SMILESTONE

GC INDIA
e-magazine

INSIGHTFUL UPDATES OF DENTISTRY **2021** Issue#**1**

Celebrating
100 years of Quality in Dental

CASE ARTICLE

TECHNIQUE UPDATE

NEW PRODUCT

GC

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SMILESTONE

INSIGHTFUL UPDATES OF DENTISTRY

Dear SMILE MAKERS,

Welcome to the GC India's 1st edition of SMILESTONE

It is my privilege to write to you and present this 1st edition of GC India's e-magazine "Smilestone". Through this e-magazine, we would like to share the latest updates of GC to our valued customers.

100 years back, GC started production of its first dental product from Tokyo, Japan. On 11th February 2021, GC Corporation completed 100 years in contributing people's oral health around the world. GC is deeply committed to achieve excellent quality of dental materials to improve the quality of oral health. Through GC's quality assurance system, the company provides improved products and services that offer the level of quality required by customers. This commitment of improving the quality of dental care and contributing to health and smile of the people is possible with all of your support.

Since last year, due to COVID pandemic, the world has faced one of the most dangerous challenges ever in our life-time and still it's continuing. We have seen severe healthcare and socio-economic crisis. Our dental industry is also been affected badly. We feel that prolonged use of masks, without precautions to oral health, shall lead to bad breath, increase in decay and gum problems. In this edition, we designed a poster to increase generic awareness.

In an effort to connect, this e-magazine is one of the ways to reach out to you with educational content, challenges, latest trends in dentistry, products' review, cases and feedbacks by the experts from the dental fraternity. Additionally, we will update you on GC's newest products, innovations and solutions for your everyday challenges.

The Smilestone is conceived and developed keeping you in mind. So, enjoy reading and feel free to share your opinion to make our content more insightful!

Best Regards,

Bhavesh Parikh
Director - GC India

INCISAL EDGE BOND

Clinical case by Dr. S. Arun Suraj, MDS

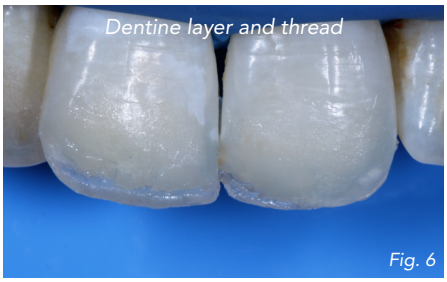
- MDS in Conservative dentistry and Endodontics from Balaji dental college and hospitals.
- Director of Dr. Arun's 32 pearls dental centre, Chennai
- A passionate aesthetic dentist with a vast knowledge on porcelain veneers and anterior composite restoration
- Speaker & Trainer on Aesthetic dentistry
- A member of ESCD (European society of cosmetic dentistry)
- An Expert in Digital Smile design & Laser dentistry

INTRODUCTION

Restoring an incisal edge with composites is known to be the most challenging aspect in Aesthetic restorative dentistry. The reason could be most of our natural teeth at the incisal edge exhibits different amount of opalescence, translucency, hue, chroma, value, shape, thickness and various other factors. A good understanding, handling of the right material and meticulous finishing & polishing protocols helps one to achieve the desired results.

BEFORE

AFTER



(Fig.1) Preparing the tooth:
Teeth were isolated with Rubber-dam. All sharp and unsupported enamel rods were removed with finishing bur and a medium disc. The tooth surface is smoothened and a long smooth bevel of at least 2mm beyond the fracture line is created. This helps to increase the surface area for bonding and blends the material to mask the line of demarcation.

(Fig.2) Etch the tooth:
The tooth surface is etched with a gel type etchant and the adjacent teeth are protected with Teflon tapes.

(Fig.3) Adhesive:
G-Premio BOND is applied and air dried for 5mins to evaporate the solvents and to create a thin layer.

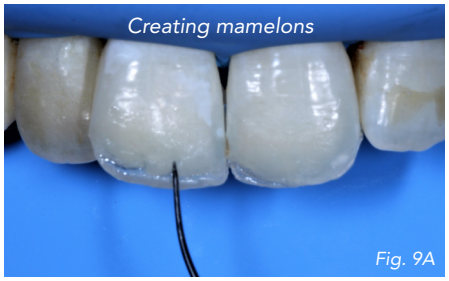
(Fig.4) Using a silicone putty index:
A silicon putty index can be used as a guide for the inside-out layering and to control the outline.

