



Root Caries
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Attendees will be given a password at the presentation to access pertinent journal articles and other documents

Root Caries NCDS, Myrtle Beach 2019

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More resources and patient handouts available at www.geriatricdentistry.com

Password: _____

Dr. Huffines has no financial interest in any of the products or companies listed below

American Dental Association

*Caries Risk Assessment
Fluoride Recommendations
www.ada.org*

3M /ESPE/ OMNI

*Xerostomai Relief Spray
Ketac Nano GIC
Photac-Fil Quick
Ketac-Molar Aplicap Quick
Vitrebond Plus
RelyX Luting Plus
Single Bond Plus
Scotchbond Universal
Adhesive
Filtek Supreme
Xylitol products:
TheraGum
TheraMints
Vanish Fluoride Varnish
Vanish XT Varnish
Clinpro 5000 toothpaste
888-364-3577
www.3MESPE.com*

Arm and Hammer

*Complete Care Enamel
Strengthening
(ACP forming)*

800-221-0453
www.oralcarepro.com

Axis Dental Corporation

*Pointed football diamond:
386-023 fine and UF
386-016 fine and UF
Flame diamond:
860-014 fine and SF
800-355-5063
www.axisdental.com*

Bisco, Inc

*Select HV etch
800-247-3368
www.bisco.com*

Brasseler USA

*Bone removal:
H79EA.104.040
Denture adjustment:
H77E-023
H251E-060
Spiral finishing burs:
H48L.31.010
H48L.31.012
800-841-4522
www.brasselerusa.com*

CAMBRA guidelines

*Caries risk assessment
and management protocols
www.cdafoundation.org
www.geriatricdentistry.com*

CAMBRA guidelines

*Caries risk assessment
and management protocols
www.cdafoundation.org
www.geriatricdentistry.com*

Colgate Oral Pharmaceuticals

*Duraphat varnish
PreviDent varnish
PreviDent brush-on gel
PreviDent500 Plus
PreviDent 5000 Booster
PreviDent 5000 Dry Mouth
PreviDent 5000 Sensitive
800-226-4283
www.colgateprofessional.com*

Crosstex International

*Lint free cotton rolls:
101-1838 DNC #2 Medium
888-276-7783
www.crosstex.com*

Collis-Curve Toothbrush

*Perio /implant best for older
adults with recession
800-298-4818
www.colliscurve.com*

Crescent Products

*Headrest, backrest
Knee support
(also sold by Practicon)
800-989-8085
www.crescentproducts.com*

Dedeco
Dia-Dome Sanding caps
Brown Midgets:
RA mini 4840
FG mini 4870
845-887-4840
www.dedeco.com

Dentek
OraMoist patch
800-433-6835
888-218-4595 Canada
www.dentek.com

Dentsply International
NUPRO White Varnish
Aquasil Ultra
ChemFil Rock
Lynal tissue conditioner
Luci-Sof
Lucitone 199
Portrait IPN denture teeth
Fast set Jeltrate (original)
4% ArticaDent I:100,000 epi
4% ArticaDent I:200,000 epi
Citanest Plain
800-877-0020
www.dentsply.com

Elevate Oral Care
Advantage Arrest
(silver diamine fluoride)
AllDay oral moisturizer
Full line of other preventive products
TePe interdental cleaners

877.866.9113
www.elevateoralcare.com

Ellman International
Dento-Surg
Electrosurgery electrodes:
118B, 117, 113FB, 136B,
127B, 128B
800-835-5355
www.ellman.com

**Elsevier Publishing
Saunders/Mosby/ Churchill**
Dental Management of the
Medically Compromised
Patient
Mosby Dental Drug
Reference
800.545.2522
www.elsevierhealth.com

Garrison Dental Solutions
BlueView Cervical Matrices
888-437.0032
www.garrisondental.com

GC America Inc.
EQUIA Forte
Fuji Automix LC
Fuji IX GP Extra
Fuji II LC capsules
Fuji Triage pink
Fuji Plus
FujiCEM 2
Saliva-Check Buffer
Saliva-Check Mutans
MI Paste
MI Paste Plus
MI Varnish
Dry Mouth Gel
Coe-Soft
GC Reline (hard)
GC Reline (soft)
STO-K edentulous trays
GCLT Lab Putty#138304
800-323-7063
www.gcamerica.com

