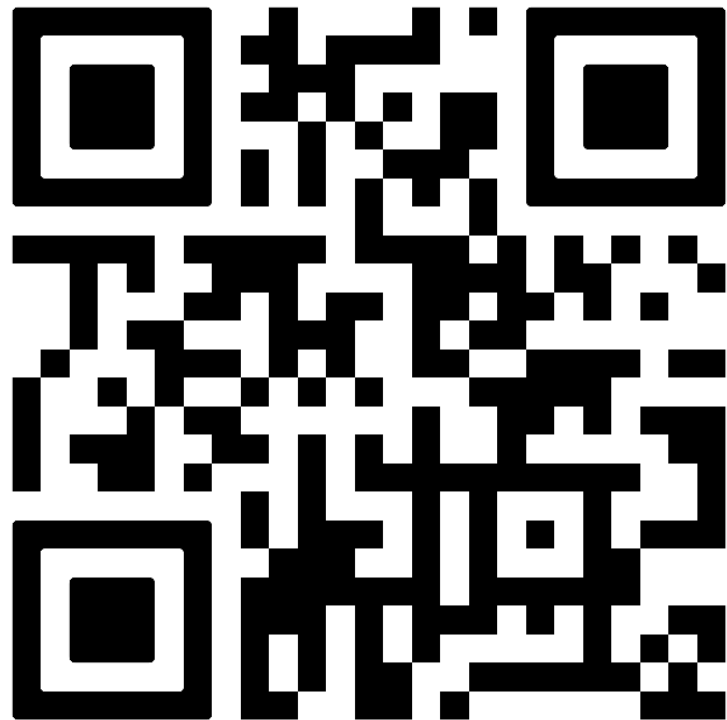




# DC BIOCLEAR LEARNING CENTER

Tacoma USA · Solihull UK  
Varberg Sweden · Cairo Egypt  
Syracuse Italy · Taubate Brazil  
Livermore CA (Bioclear pediatrics)  
Seoul Korea · Madrid/Barcelona  
Sydney Australia · Baghdad Iraq

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Learning Center info or the essential  
Learning Center Library





## Recommended Bioclear Matrices by Indication

For more information contact us  
**Bioclear Matrix Systems**  
1-855-712-5327



### 360 Veneer

Class V and to significantly increase overjet or correct anterior open bite.



### TSS Kit

**Anterior Teeth:**  
Class III, Class IV, Class V  
Fractured Incisors  
Severe Wear  
Composite Veneer  
Full Composite Crown



### BT (Black Triangle) Kit

**Anterior Teeth:**  
Black Triangles  
Peg Laterals  
Diastema Closure  
Instant Ortho  
Class V



### Evolve Matrix Kit

**Posterior Teeth:**  
Class I, Class II, Class V



∞ BIOCLEAR

## **Bioclear Black Triangle Restoration**

*with Kuraray Majesty ES-2 Flowable*

---



TOOTH & SURFACE SPECIFIC  
MATRIX SYSTEM

BY  BIOCLEAR

Item Number:

#828011



**Anterior Matrices**

#6 through #11 in Mesial & Distal  
Small & Medium Lower Incisor

**Wedges**

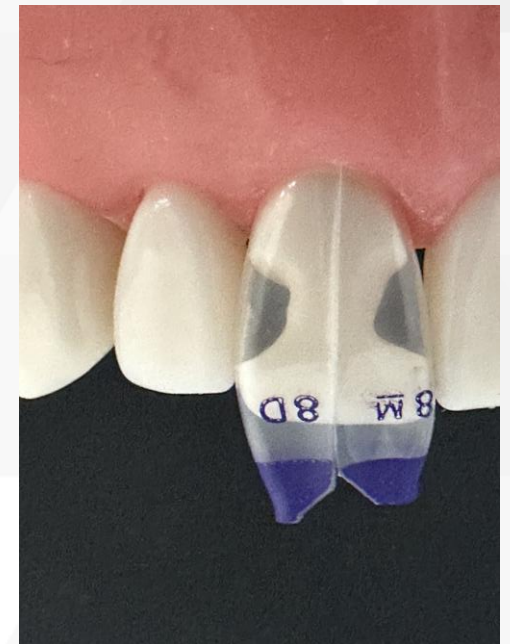
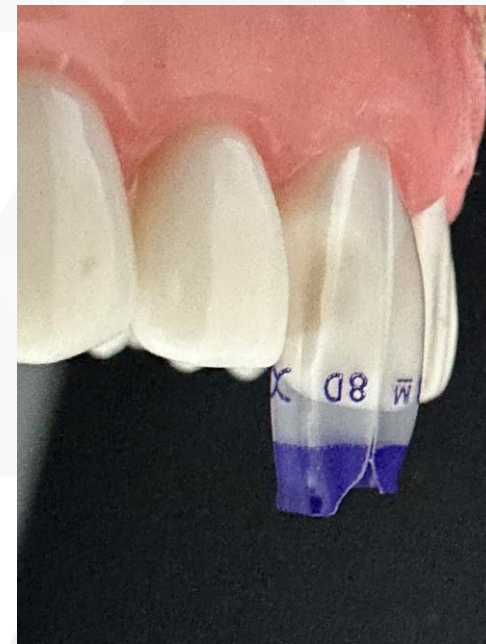
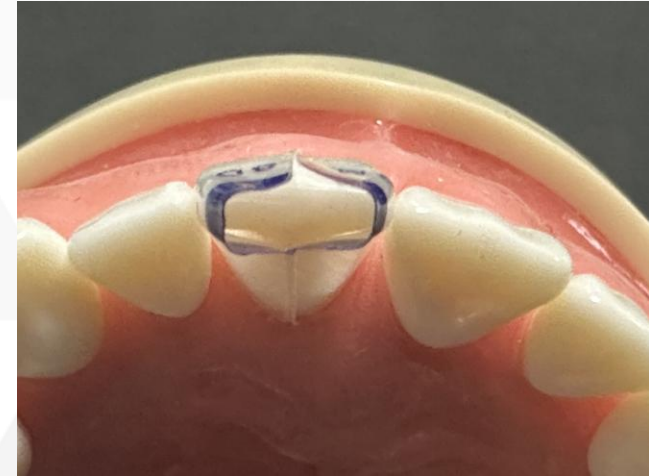
Small Diamond Wedges  
Medium Diamond Wedges

# Matrix Shape

**For the first time, we have a matrix that is actually shaped exactly like a normal tooth.**

Bioclear's patented technology on the TSS creates a small facial and lingual overlap that allows for differentiation in tooth size – acting like an expandable form.