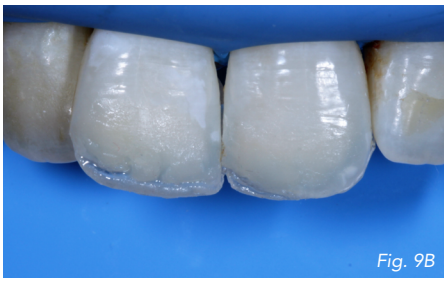
(Fig.5) Palatal shell:
The 1st layer is added over as palatal shell which is a highly translucent shade (TE Shade) from G-aenial Composites.

(Fig.6) Dentine layer and thread:
A Dentine shade composite A1 G-aenial is added over the bevel till 2-3mm below the incisal edge. Another thin thread of the same dentine shade composite is added as s a rim around the incisal edge using the putty index as a guide. The small space between is to transilluminate the light and create an opalescent effect.

(Fig.7A&B) Finishing and polishing:
Finishing and polishing protocols are carried out using GC Diapolisher paste, Aluminum oxide impregnated rubber cups, Goat hair brushes and cotton buffs for a predictable final result.

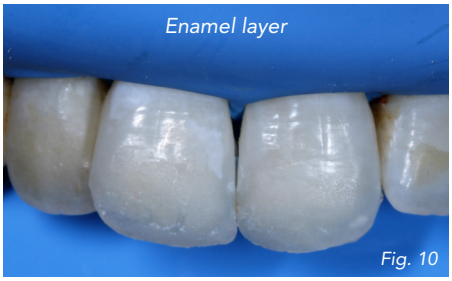
(Fig.8) The final result provides an adequate amount of opalescence and incisal halo which mimics the adjacent teeth and provides a near natural result.





(Fig.9A&B) Creating mamelons:
A sharp instrument like a fissura (from LM Arte) can be used to create indentation and depict mamelons over the unpolymerized dentine layer.

A small amount of blue tints can be applied in between the mamelons to accentuate them.



(Fig.10) Enamel layer:
A Final enamel layer is applied and blended over the bevel using a flat GC Composite brush. The thickness of enamel has to be controlled. The final layer is polymerized through a transparent aqueous gel which acts as an oxygen inhibitor, hence providing a better conversion and avoids marginal deterioration of the restoration along the restoration tooth interface.

Conclusion

It is necessary to have a thorough knowledge about the translucency and characteristics of the materials used.

Modern composites when used in the right way can deliver superior optical properties and aesthetics equal to that of porcelain.

Products used:

Diapolisher Paste

G-Premio Bond

G-aenial Anterior

Minimally Invasive Restorations with Reduced Aerosol Generation - Step by Step Procedures

Dr. Chandramouli B.
Manager - Academic and Scientific Affairs

Minimal Intervention Dentistry

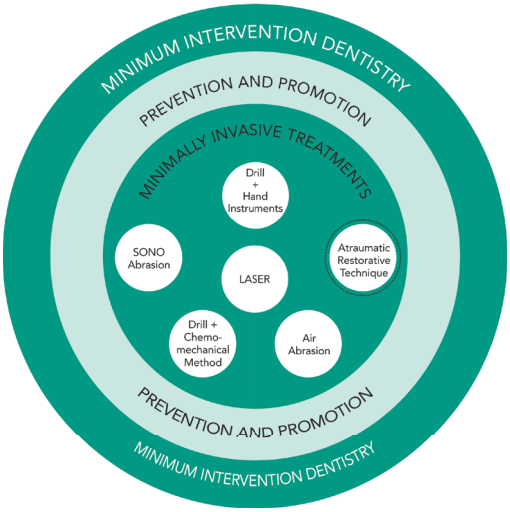
As a dental company, GC is a pioneer in taking the initiative not only to advance product development but also to support the evolution of the latest concept of dentistry, namely "Minimal Intervention dentistry". GC instituted our unique MI (Minimal Intervention) concept in 2000 by rephrasing the original MI concept proposed by the FDI in 1999 and defining the three approaches of "Identify", "Prevention" and "Treatment & Control" to better fit the clinical situation. Since then, GC's MI concept has always formed the basis of our product development.

