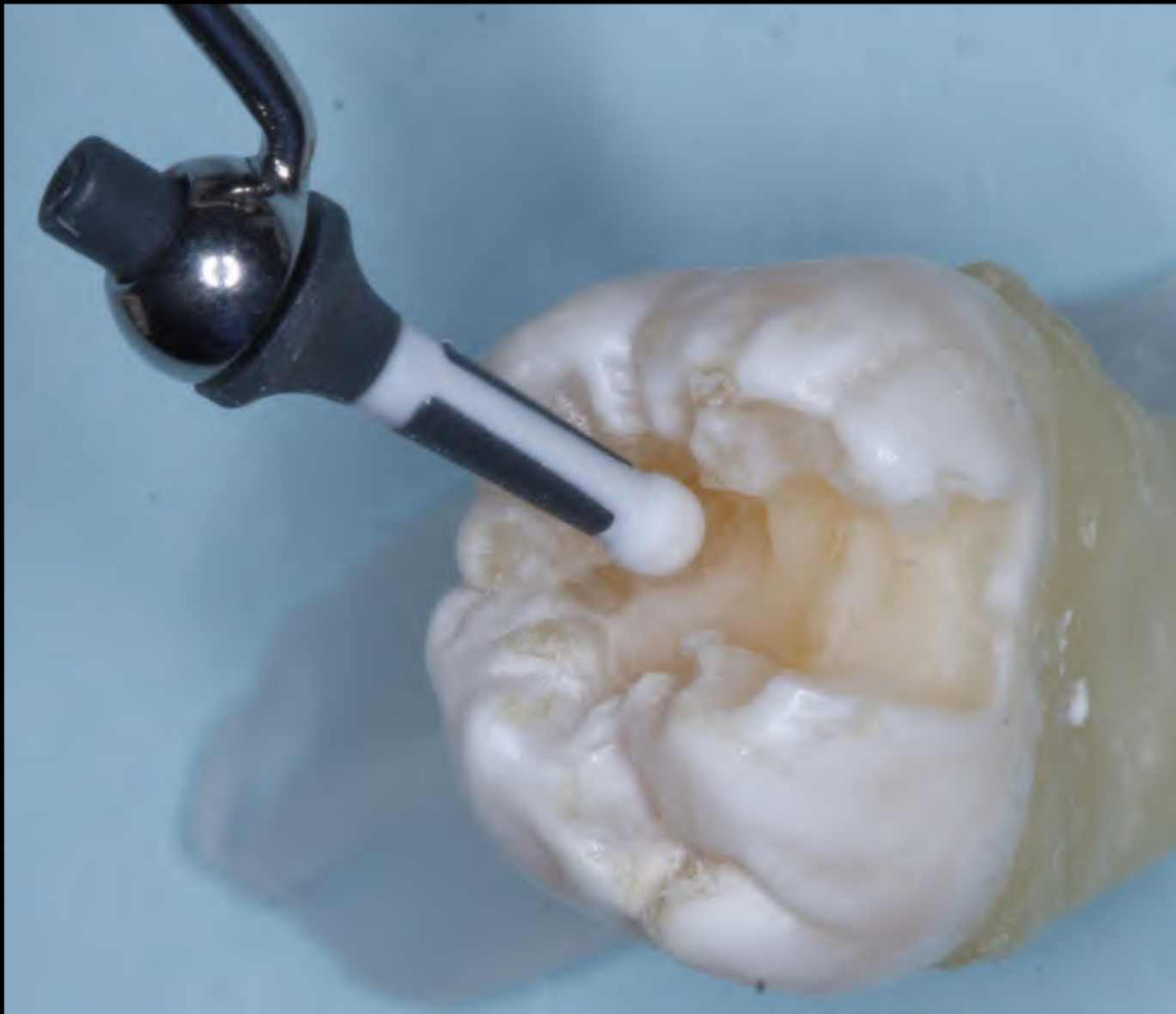
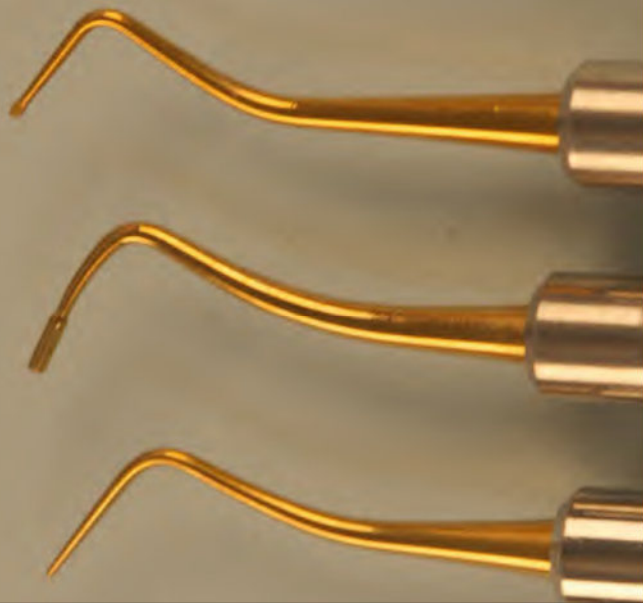
Allow initial set.