*e.g., pairing 8M with 8D provides an ideal containment system for nearly every maxillary central incisor (#8)*





**The next generation of anterior matrices:**  
We're taking the guesswork out of matrix selection



# Indications

- Small to large anterior decay (Class III and IV)
- Wrap-around decalcification or mottled enamel cases
- Composite veneers
- Direct composite crowns
- Incisal edge or tooth fracture
- Basically, any tooth that has a normal papilla





## Recommended Bioclear Matrices by Indication

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1-855-712-5327



**360 Veneer**

Class V and to significantly increase overjet or correct anterior open bite.



### TSS Kit

**Anterior Teeth:**  
Class III, Class IV, Class V  
Fractured Incisors  
Severe Wear  
Composite Veneer  
Full Composite Crown



### BT (Black Triangle) Kit

**Anterior Teeth:**  
Black Triangles  
Peg Laterals  
Diastema Closure  
Instant Ortho  
Class V



### Evolve Matrix Kit

**Posterior Teeth:**  
Class I, Class II, Class V

# The Bioclear TSS Matrix System

*Tooth & Surface Specific Matrix System for Anterior Teeth*

---







Dan placed a Direct Contact Strut which made his life way easier and the case much better.



Dan placed a Direct Contact Strut which made his life way easier and the case much better.









Courtesy of Dr.  
Dan Henricksen



Majesty ES flow and paste combo

Is monolithic injection molded composite a viable alternative to full ceramic crowns in some cases?

You be the judge of that



The patient is a 35- year-old male. His original chief complaint was a discolored filling on the distal of tooth #8. The patient was given two treatment plans, one to simply replace a few defective restorations and remove caries with traditional fillings or in patient terms we said, “We can patch the holes, or I can rejuvenate your smile. The patchwork plan will be healthy but will not make a significant esthetic change. In addition, the severe wear and acid erosion present on the palatal surfaces could eventually lead to catastrophic problems later i.e. root canals, infection, and tooth loss.” The patient opted for Bioclear rejuvenation versus simple fillings because he wanted a beautiful smile. He chose Bioclear in lieu of crowns because he understood that Bioclear is a more conservative and healthier approach to achieving his goals than traditional crowns.

Phase one of the treatment plan was to restore the anterior six teeth, simultaneously opening the vertical dimension to reduce the need for aggressive tooth reduction for material thickness. In addition, because the patient needed to have the teeth lengthened by 2 mm, opening the vertical dimension by 2 mm allowed the overbite to be more ideal. Because the patient could only commit to the cost of the six Bioclear restorations (\$11,600) we placed transitional occlusal flowable composites (thick sealants) on the four maxillary premolar teeth, and we will allow the molars to settle into occlusion utilizing the well-researched Dahl Technique.

Phase two will be to restore the remaining teeth with Bioclear when the patient has his finances ready.

#### Treatment Summary Short Version:

Treatment was finished in a single 4-hour session. (Less experienced clinicians should plan to give one hour per tooth). Bioclear TSS Matrices were utilized on all the teeth except tooth #10. #10 required the Bioclear BT matrix system to create “instant ortho” and because a diastema was present there. Bioclear Diamond wedges were used as needed in areas where the contact was lost during caries removal or removal of old composites. Bioclear RSP X-course discs (Black) were used to shape the incisal edges and smooth the small seams present where the matrices meet on the facial and palatal. Final polish was achieved with Bioclear Magic Mix and then Rock Star Polish cups and cones.

One-week postoperative visit revealed healthy teeth and gingiva. The patient was ecstatic about his new smile, had zero post-operative pain or sensitivity, and expressed that his new bite with the increase in VDO felt more comfortable than before.





What percentage of the tooth is removed for a conservative crown prep?



Source: Google Images

# What percentage of the tooth is removed for a conservative crown prep?



Edelhoff D, Sorensen JA.  
Tooth Structure Removal Associated with Various Preparation Designs for Posterior Teeth.  
Int J Periodontics Restorative Dent 2002; vol 22; 3: 240-249.