What is Atraumatic Restorative Treatment:

Atraumatic Restorative Treatment (ART) is a minimally invasive approach to both prevent dental carious lesions and stop its further progression.

Originally, ART was developed for use in developing rural countries because it does not require local anesthesia or electricity or any special requirement of dental chair & rotary instruments . It is very well suitable technique for dental camps and programs with restricted resources.

More recently, ART has become increasingly accepted in developed countries because of its "atraumatic" approach in relation to the stress and pain experienced by patients.



Two Components of ART:

ART Sealants: The placement of an ART sealant involves the application of a high- viscosity glass-ionomer that is pushed into the pits and fissures under finger pressure.

ART Restorations: An ART restoration involves the removal of soft, completely demineralized carious tooth tissue with hand instruments.

This is followed by restoration of the cavity with an adhesive dental material that simultaneously seals any remaining pits and fissures that remain at risk'.

Indications:

- Small & Shallow cavities involving dentine accessible by hand instruments
- One & Multiple surface caries
- Patients with fear/ Anxiety
- High risk caries cases
- Children to elderly
- Patients with Special needs

Principles of Atraumatic Restorative Treatment:

- Removal of caries with hand instruments and
- Restoring it with High Viscosity, self adhesive, bulk fill, High strength Glass ionomer cement

Goals of Atraumatic Restorative Treatment:

- Preserving the Tooth structure
- Reducing the infection
- Avoiding Discomfort

Essentials of ART:

- **Instruments:** Mouth Mirror, Probe/Explorer & Tweezer, Enamel Hatchet, Enamel Access Cutter (EAC), Spoon Excavators : Small & Large,Plastic Filling Instrument (PFI), Agate Spatula

- **Materials:** Cotton roll/pellet, Dentine Conditioner, Varnish/Vaseline, Resin Coat, Glass Ionomers/ Glass hybrids
  1. High Strength, High Viscosity GIC
  2. High fluoride release GIC sealant

9 Steps for Atraumatic Restorative Treatment:

Preparation for ART

- **Patient Position**
  Backward tilt lifting the chin for access to upper teeth

  Forward tilt dropping the chin for access to lower teeth

- **Operator Position**
  Range of positions : 10 to 1 on the clock.

  Most commonly used positions:
  • direct rear position (12 o'clock) and
  • right rear position (10 o'clock)

STEPS

ART Sealants

- Step 1. Preparation of the art instruments and materials before the clinical procedure
- Step 2. Isolation of the operating site
- Step 3. Cleaning the pits and fissures and examination of the tooth
- Step 4. Conditioning pits and fissures
- Step 6. Mixing GIC
- Step 7. Filling the pits and fissure
- Step 8. Finishing the art sealant

ART Restorations

1 Preparation of the art instruments and materials before the clinical procedures

- Lay out the instruments in the sequence of their use.
- Make sure you have adequate no. of cotton rolls/Pellets as they shall be used in many steps.

2 Isolation of the operating site

- For ART, a rubber dam is not necessary since isolation with cotton rolls is adequate.
- These must be frequently changed when they are saturated with saliva.

3 Examining the cavitated tooth

- Examine the extent of caries.
- Carefully remove any plaque or food debris from the pits and fissures with a dental explorer, taking care not to create additional cavitation.
- Remove plaque with a wet cotton wool pellet, then dry with a dry pellet.

4 Gaining adequate access to the caries

- Use Enamel Hatchet and /or EAC to gain access
- Place the blade or tip of the instrument into the cavity and turn forward and backward like turning a key in a lock. This movement chips off small pieces of carious enamel.

5 Cavity cleaning

- Hand excavators are used to remove soft, infected dentine
- Carious dentine is removed with the excavators using circular scooping movements. It is important to remove all the soft caries from the enamel-dentine junction
- There is no danger in leaving sound, 'unsupported' enamel since it effectively becomes 'supported' when the cavity is restored with GIC.
- Clean the cavity with wet and then dry cotton wool pellets.