Trim margins of GI.



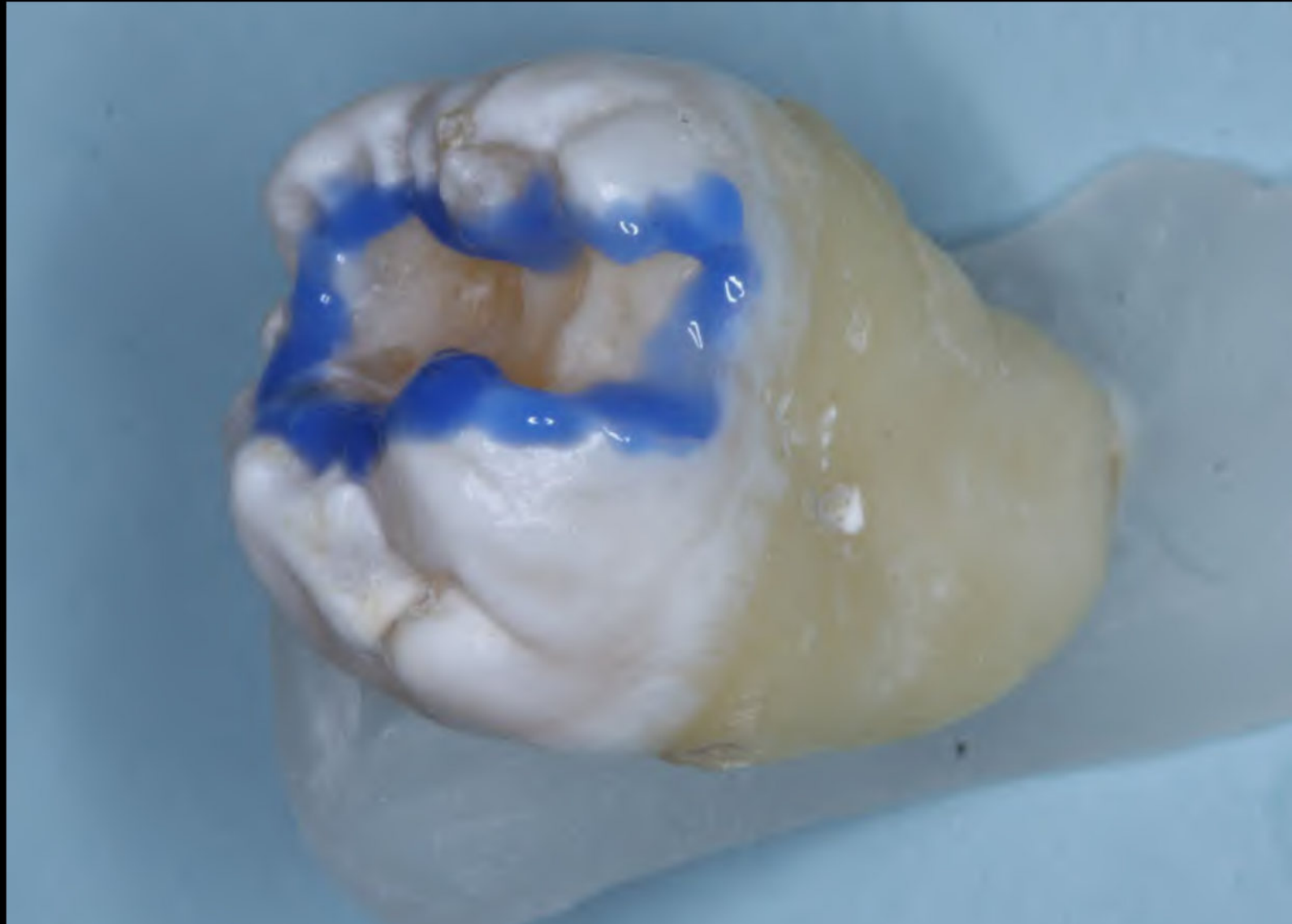
**Equia Forte or Equia HT
Ketac Universal**