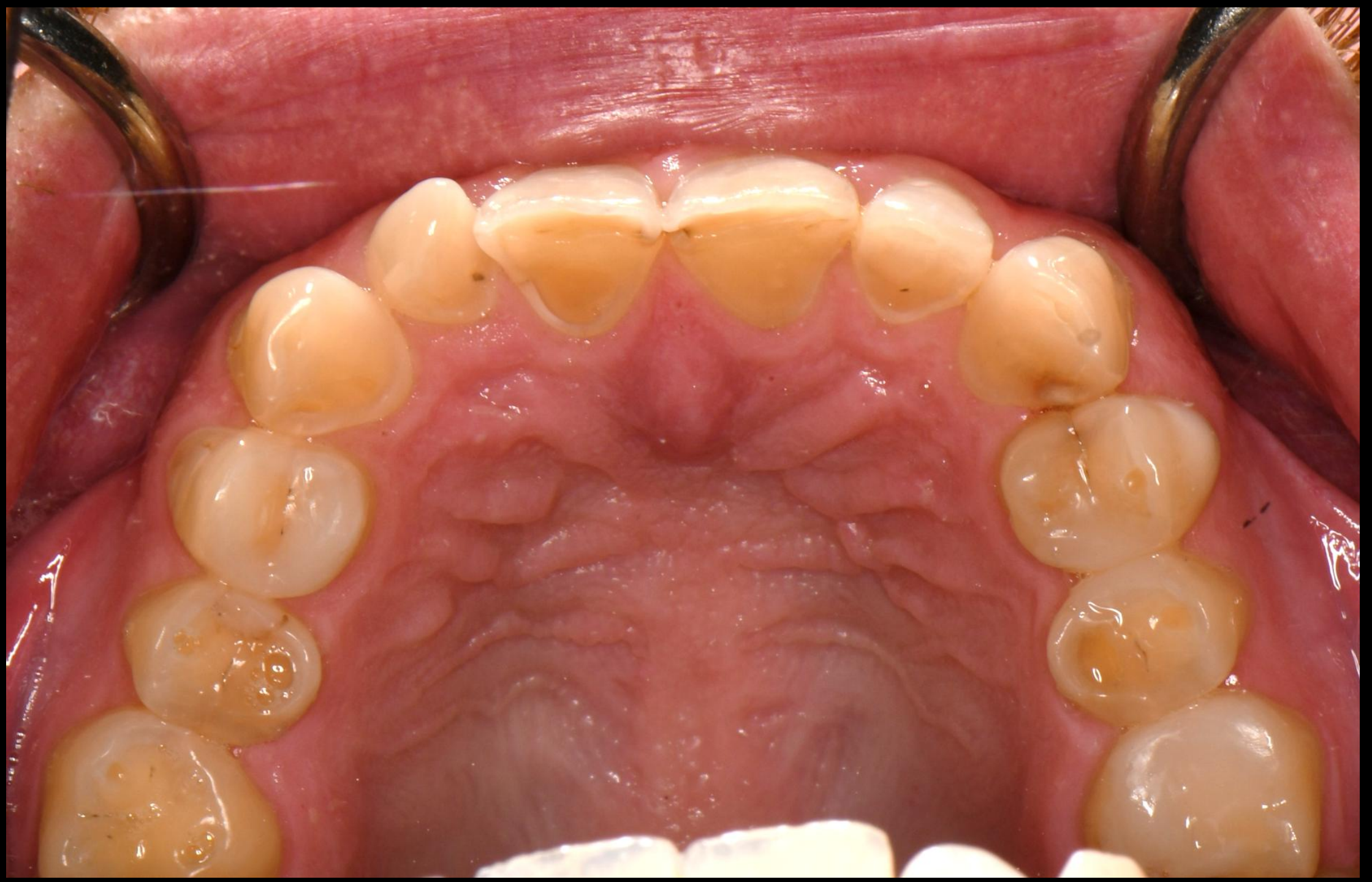
Central Width  
7.0mm

7.5mm
8.0mm
8.5mm
9.0mm
9.5mm
10mm

 **Panadent**  
**Esthetic Proportion**  
**Gauge**

**Central Width** | **Central Height**

8.0mm	10.0mm
8.5mm	10.6mm
9.0mm	11.2mm
9.5mm	11.8mm
10.0mm	12.5mm















**TSS**

TOOTH & SURFACE SPECIFIC  
MATRIX SYSTEM  
BY BIOCLEAR



140 Anterior Matrices  
45 Preformed Plastic Matrix & Crown  
Small & Medium Lower Incisor

75 Wedges  
25 Small, Medium  
50 Medium Wedges

**The next generation  
of anterior matrices:**

We're taking the  
guesswork out of to  
matrix selection



Contact your BioClear Sales Rep to Pre-Order  
WWW.BIOCLEARMATRIX.COM  
1.855.712.5427



**TSS**

TOOTH & SURFACE SPECIFIC  
MATRIX SYSTEM  
BY BIOCLEAR



141 Anterior Matrices  
10 Standard 1/2 Size Standard 2/3 Size  
1/4 Standard 1/2 Size Standard 2/3 Size

15 Waxes  
10 Standard 1/2 Size Standard 2/3 Size  
10 Standard 1/2 Size Standard 2/3 Size

**The next generation  
of anterior matrices:**  
We're taking the  
guesswork out of  
matrix selection



Contact your Bioclear Sales Rep to Pre-Order  
WWW.BIOCLEARMATRIX.COM  
1 800 770 5277





**TSS**

TOOTH & SURFACE SPECIFIC  
MATRIX SYSTEM  
BY BIOCLEAR



100 Anterior Matrices  
100 Anterior & Premolar & Canine  
Anterior & Premolar & Canine Matrices

75 Workups  
100 Workups  
100 Posterior Matrices

**The next generation  
of anterior matrices:**  
We're taking the  
guesswork out of  
matrix selection



Contact your Bioclear Sales Rep to Pre-Order  
[www.bioclearmatrix.com](http://www.bioclearmatrix.com)  
1 855 752 5127



**TSS**

TOOTH & SURFACE SPECIFIC  
MATRIX SYSTEM  
BY BIOCLEAR



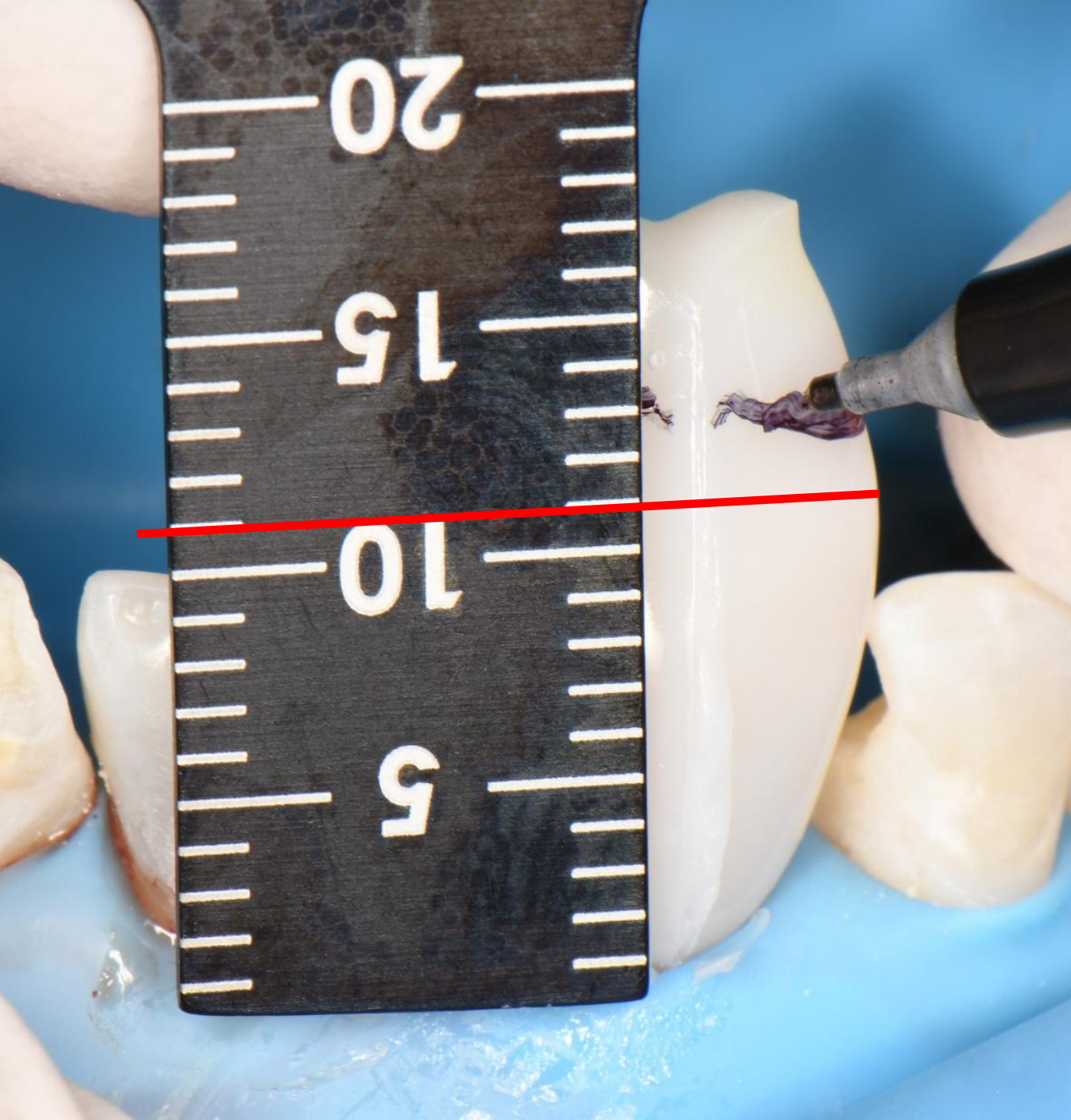
100 Anterior Matrices  
100 Wedges  
100 Posterior Matrices  
100 Posterior Wedges