6 Conditioning the cavity and adjacent pits

- Apply GC DENTINE CONDITIONER for 20 seconds to both dentine and enamel to remove the smear layer.
- Wash the cavity with a wet cotton wool pellet at least twice, then dry with a dry pellet

7 Mixing GIC

- A consistent and correct mix of GIC is essential for reliable results
- For hand-mix GIC, proper ratio is must
- If capsulated GIC is being used, follow the manufacturer's instructions

8 Restoring the Cavity and Filling the Pits & Fissures

- Restore the Cavity using a PFI and pack the GIC well.
- If using capsules, extrude the GIC into the cavity
- Slightly overfill the cavity
- Press finger on top of the filling then slide finger out carefully. ("press-finger technique")
- Carve the excess of GI with spoon excavator.

9 Finishing The Art Restoration

- Check the bite. Use the blade of a carver to make occlusal adjustments
- Apply Cocoa Butter/ Fuji Varnish or
- Coat it with a resin coat (EQUIA Forte COAT) & Light cure for 20 secs

Choose the best material for ART

Glass ionomers and glass hybrids are the ideal restorative materials, as they chemically bond to tooth without etching and adhesives, providing a tight marginal seal; moreover, they can be finished without rotary instruments.

GC Fuji II LC
Glass Ionomer Restorative

GC Fuji II LC restorative material exhibits translucency, expansion, and contraction similar to tooth structure, making it a popular choice among clinicians.

Featuring a chemical bond to tooth structure that is micromechanically reinforced, triple-cured GC Fuji II LC's high compressive, tensile, and flexural strengths assure longevity and integrity, making it a popular choice among dentists since the product's debut in 1991.

It was further improved in 1996 to provide higher aesthetics and compressive strength. It has shown to exhibit translucency, expansion, and contraction similar to tooth structure.

In addition, GC Fuji II LC eliminates post-operative sensitivity. When used as a base or liner in a sandwich technique, restorations last longer because GC Fuji II LC prevents marginal leakage and helps strengthen surrounding tooth structure with superior fluoride release. Clinically, GC Fuji II LC has shown 100% retention after 5 years[1] and has shown no evidence of secondary caries or change in surface luster after 2 years.[2]

GC Fuji II LC plays a vital role in reducing patient discomfort via being dentin friendly, self-adhesive bonding and functioning as a pulp-protective thermal insulator.

References:
1. Boghosian A, et al. Clinical evaluation of a resin-modified glass ionomer restorative: 5 - year results. J Dent Res. 1999;78:285.
2. Boghosian A. Clinical evaluation of GC Fuji II LC in Class V restorations (two year report). Northwestern University, March 1996.

★★★★★

I am delighted to be celebrating the silver jubilee of one of my most favourite dental materials! I have been using **Fuji II LC** for two decades in my pediatric practice. The irrefutable evidence of the acid resistant zone of reminer-alization, the chemical bond to tooth structure, release of calcium, phosphate & fluoride, the ability to recharge not to mention the ease of use and dual curing; make **Fuji II LC** my choice of material. Congratulations and my best wishes to GC. Thank you for giving us this wonderful restorative material.

Dr. Meenakshi S. Kher

MDS, Paediatric Dentistry
Happy Tooth Clinic, Mumbai

★★★★★

"Fuji II LC capsules have been a mainstay in my exclusive paediatric dental practice for more than a decade and they help me deliver predictable dentistry to my patients which helps build, strengthen and cement the trust my patients have in my work. In my opinion there is no better way to deliver precise, durable and flawless service to my existing patients."

Dr. Sukhdeep Singh

MDS, Paediatric Dentistry
HappyTeeth - Dentistry for Children, Noida

25 YEARS OF FUJI II LC

G-CEM ONE Paste Pak

Self adhesive Resin Luting cement

G-CEM ONE™ the new self-adhesive resin cement from GC simplifies all cementation procedures. G-CEM ONE™ brings together high bond strength, effortless clean-up and long-lasting aesthetics as well as an excellent self-curing ability for a wide range of indications in ONE product solution.

G-CEM ONE™ is a truly universal, non-technique sensitive, versatile and reliable product that gives the flexibility of being effective in all cementation procedures for any type of restorations; from metal-based to resin and all-ceramic inlays, onlays, crowns, bridges, and posts. It demonstrates excellent bond strength to enamel, dentin and all indirect restorations.

In addition, the optional Adhesive Enhancing Primer (AEP) and its innovative GC Touch Cure feature provides optimal bond strength in challenging clinical situations, such as low retentive surfaces. The chemical initiator in the AEP accelerates the chemical cure of the cement to ensure optimal bonding. The AEP is easy to apply; no additional light-curing is needed – apply and air-dry.