Smooth the GI with an
Instrument of your choice.
Ivoclar OptraSculpt
American Eagle (Colona)



Acid etch
Selective
or
Total
Wash/dry

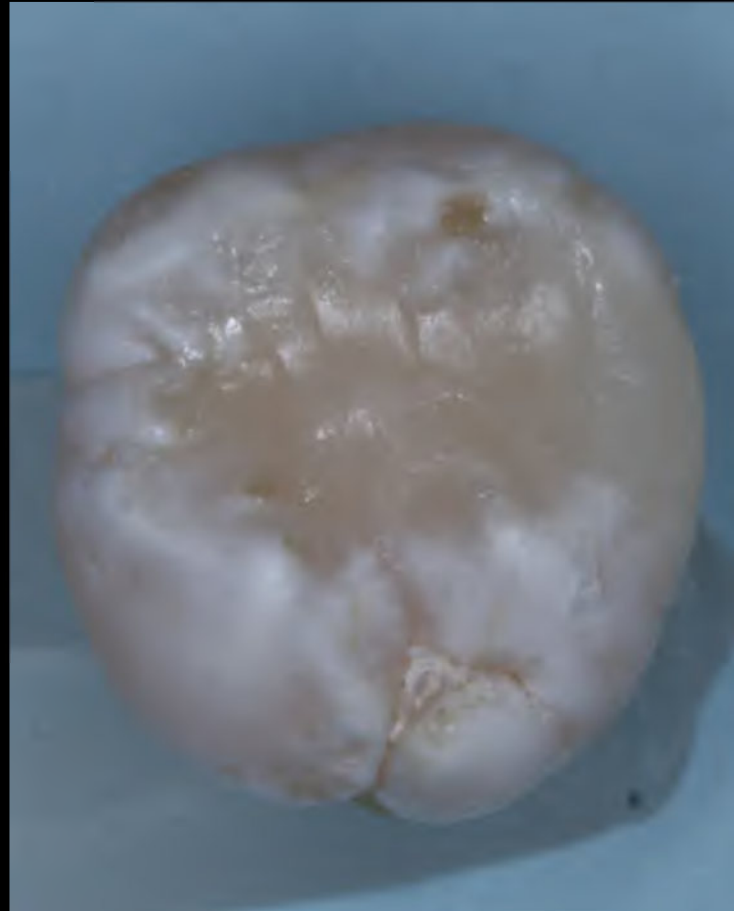
Ultradent
Ultra Etch



Place bonding agent of your choice.
Air thin and cure



**Place your favorite
composite over the
top of the GI**



**Finish and polish
the composite**





Sandwich Technique
Preventive material inside – composite on external

V3514 THE **NEW** GLASS IONOMERS REALLY WORK!



What does this technique provide?

- Disinfection provided by the glutaraldehyde.
- Desensitization provided by the glutaraldehyde.
- Chemical seal of GI to the internal of the prep provided by the GI.
- High fluoride release provided by the GI.
- Long-term caries preventive characteristics provided by the fluoride.
- Wear resistance provided by the composite.
- Esthetic acceptability provided by the composite.



Resin

NEW GI

Preventive Products

**Oldie BUT Goodie
Tooth and Gums Tonic
Dental Herb Company
(Essential Oils)**



Tooth & Gums Essentials™

is a complete natural SLS-
free toothpaste with
essential oils and xylitol.
Formulated for daily
brushing.



PerioSpot DENTAL HERB COMPANY



COMPANY STATEMENTS

IoRinse is the first iodine mouthwash using molecular iodine. Why does this matter?

- 33X stronger than povidone iodine
- 17X stronger than chlorhexidine gluconate
- Does NOT cause microbial resistance like chlorhexidine

IoRinse molecular iodine mouth rinse is available in three different types of packaging 1) a ready-to-use (RTU) 1 liter bottles; 2) ready-to-use (RTU) 12 oz bottles; or 3) as a 1 liter concentrate bottle.

We recommend the IoRinse™ one-liter RTU, or the 1 liter concentrate, for dental office use. The concentrate product works well with hygiene scalers.

If you are looking to provide the product to your patients (as a gift or for sale) for at home use we recommend the 12 oz bottle option to minimize the spread of the virus that causes COVID-19.