**The next generation  
of anterior matrices:**  
We're taking the  
guesswork out of  
matrix selection.



Contact your Member Sales Rep to Pre-Order  
[www.bioclearmatrix.com](http://www.bioclearmatrix.com)  
1 855 712 5327



















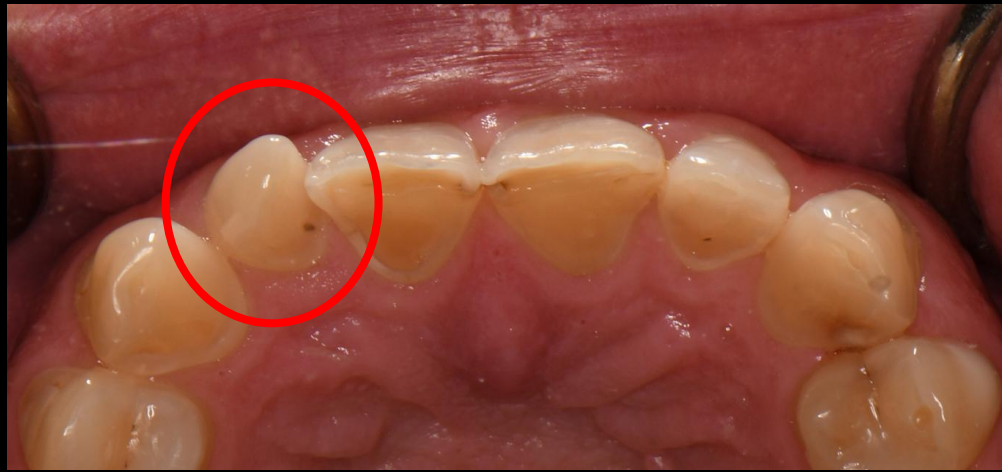
















Pre-operative



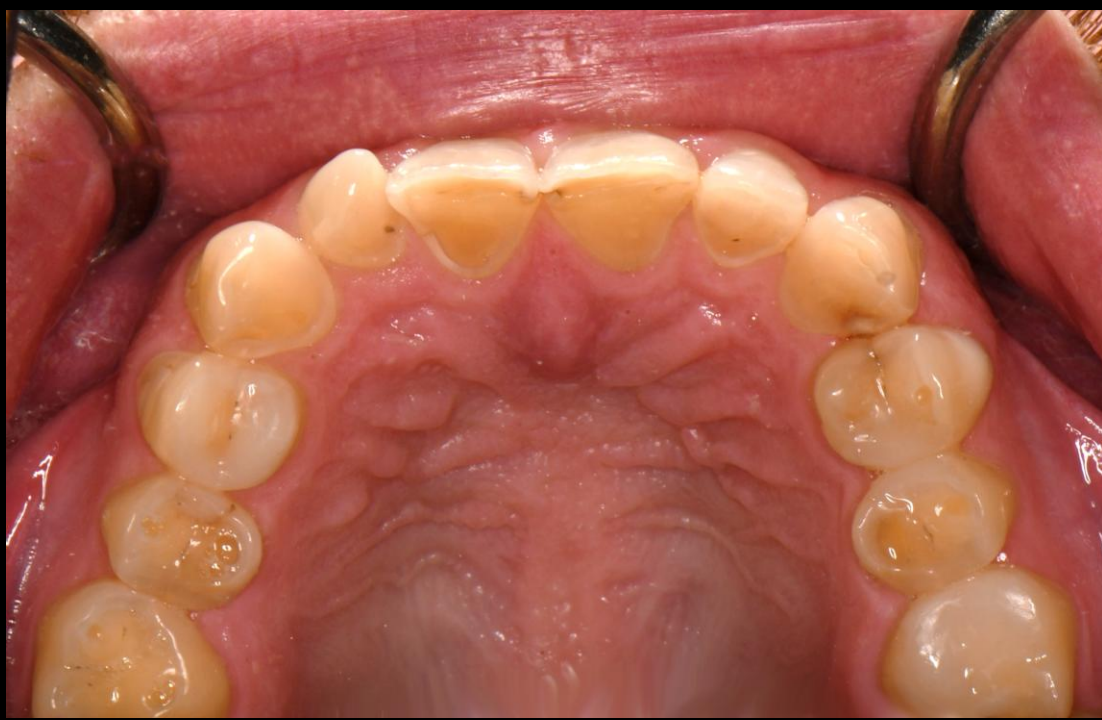
Immediate Post-Operative



One Week Post-Operative

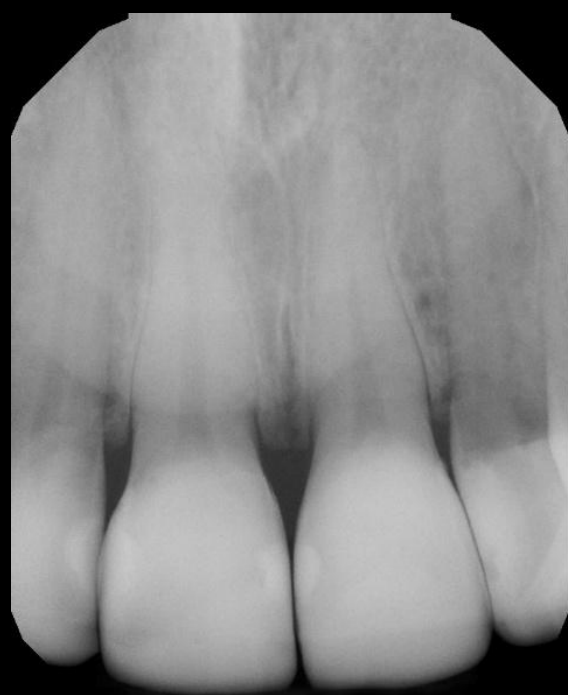












# Last week...the day of treatment



This week...  
1-week  
post-op



## TOOTH & SURFACE SPECIFIC MATRIX SYSTEM

### Product Name:

Tooth & Surface Specific Matrix System (TSS)

### Suggested Retail:

TSS All-in-One Kit - Regular price: \$359.00

TSS Student/EM Kit - \$185.00 USD

### Product ID:

TSS All-in-One Kit*	828011
TSS All-in-One Kit, Student/EM	828021
TSS, #6 M	328011
TSS, #6 D	328021
TSS, #7 M	328031
TSS, #7 D	328041
TSS, #8 M	328051
TSS, #8 D	328061
TSS, #9 M	328071
TSS, #9 D	328081
TSS, #10 M	328101
TSS, #10 D	328101
TSS, #11 M	328111
TSS, #11 D	328121
TSS, Lower Incisor, Small	328131
TSS, Lower Incisor, Medium	328141
Diamond Wedge Small	112011
Diamond Wedge Medium	112021



### Long Product Description

The Bioclear TSS kit is the culmination of two decades of technological and clinical advancements which will reinvent everyday anterior composite restorations. The TSS kit's focus is on anterior composites whenever space closure (black triangles, peg laterals and diastemas) is not needed. It is the world's first fully anatomic matrix system. TSS (Tooth and Surface Specific) matrices have all the complexities of anterior teeth built into each matrix, such as cingulum shape, incisal embrasures that match the unique shapes of the mesial and distal of incisors, and the three facial planes of maxillary incisor teeth: gingival, middle and incisal thirds. The above features and benefits are only possible when the matrix