G-CEM ONE™ sets a high aesthetic standard, resulting in invisible margins with high wear resistance and long-lasting aesthetic outcomes with virtually no post-operative sensitivity.

G-CEM ONE™ is simply the one for peace of mind when it comes to all your adhesive requirements.

G-CEM ONE™ offers clinicians a reduced inventory with less components for a reproducible workflow. It's simply the ONE for peace of mind when it comes to clinicians adhesive requirements.

- Cementation of all types of all ceramic, resin and metal-based inlays, onlays, crowns and bridges.
- Cementation of metal, ceramic, fiber posts, and cast post and cores.
- Cementation of all ceramic and composite veneers.
- Final cementation of crowns and bridges on implant abutments.

★★★★★

For different indications, we have different Preparatory designs which lead to two or three different Luting materials. With **G-CEM ONE,** you only need one material. The time tested brand GC's technology is so good in most indications. Adhesion is great, but - with the use of AEP, it is extraordinary. Almost unbreakable - Even on surfaces inadvertently contaminated by saliva and has wonderful handling, great consistency. **One inventory; One IFU to remember**

Dr. Dandapani Arunachalam

MDS, General Surgeon and Periodontist
SmilesIndia Family Dentistry, Chennai

★★★★★

G-CEM ONE is truly ONE of its kind. It is my 'go to' luting agent for luting crowns and bridges on very short, non retentive abutments. When used with the **ADHESIVE ENHANCING PRIMER** the bond is excellent and permanent. Handling is very easy too. Excess cement can be removed very easily.

Dr. Srikanth H.R.

Dental Surgeon and Implantologist,
Monasri Dental Clinic, Hyderabad, Telangana

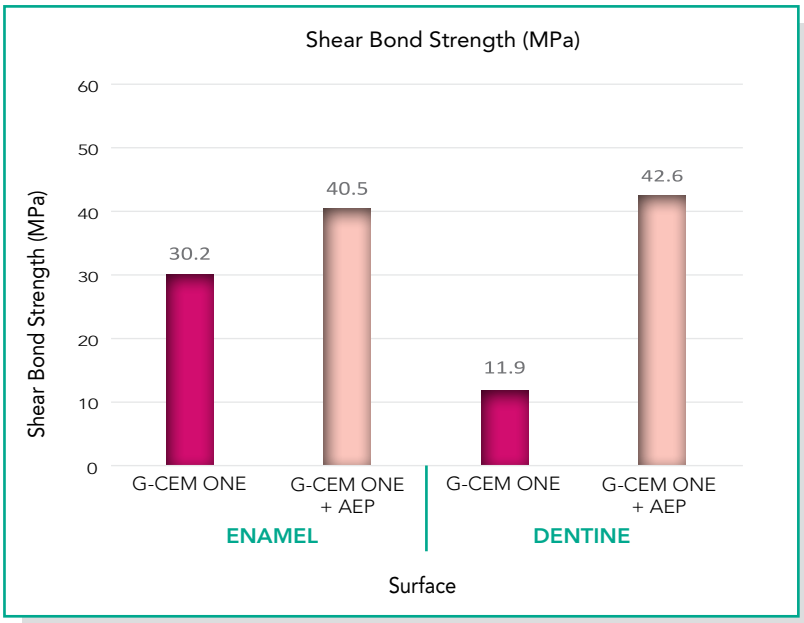
GC'S NEW PRODUCT - G-CEM ONE

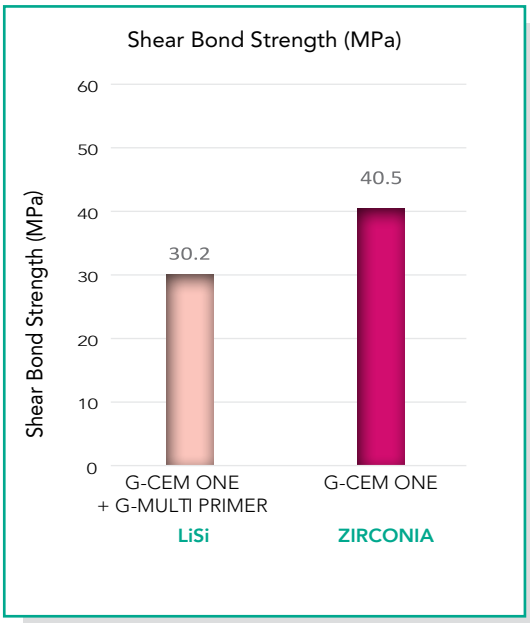
GC's G-CEM ONE self-adhesive resin cement outperforms competitors in achieving the better shear bond strength in a test done by Dental Advisor