GlaxoSmithKline
Dry Mouth Products:
Biotene Mouthwash,
Oralbalance Gel
Biotene Spray
Sensodyne Proenamel
800-652-5625
www.dental-professional.com

Hershey Company
Ice Cubes gum
(1.1mg xylitol/cube)
Find in local stores
www.hersheys.com

Hu-Friedy
#17 explorer (root caries)
Back action amalgam
carrier AC5303
Back action DE plugger
#9/10
Back action DE plugger
#11/12
MIR5DS mirror
F150AS forcep
Hourigan elevator PH2
Molt #2 Curette
mirror MIR5DS
800-483-7433
www.hu-friedy.com

Ivoclar Vivadent, Inc.
CRT - Caries Risk Test
Fluor Protector Varnish
Cervitec Plus
SR Vivodent PE
SR Vivodent Plus DCL
Orthoplane denture teeth
AccuDent edentulous trays
800-533-6825
www.ivoclarvivadent.us.com

Kerr Dental

TempBond Clear #33351
Alginate 25226
Alginate spatula 25234
Alginate bowl grey 25236
Clean and lube spray 23070
800-537-7123
www.kerrdental.com

Kilgore International Inc.

Edentulous models:
#P/5/1 MAND
#P/5/1MAX
Add dentate model to each
800-892-9999
www.kilgoreinternational.com

Lexi-Comp Publishing

Drug Information Handbook
For Dentistry
Online and electronic
products
800.837.5394
www.lexi.com

**Medical Products
Laboratories, Inc.**

VarnishAmerica Original
VarnishAmerica White
800-523-0191
www.medicalproductslaboratories.com

Medicom Inc.

Duraflor Varnish
800-308-6589
www.medicom.com

North Coast Medical

Foam tubing:
Small for proxybrush:
NC35013
Large for toothbrush:
NC35014
Suction Nail brush:
NC28224
800-821-9319
www.ncmedical.com

OraCoat

XyliMelts disks
877-672-6541
www.oracoat.com

Oral Care Technologies

Hydro Floss
800-635-3594
www.hydrofloss.com

Parkell Inc.

Hedgehog pear bur S498
Sensimatic electrosurgery
800-243-7446
www.parkell.com

Practicon Dental

Crescent headrest, backrest,
and knee supports
RETRACT gingival retractor
#70-29928
Laschal GingivalRetractor
Handle #70-86366
800-278-0885
www.practicon.com

Premier Dental Products

Cure-Thru Cervical Matrices
Enamel Pro Varnish
Enamelon toothpaste (ACP)
888-670-6100
www.premusa.com

Radius Toothbrush

800-626-6223
www.radius toothbrush.com

Septodont

Septocaine 1:200,000 epi
Septocaine 1:100,000 epi

800.872.8305
www.septodontusa.com
<http://www.septodontusa.com>

Special Care Dentistry

American Society for
Geriatric Dentistry
Academy of Dentistry for
Persons with Disabilities
American Association of
Hospital Dentists
www.scdonline.org

Specialized Care

Open Wide mouth prop
Wrap-Around mouth prop
800-722-7375
www.specializedcare.com

Sullivan Schein

Clear-Surgical Tray
0.80" thick #100-4239EZ
Dr. Thompson's color
Transfer applicators
#3910878
Mouthguard clear .150
Mirror #6 100-4475
Mirror #6 100-7410
800-372-4346
www.sullivanschein.com

Sunstar Americas (Butler)

Pareox alcohol free

chlorhexidine rinse

800.528.8537

www.jbutler.com

Trademark Medical

Plak-Vac suction toothbrush

800-241-1255

www.trademarkmedical.com

Ultradent Products, Inc.