is designed for each side of each incisor tooth. The TSS system is designed for general dentists, pediatric dentists and cosmetic dentists. The Tooth & Surface Specific (TSS) Kit is an advanced anterior matrix system designed to help dentists restore anterior decay with precision and efficiency. Its patented facial and lingual overlap technology provides superior adaptation and contour for more natural, esthetic results. The kit includes tooth-specific matrices for teeth #6–11 (mesial and distal) and universal matrices for small and medium lower incisors. Because each tooth is uniquely shaped, the two matrix sizes allow for differentiation and adaptability—functioning like an expandable form to achieve a precise fit. Small and medium diamond wedges ensure secure placement and optimal contacts. The TSS Kit simplifies anterior restorations, reduces chair time, and delivers consistent esthetic outcomes.

### Quantities

- TSS All-in-One Kit: 10 of each matrix (140 matrices total), 25 small wedges and 50 medium wedges
- TSS Student/EM Kit: 5 of each matrix (70 matrices total), 12 small wedges and 25 medium wedges
- Refills: 25 and 50 counts, 10 count refills available in emerging markets only.

### Selling Points:

- Will fit perfectly nearly every time
- Shaping and finishing time will be dramatically reduced
- Especially beneficial for large caries and full mouth rehabilitation wear cases
- Little to no trimming
- Comes as a complete kit with wedges included
- Packaging is elegant and intuitive
- Gives the doctor supreme confidence for a beautiful outcome

### Indications:

- Small to large anterior decay (Class III)
- Wrap-around decalcification or mottled enamel cases
- Composite veneers
- Direct composite crowns

### BIOCLEAR MATRIX SYSTEMS

3901 S Fife St, Suite 100

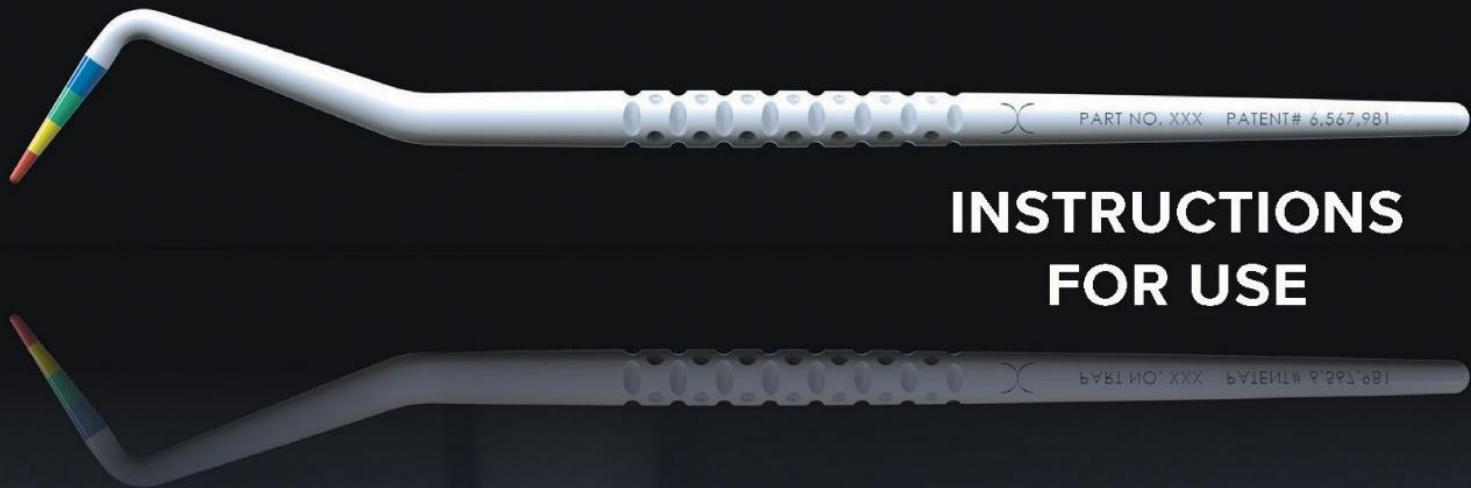
Tacoma, WA 98409

[www.bioclearmatrix.com](http://www.bioclearmatrix.com)

