

# ***Prevention for the High-Risk Caries Patient & Restoring the High-Risk Caries Patient***

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**More resources and patient handouts available at [www.geriatricdentistry.com](http://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](http://www.ada.org)*

## **3M /ESPE/ OMNI**

*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](http://www.3MESPE.com)*

## **Arm and Hammer**

*Complete Care Enamel  
Strengthening  
(ACP forming)  
800-221-0453  
[www.oralcarepro.com](http://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](http://www.axisdental.com)*

## **Bisco, Inc**

*Select HV etch  
800-247-3368  
[www.bisco.com](http://www.bisco.com)*

## **Brasseler USA**

*Bone removal:  
H79EA.104.040  
Denture adjustment:  
H77E-023  
H251E-060  
Spiral finishing burs:  
H48L.31.010*

## **CAMBRA guidelines**

*Caries risk assessment  
and management protocols  
[www.cdafoundation.org](http://www.cdafoundation.org)  
[www.geriatricdentistry.com](http://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](http://www.colgateprofessional.com)*

## **Coreva Health Science**

*ActCel hemostatic gauze  
877-215-8500  
[www.actcel.com](http://www.actcel.com)*

## **Crosstex International**

*Lint free cotton rolls:  
101-1838 DNC #2 Medium  
888-276-7783  
[www.crosstex.com](http://www.crosstex.com)*

## **Collis-Curve Toothbrush**

*Perio /implant best for older  
adults with recession  
800-298-4818  
[www.colliscurve.com](http://www.colliscurve.com)*

**Crescent Products**

Headrest, backrest  
Knee support  
(also sold by Practicon)  
800-989-8085  
[www.crescentproducts.com](http://www.crescentproducts.com)

**Dedeco**

Brown Midgets:  
RA mini 4840  
FG mini 4870  
845-887-4840  
[www.dedeco.com](http://www.dedeco.com)

**Dentek**

OraMoist patch  
800-433-6835  
888-218-4595 Canada  
[www.dentek.com](http://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% Articaident 1:100,000 epi  
4% Articaident 1:200,000 epi  
Citanest Plain  
800-877-0020  
[www.dentsply.com](http://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](http://www.elevateoralcare.com)

**Ellman International**

Dento-Surg  
Electrosurgery electrodes:  
118B, 117, 113FB, 136B,  
127B, 128B  
800-835-5355  
[www.ellman.com](http://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](http://www.elsevierhealth.com)

**Garrison Dental Solutions**

BlueView Cervical Matrices  
888-437.0032  
[www.garrisondental.com](http://www.garrisondental.com)

**GC America Inc.**

Fuji EQUIA Forte  
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](http://www.gcamerica.com)

**GlaxoSmithKline**

Dry Mouth Products:  
Biotene Mouthwash,  
Oralbalance Gel  
Biotene Spray  
Sensodyne Proenamel  
800-652-5625  
[www.dental-professional.com](http://www.dental-professional.com)

**Hershey Company**

Ice Cubes gum  
(1.1mg xylitol/cube)  
Find in local stores  
[www.hersheys.com](http://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](http://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](http://www.ivoclarvivadent.us.com)

**Karl Schumacher Dental Instruments**  
302,333 forceps  
Small Straight Proximator  
Large Straight Proximator  
Molt Curette #2  
800-523-2427  
[www.karlschumacher.com](http://www.karlschumacher.com)

**Kerr Dental**  
TempBond Clear #33351  
800-537-7123  
[www.kerrdental.com](http://www.kerrdental.com)

**Lexi-Comp Publishing**  
Drug Information Handbook  
For Dentistry  
Online and electronic products  
800.837.5394  
[www.lexi.com](http://www.lexi.com)

**LifeScience Plus**  
Hemostatic gauzes:  
Blood STOP  
Blood STOP iX  
877-587-5433  
[www.lifescienceplus.com](http://www.lifescienceplus.com)

**Lippincott/Williams /Wilkins Publishing**  
The Medical History  
Lippincott's Dental Drug Reference  
800-638-3030  
[www.lww.com](http://www.lww.com)