Astringedent

888-230-1420

www.ultradent.com

**US Air Force
Dental Evaluation and
Consultation Service**

Product and equipment

Evaluation

Google for current website

Waterpik

Water Flosser

800-525-2020

www.waterpik.com/oral-health

www.xylitolnow.com

Online xylitol products

Xylitol Information Center

800-255-6837

www.xylitolinfo.com

Zenith/DMG

Zekrya Gingival Protector

800-662-6383

www.zenithdmg.com

CLINICIANS GUIDE TO GLASS IONOMER PRODUCTS 2019

Randy F. Huffines, DDS

www.GeriatricDentistry.com

Note: I have included some, but not all, of the products by 3M ESPE and GC America. I have little clinical research with the Riva products by Southern Dental Industries, the Ionofil products by VOCO, or the GlasIonomer line by Shofu. I have had limited clinical experience with them. They may be excellent products.

General Principles for all GICs:

1. Bond to tooth without any bonding agent
2. Fluoride reservoir: Conventional more fluoride than RMGIC
3. Good dentin replacement – Coefficient of thermal expansion like tooth
4. Follow directions for that particular product
5. Stickier than composite so consider matrix, use matrix ASAP when viscosity is low.
Do not try to sculpt, overfill and trim/contour after set.
6. Use conditioner (usually polyacrylic acid) NOT phosphoric acid etch
7. Hydrophilic water based product - tooth moist for best adhesion
8. Better finished with diamonds than carbides
9. Easier to ditch than composites (fatter burs, possibly slow speed)
10. Avoid acidic fluorides
11. Adhesive strength > Cohesive strength

I. Glass Ionomer Restoratives

1. **Conventional** (no resin, not light cured)
 - a. Ketac Fil Plus Aplicap - 3M ESPE
 - b. Ketac Silver Aplicap - 3M ESPE
 - c. Fuji Triage (capsule) - GC America
2. **Conventional Fast Set** (sometimes called posterior)
 - a. Fuji EQUIA Forte (capsule) - GC America
 - b. Ketac-Molar Quick Aplicap – 3M ESPE

Clinical Tips for Conventional GIC:

1. Not light cured – acid-base reaction and self-cure
2. No bevel – better if bulk at margins
3. Finish under water and seal (coat) to protect during extended cure
4. OK to bulk fill – no polymerization shrinkage
5. In general, more opaque than RMGICs

II. Restorative Resin Modified Glass Ionomer Cements (RMGIC)

1. Fuji Automix LC
2. Fuji Filling LC (paste - paste) - GC America
3. Fuji II LC (capsule) - GC America
4. Photac-Fil Quick (capsule) - 3M ESPE
5. Vitremer (powder - liquid) - 3M ESPE
6. Ketac Nano (paste - paste) - 3M ESPE - requires light cured primer

Clinical Tips for RMGICs:

1. Usually light cured
2. Polymerization shrinkage
3. Place in 2 mm increments
4. Short bevel OK
5. More tolerant to dry finishing
6. Dark cure OK (not sure for Ketac Nano)
7. Consider conditioning even if company says not mandatory

III. GIC Liners

1. Fuji LINING LC (paste – paste) - GC America
2. Fuji LINING LC (power - liquid) - GC America
3. Vitrebond (powder - liquid) - 3M ESPE
4. Vitrebond Plus (paste – paste) - 3M ESPE

Sandwich Technique: GIC with composite on top (open or closed)

1. Using conventional GIC and total etch bonding technique:
Place GIC and let cure, trim back if needed, etch tooth and GIC for 15 seconds, rinse, apply bonding agents to GIC and tooth per regular bonding instructions.
2. Using RMGIC and total etch bonding technique:
Place RMGIC and light cure, etch only tooth (RMGIC has air inhibited layer), rinse, apply bonding agents to RMGIC and tooth per regular bonding instructions.

IV. Luting Glass Ionomer Cements

1. Conventional GIC luting agents
 - a. Ketac CEM (Aplicap and Maxicap) - 3M ESPE
 - b. Fuji I - GC America
2. RMGIC luting agents
 - a. RelyX Luting Plus (paste - paste) - 3M ESPE
 - b. RelyX Luting Cement (powder/liquid for hand spatulation) – 3M ESPE
 - c. Fuji PLUS (capsule, also available in powder/liquid for hand spatulation) - GC America
 - d. Fuji CEM 2 Automix (paste - paste) – GC America

Root Caries: A Guide for Patients

Randy F. Huffines, D.D.S. © 2019

What is root caries?