[contactus@bioclearmatrix.com](mailto:contactus@bioclearmatrix.com)

+1 (855) 712-5327

**BT**  
**MATRIX**



**INSTRUCTIONS  
FOR USE**

 **BIOCLEAR**

# Bioclear BT matrix kit



# BLACK TRIANGLE SYSTEM INSTRUCTIONS FOR USE

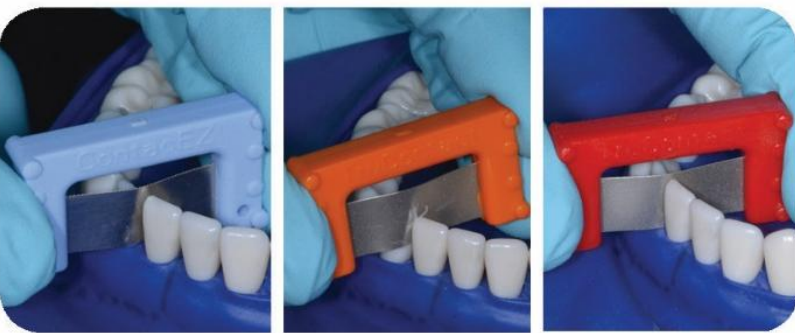
1  
GAP  
SIZING



2  
DISCLOSE  
AND CLEAN



3  
CONTACT  
OPTIMIZATION



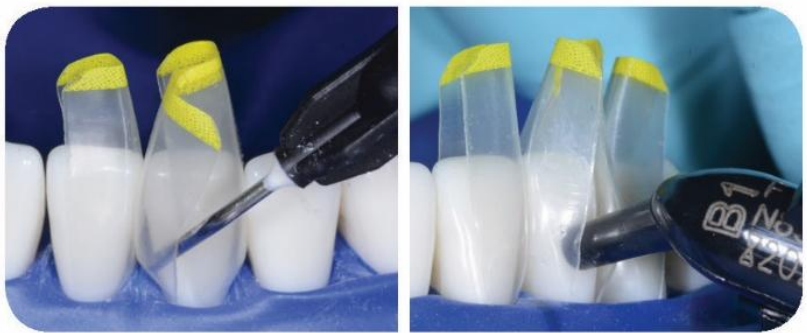
4  
MATRIX  
INSERTION

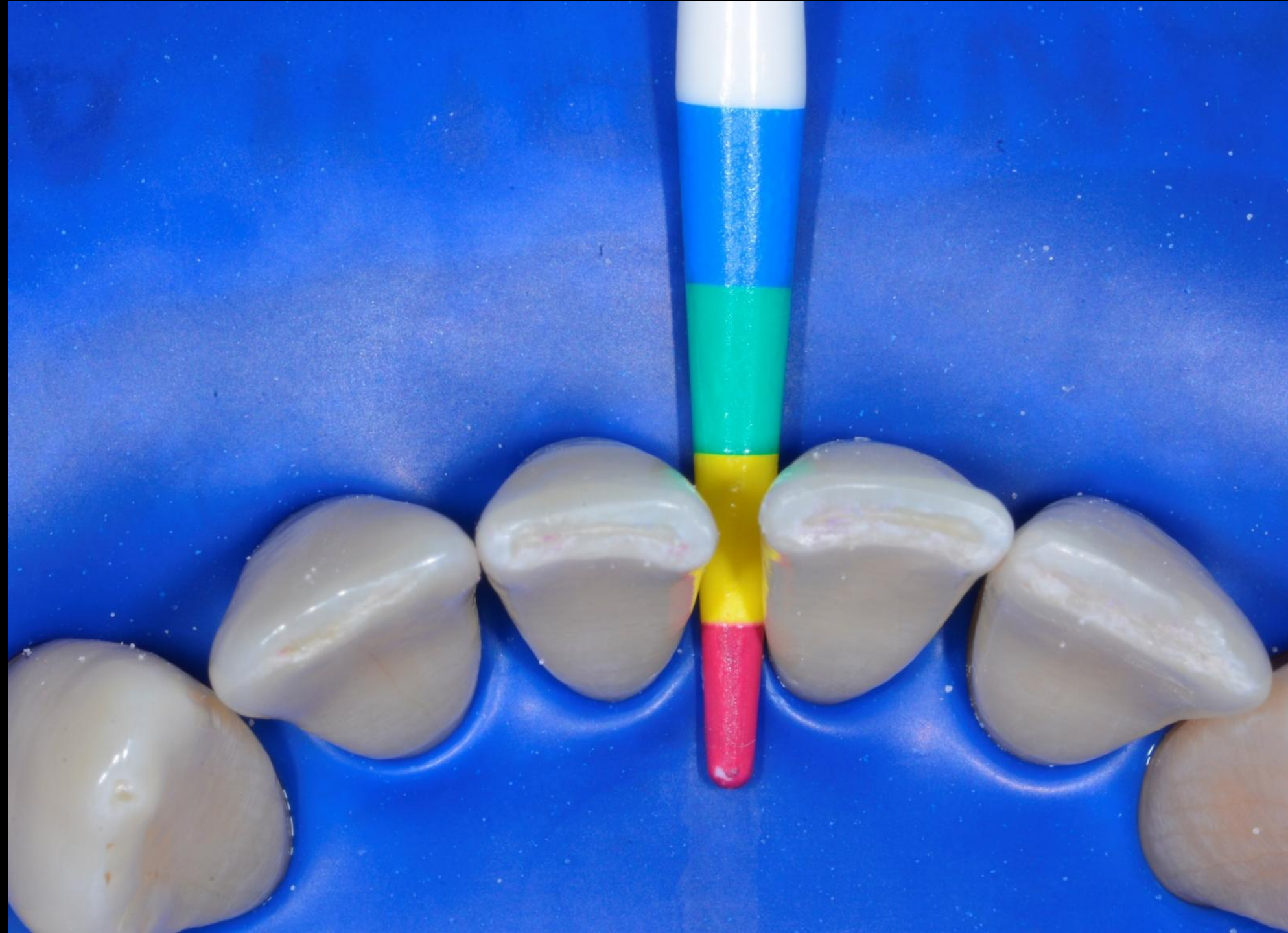


5  
ETCH  
AND RINSE



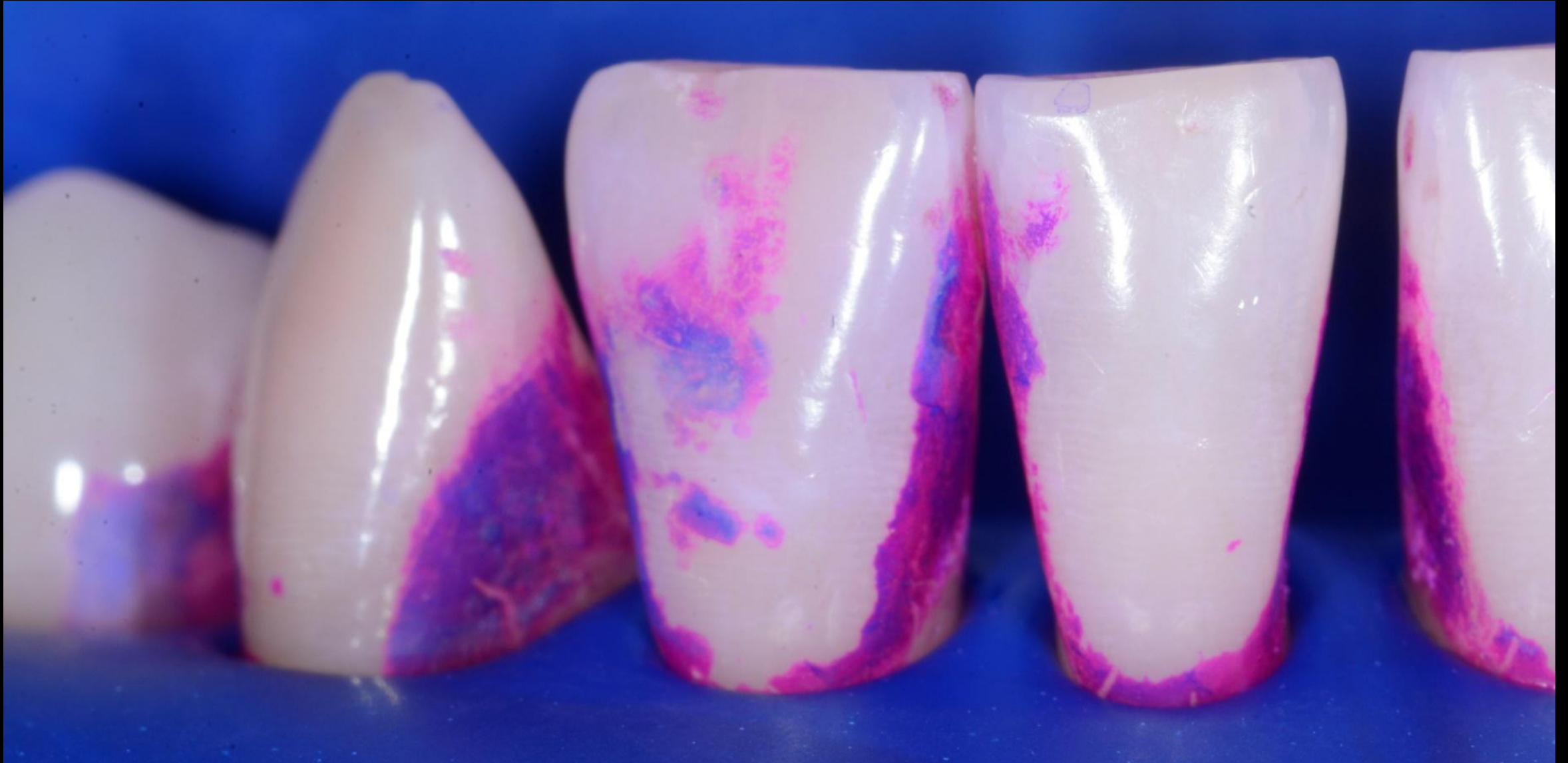
6  