**Medical Products Laboratories, Inc.**  
VarnishAmerica Original  
VarnishAmerica White  
800-523-0191  
[www.medicalproductslaboratories.com](http://www.medicalproductslaboratories.com)

**Medicom Inc.**  
Duraflor Varnish  
800-308-6589  
[www.medicom.com](http://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](http://www.ncmedical.com)

**OraCoat**  
XyliMelts disks  
877-672-6541  
[www.oracoat.com](http://www.oracoat.com)

**Oral Care Technologies**  
Hydro Floss  
800-635-3594  
[www.hydrofloss.com](http://www.hydrofloss.com)

**Parkell Inc.**  
Hedgehog pear bur S498  
Sensimatic electrosurgery  
800-243-7446  
[www.parkell.com](http://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](http://www.practicon.com)

**Premier Dental Products**  
Cure-Thru Cervical Matrices  
Enamel Pro Varnish  
Enamelon toothpaste (ACP)  
888-670-6100  
[www.premusa.com](http://www.premusa.com)

**Radius Toothbrush**  
800-626-6223  
[www.radius toothbrush.com](http://www.radius toothbrush.com)

**Sabra Dental Products**  
Surgi-Stop hemostatic gauze  
800-888-4435  
[www.sabradent.com](http://www.sabradent.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](http://www.scdonline.org)

**Specialized Care**  
Open Wide mouth prop  
Wrap-Around mouth prop  
800-722-7375  
[www.specializedcare.com](http://www.specializedcare.com)

**Sterngold**

*EZ PickUp #220237  
(material, tips, & "varnish")  
800-722-7375  
[www.specializedcare.com](http://www.specializedcare.com)*

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

*Product and equipment  
Evaluation  
Google for current website*

**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](http://www.sullivanschein.com)*

**Waterpik**

*Water Flosser  
800-525-2020  
[www.waterpik.com/oral-health](http://www.waterpik.com/oral-health)*

**[www.xylitolnow.com](http://www.xylitolnow.com)**

*Online xylitol products*

**Xylitol Information Center**

*800-255-6837  
[www.xylitolinfo.com](http://www.xylitolinfo.com)*

**Sunstar Americas (Butler)**

*Pareox alcohol free  
chlorhexidine rinse  
800.528.8537  
[www.jbutler.com](http://www.jbutler.com)*

**Zenith/DMG**

*Zekrya Gingival Protector  
800-662-6383  
[www.zenithdmg.com](http://www.zenithdmg.com)*

**Tokuyama America Inc**

*Rebase II  
Sofreliner Tough  
877-378-3548  
[www.tokuyama-us.com](http://www.tokuyama-us.com)*

**Zest Anchors**

*Locator attachment (original)  
Locator R-Tx attachments  
Locator education model  
#9120  
Denture removal tool  
800-262-2310  
[www.zestanchors.com](http://www.zestanchors.com)*

**Trademark Medical**

*Plak-Vac suction toothbrush  
800-241-1255  
[www.trademarkmedical.com](http://www.trademarkmedical.com)*

**Zimmer Dental**

*CollaPlug  
800-854-7019  
[www.sulzerdental.com](http://www.sulzerdental.com)*

**Ultradent Products, Inc.**

*Astringedent  
888-230-1420  
[www.ultradent.com](http://www.ultradent.com)*

**Zoll-Dental**

*Miller #64 bone file  
Miller-Colburn #3x bone file  
847.647.1819  
[www.zolldental.com](http://www.zolldental.com)*

# *Root Caries: A Guide for Patients*

Randy F. Huffines, D.D.S. © 2018

## *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.

## CLINICIANS GUIDE TO GLASS IONOMER PRODUCTS 2018

Randy F. Huffines, DDS

[www.GeriatricDentistry.com](http://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 Filling LC (paste - paste) - GC America
2. Fuji II LC (capsule) - GC America
3. Photac-Fil Quick (capsule) - 3M ESPE
4. Vitremer (powder - liquid) - 3M ESPE
5. 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