Tooth decay (caries) is not just a problem for children but can happen at any age. In fact, one type of caries becomes more common the older we get. It is called by several names: root caries, root decay, or root cavities, to name three. Unlike the type of decay you are probably familiar with that occurs in the top (crown) of the tooth, root caries occurs where the gums have receded (shrunk) away to expose the root of the tooth.

What causes root caries?

Like all tooth decay, root caries is caused by bacteria. When your mouth is not kept clean, bacteria can cling to your teeth to form a sticky, colorless film called plaque. This plaque can lead to tooth decay. In addition, for root caries to occur, the root of the tooth must be exposed. Unlike the crown of the tooth that is covered by enamel, the root is made of dentin which decays much easier. Changes in the amount of saliva in your mouth can also put you at increased risk for developing caries. Saliva contains many chemicals that keep your teeth and mouth healthy. Many medications, chemotherapy, radiation treatments, and some diseases can cause your glands not to make enough saliva and therefore make cavities and other mouth problems more likely to occur.

How do I know if I have root caries?

Many people that have root caries do not know it. Because it occurs at or even below the gum line, the warning signs that often accompany tooth decay, such as sensitivity to cold or sweets, may be absent. In addition, as we age our teeth become less sensitive and may not warn us that the tooth is damaged. Often root caries is first found by a dentist or dental hygienist during a professional cleaning or exam when they can feel the softened root with a dental instrument. Radiographs (x-rays) can be helpful in finding root caries between the teeth.

What can be done to repair the damage to the tooth?

Root caries is very deceptive. Even when the cavity can be seen with the eye, it often appears small and not very alarming. However, because the damage is to the foundation of the tooth, a little damage can weaken the entire tooth and put it at risk for breaking off to the gum line. To illustrate, perhaps you have seen a large tree that appeared to be healthy but fell down because it was rotten at the root. Similarly, what appears to be a small amount of damage to the tooth may require a crown instead of a filling. Damage may have gone all the way to the pulp (inside) of the tooth and may require endodontic therapy (root canal) to prevent pain and infection. At times, so much damage has been done the tooth must be removed. That is why it is so important to have frequent exams so that root caries can be found early.

What can be done to prevent root caries?

Since root caries is caused from bacteria, the most important thing you can do is to keep your teeth clean every day. If your gums have receded, cleaning can be more difficult. We are trained to develop a method customized for your specific condition that will allow you to be able to clean more thoroughly. Be sure to tell us if you have physical limitations that make it more difficult to clean your teeth. In addition to keeping your mouth clean, fluoride has been shown to be very important in the prevention of root caries. There are now many ways to be sure you receive the proper amount of fluoride depending on your unique needs, and we will customize a fluoride treatment plan just for you. Your diet is also a very important factor because certain foods and snacks can greatly increase the number of bacteria that forms the decay-causing plaque. Finally, frequent professional cleanings and exams can help prevent root caries or find it early when it can be more easily repaired. We are here to help you keep your teeth for a lifetime!

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Reason for use of fluoride trays

For the reasons we have talked about, you are at high risk to get more cavities in the future. Treating your teeth daily with a prescription strength fluoride gel can help lower the number of cavities you get. Using the clear soft trays we have made to cover your teeth is one of the best ways to get this fluoride treatment every day at home.

Directions for use of fluoride trays

This is best done the very last thing before bedtime every night, so the fluoride can treat the teeth all during the night. You may be asked to do this treatment a second time after breakfast.

- 1) Clean your teeth well.
- 2) Place a thin line of the gel inside each of the soft trays into the depressions where your teeth fit. You need enough so that some oozes out from under the tray when you snap it over your teeth. Over time you will learn how much to use. It is better to have a little too much than too little.
- 3) Snap the trays with the gel inside onto your teeth. Spit out the extra that oozes out from under the trays. Do not rinse.
- 4) Leave the trays in for 5-10 minutes
- 5) Remove the trays. Spit out the extra gel. **DO NOT RINSE.** You do not want to drink or eat anything for at least 30 minutes. It is even better if you do this at bedtime so that the fluoride stays on for even longer.
- 6) Rinse out the fluoride trays well with water and store them dry in the denture cup we gave you. At least once a week soak them in any denture cleanser like Polident or Efferdent.