ADHESION,  
INJECTION MOLD,  
LIGHT CURE,  
RELEASE MATRIX,  
FINISH







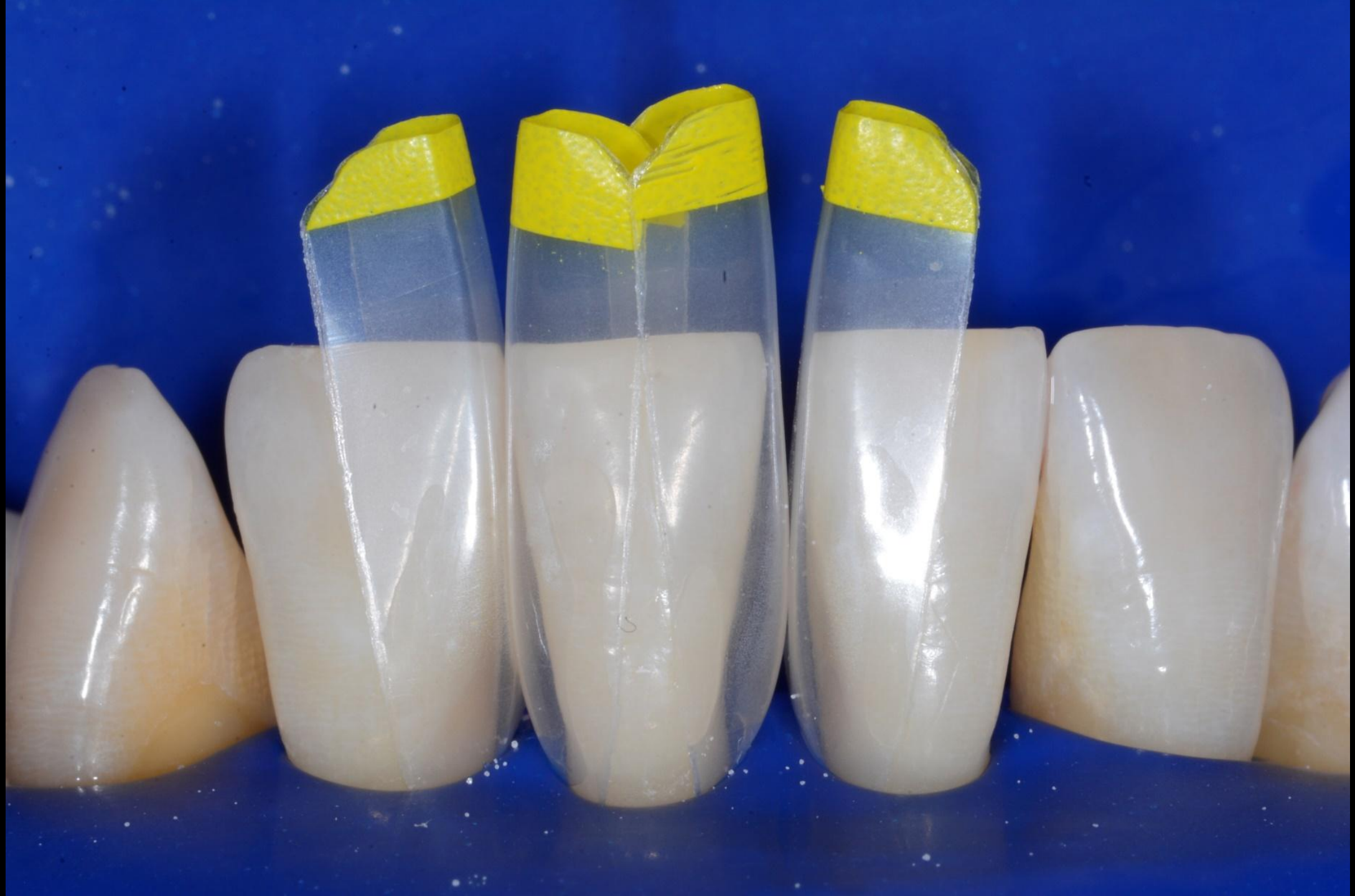
# Bioclear Dual Color Disclosing

















# Rock Star Polish

1



2



# Injection Overmolding: Possibilities and Long-Term Outcomes

## Finishing Ortho Cases

A young orthodontist with beautiful teeth...



# She HATED Her Black Triangles



Immediate post-operative



6 months post-operative



6 years post-operative





Pre-op



Post-Op



6 Years Post-Op



Pre-op



6 Years Post-Op