Antiviral Efficacy against SARS-CoV-2

Institute for Antiviral research - Utah State University

Oral rinse	Log Reduction		Observed Cytotoxicity
	30 seconds	60 seconds	
1.5% hydrogen peroxide	<1.0	<1.0	1/10, 1/100, 1/1000 dilutions
0.2% povidone iodine	2.0	3.0	none
0.12% chlorhexidine gluconate	<1.0	1.0	1/10, 1/100 dilutions
Molecular iodine formula 100-S	>3.6 Complete inactivation	>3.6 Complete inactivation	none

Source: Utah State University, Institute for Antiviral Research; August 3, 2020

How to Make Impressions Easier

Rinse
Once per day
Two Weeks before Preps
During Temps
Two Weeks Postop



Varnish Young Specialties

VarnishAmerica™

5% SODIUM FLUORIDE VARNISH



RASPBERRY

BUBBLE GUM

MINT

PATENT PENDING



VarnishAmerica



Others

(from TRAC Research)

Prevident 5000 BOOSTER Toothpaste



TePe Implant Care





PRO-SYS Variosonic



PROXABRUSH



SOFT-PICKS



TePe



Opal Pix

TePe Interdental Brushes Original, and Extra Soft/Gentle Care



TePe

Different types of dental implants require different cleaning techniques, often with special devices. TePe has a variety of brushes specially designed for implant cleaning, all developed in cooperation with professionals within the implant field.



Products recommended for use with implants



Universal Care Brush

Angled neck and slim brush head for easy cleaning of the implant from the inside.



TePe Implant Brush

This two-row brush has an extra narrow brush head, which makes it easy to clean the implant surfaces from the outside.



TePe Compact Tuft™

An angled brush with a compact, rounded tuft, allows easy access to difficult to reach implant surfaces. Can also be used for implant-supported overdenture.



TePe Special Care™

Special Care with 12,000 ultrasoft filaments is recommended after oral surgery and for patients with extremely sore and delicate oral tissues. Two brush head sizes: regular (red), compact (blue).

Storage and Travel

TePe Brush Holder offers hygienic storage of interdental brushes in the bathroom.

The Travel Case fits six TePe Interdental Brushes original or extra soft.



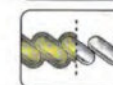
TePe Interdental Brushes, original

The original range of TePe Interdental Brushes comprises of 9 color coded sizes. The user-friendly handle offers a stable and convenient grip. High quality bristles for maximum efficiency and durability. All sizes come with plastic coated wire for safe use.



Extra soft/gentle care

A unique range of interdental brushes with specially selected extra soft bristles for gentle cleaning. Recommended for delicate oral tissue. Available in 6 sizes.



All TePe Interdental brushes have plastic coated wire for gentle cleaning and safe for use with implants.



TePe Angle™ – the angled interdental brush

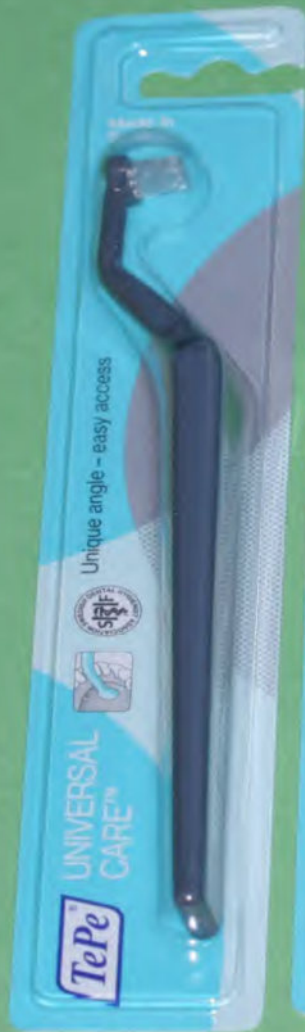
This brush is angled for excellent access to all interdental spaces. The slender, angled brush head facilitates use between the back teeth and from the inside. The long, flat handle provides an ergonomic grip and makes it easy to manage. Available in six sizes.



Cleaning of implants from the buccal side.



Cleaning of implants from the palatal side.



TePe Implant Care Program

- 6x deeper sub-gingival access for better gum health
- 1.5x deeper interproximal access for better interdental cleaning
- 35% more bristles for a thorough cleaning experience
- Comfortable ergonomic rubber handle for a better grip



Colgate® Slimsoft™ Toothbrush

Silver Diamine Fluoride (SDF)



NEW 2021 CDT CODE



Advantage Arrest
Silver Diamine Fluoride 38%

In 2021, D1355, a new CDT® code, will be available for use in the dental profession. [Studies have shown](#) that a single application of SDF to healthy dentition does not stain and provides as much protection as four fluoride varnish treatments in a year. This new code will allow proper documentation of this growing use of SDF. Visibility of the new code for preventive procedures will help build awareness for reimbursement from third-party payers. Look for *D1355 caries preventive medicament application-per tooth* in the coming CDT 2021 book. The ADA recently released a guidance document to help practitioners utilize the new code.