Introduction:

An in vitro study was done by M. Cowen, D. Graham, J.M. Powers to test the indirect shear Bond Strength of G-CEM ONE to enamel, dentine, Initial LiSi & Initial Zirconia in comparison to the various other Self adhesive resin cements.

Results:





Conclusion:

The study concluded that G-CEM ONE performed as well or better than the competitors materials tested in self adhesive mode. When Adhesive enhancing primer was used, bond strength to enamel & dentine was the highest among the groups.

CLICK HERE FOR DETAILED STUDY

Date: 10th July 2021

Time: 7:30 PM IST

Dr. Chandramouli

Online Lecture & Live Demo

Topic

Inject & Impress

Speaker: Dr. Chandramouli

ida Indian Dental Association
Mavelikkara Branch

Abstract

Time is money.. And speed is the new normal. Delivering predictable aesthetic restorations in an effortless way has been a dream for all the dentists.. And that too with less chairside time.

We live in the world of choices, yet Veneer based smile build-up is restricted to conventional techniques of Porcelain Laminates or Direct Composite veneers. Both requires considerably great skills & are time consuming. The meticulous hand placed & sculpted direct composite veneer gives a sense of satisfaction but makes us physically & mentally drained as its time consuming to create.

What if there were a variant, less demanding of chair time but capable of attractive results?

Lecture discusses various procedures that can be undertaken with an innovative Injection Moulding technique, ranging from Quick n Easy Veneer to the complex FMR cases.

RECORDED WEBINAR

The ONE Symposium that simplifies your luting procedures

Luting solutions - state of the art

Dr. Marcio Vivan Cardoso

CLICK HERE TO LISTEN

From self-adhesive to universal luting: what is changing?

Priv.-Doz. Dr. med. dent. José Ignacio Zorzin

CLICK HERE TO LISTEN

G-CEM ONE: the one that simplifies (a clinical approach)

Prof. Roberto Sorrentino

CLICK HERE TO LISTEN

MASK IS THE PREVENTIVE SHIELD AGAINST COVID-19

MASK MOUTH

It is an emerging dental concern due to prolonged use of Mask

Prolonged use of Mask → Decrease in water intake & mouth breathing → Dryness of mouth and lack of saliva → Bad breath, increase in decay and gum problems

Recommendations to prevent Mask Mouth?

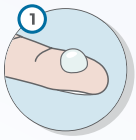
- Use clean mask
- Drink plenty of water and keep yourself hydrated
- Improve your oral hygiene routine
- Use Tooth Mousse twice a day
- Take fresh air breaks
- Watch your diet

CONSULT YOUR DENTIST FOR PREVENTION & TREATMENT

What is Tooth Mousse*?

A topical dental crème which stimulates salivation, prevents dental decay and strengthen tooth structures.

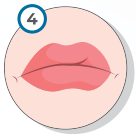
How to use Tooth Mousse*?



After brushing use finger or cotton to apply Tooth Mousse.

Use crème to coat all upper and lower teeth.

Leave for 3 mins and spread the crème all over the mouth with tongue.



Hold in the mouth for 1-2 mins for effective result.

Spit out & no need to rinse.

Do not eat or drink for 30 mins after applying Tooth Mousse for better result.

*ASK YOUR DENTIST OR ORDER ONLINE

How your dentist can help you?

- Get yourself checked for any tooth decay and gum diseases.
- Get preventive Fluoride varnishes & Specialised dental cremes.
- Get your damaged tooth filled with fluoride releasing restorations.
- Get your dental cleanings done.

Tooth Mousse
Topical creme for decay prevention and strengthen tooth structures.

MI Varnish
Fluoride varnish for decay prevention

Dry Mouth Gel
Helps to relieve dry mouth

Fuji VII
Pit & Fissure decay sealant

Glass Ionomers & Glass Hybrids
Fluoride releasing restorative cements

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