Advantage Arrest Silver Diamine Fluoride



CDT Codes

- D1208 – fluoride application
- D9910 – Application of a desensitizing medicament
- 2016 Code
 - **D1354** Interim application of caries arresting medicament
- Check with your coding and insurance advisors for more information.

Silver Diamine Fluoride (CR and Gordon)

- Has potential for
 - ❖ Nursing home clients
 - ❖ Elderly financially compromised patients
 - ❖ Children in low income areas
 - ❖ Mentally compromised patients
 - ❖ Patients in developing countries
 - ❖ Identification of Class I caries

GORDON OPINION

CONSIDER OTHER PREVENTIVE METHODS ALSO

POTENTIAL SDF TECHNIQUE

CR REPORT JAN 2018

1. Dry the lesion surface
2. Apply SDF
3. Allow to soak in for 60 seconds, or immediately cover with a fluoride varnish
4. If no varnish was applied, blot the surface dry
(do not water rinse and compress air dry)
5. Repeat above in 1 to 3 weeks for highest chance of success
6. Re-apply at 6-month to 1-year intervals

TRAC/CR CONCLUSIONS ON SDF (CR Jan 2018)

- Recovery of high numbers of viable microbes throughout SDF treated lesions indicates significant doubt that silver diamine fluoride ARRESTS dental caries lesion progression. However, clinically SDF treatment can be useful for the advantages listed above. Currently, there is no dental product or treatment that ARRESTS dental caries progression – the best outcome possible today is DELAY of progression. Because SDF desensitizes but leaves many types and numbers of microbes within lesions, clinicians are advised to monitor SDF treated lesions over time with the same careful attention given to restorations. Currently, only patients can ARREST the self-induced disease of dental caries by changing diet, oral hygiene, and medications and habits that alter saliva flow and composition.**

Preventive Dentistry 2022

- Dental preventive techniques are well-known but could be used more.
- Many patients including mature adults, high caries adolescents, special needs persons and need specialized care, such as interproximal picks and brushes, soft toothbrushes, 5,000 ppm toothpastes, fluoride in trays, and dry mouth medications.
- Use preventive restorative materials to help prevent caries. Watch for new anti-cariostatic materials coming.
- Preventive dentistry can be a win-win concept especially if many procedures are delegated to educated/trained, motivated team members.

2022 PRODUCT & COURSE CATALOG

GORDON J. CHRISTENSEN

PRACTICAL CLINICAL COURSES®



GORDON J. CHRISTENSEN
PRACTICAL CLINICAL COURSES
Nationally Approved PACE Program
Provider for FAGD/MAAGD credit.
Approval does not imply acceptance by
any regulatory authority or AGD endorsement.
6/1/21 to 5/31/24
Provider ID# 208521

ADA C-E-R-P® | Continuing Education
Recognition Program

See Educational Offerings
In the PCC Catalog
or
pccdental.com



All-Access Pass

- Every PCC product
Except hands-on courses

pccdental.com
(800) 223-6569

Gordon's **SUGGESTIONS FOR THE POST COVID TIME**

- **V1904**-Reliable, Simple Treatment of Cracked Teeth
- **V3514**-The New Glass Ionomers Really Work!
- **V2391**-Diagnosis and Treatment of Failing Implants
- **V3501**-Making Foolproof Class II Composites
- **V3582**-Mastering Frequent Esthetic Challenges with Resin
- **V1980**-Foolproof, Fast, Single Crown Procedure
- **V1922**-Impressions Can Be Simple and Predictable
- **V1119**-Optimizing Digital Radiography

Top 10 Videos

January 2022



V2549-Making Complete Dentures a “Win-Win” Service

V3162-Bruxism-Prevention and Treatment

V1571-Ceramic Veneers, State of the Art

V3514-The New Glass Ionomers Really Work!

V3501-Making Foolproof Class II Composites

V1922-Impressions Can Be Simple And Predictable

V1904-Reliable, Simple Treatment of Cracked Teeth

V3995-Local Anesthesia: Eliminating Misses and Near Misses

V4181-Atraumatic Removal of Teeth – Erupted & Impacted

V1980-Foolproof, Fast Single Crown Procedure

Contact US!

www.pccdental.com
(800) 223-6569

www.cliniciansreport.org
(801) 226-2121