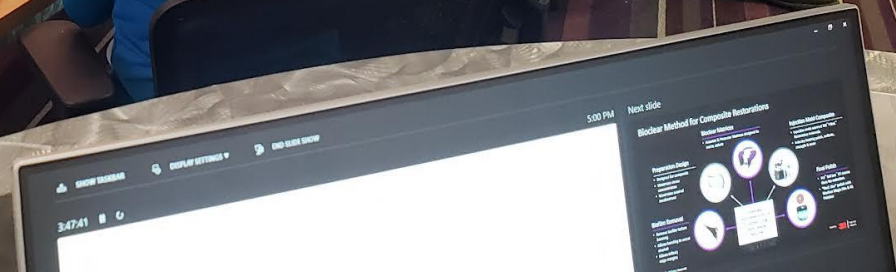
# BIOCLEAR

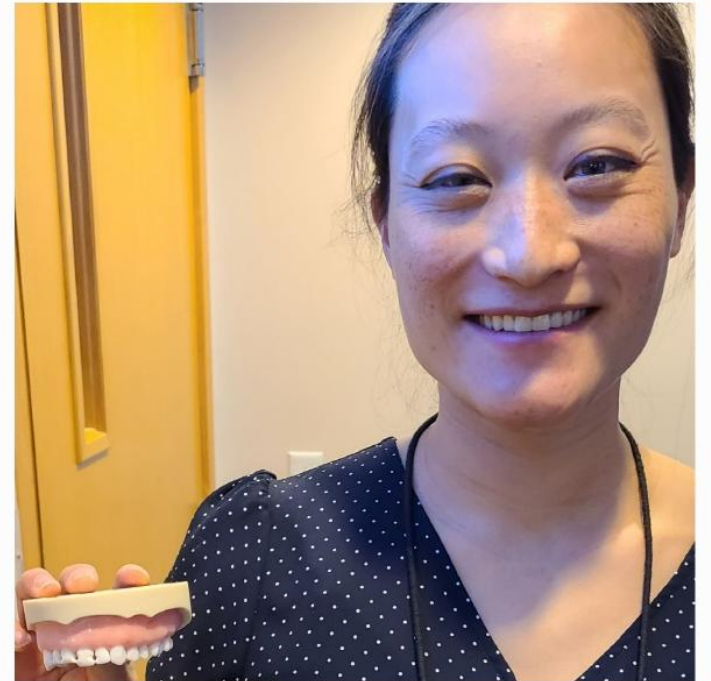
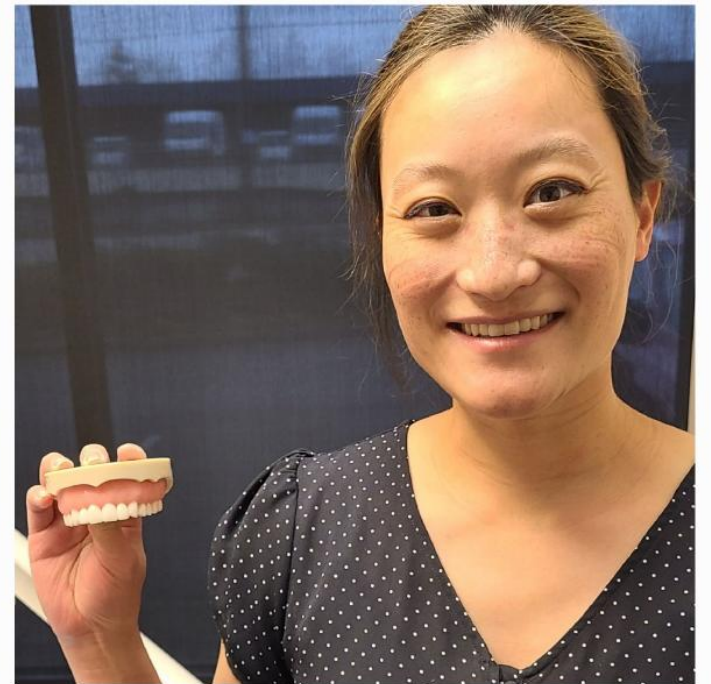
LEARNING CENTER

**Tacoma USA · Solihull UK**  
**Varberg Sweden · Cairo Egypt**  
**Syracuse Italy**









# Last week's attendees at the certification course





# The Bioclear Direct Contact Strut

*Creating Contacts for Diastemas, Peg Laterals, and Bioclear 360° Veneers*

- Abbreviated Version -

---

# Diastema Closure with the Bioclear BT matrix kit



# Dr Jose Moura 5/2025 Taubate Brazil







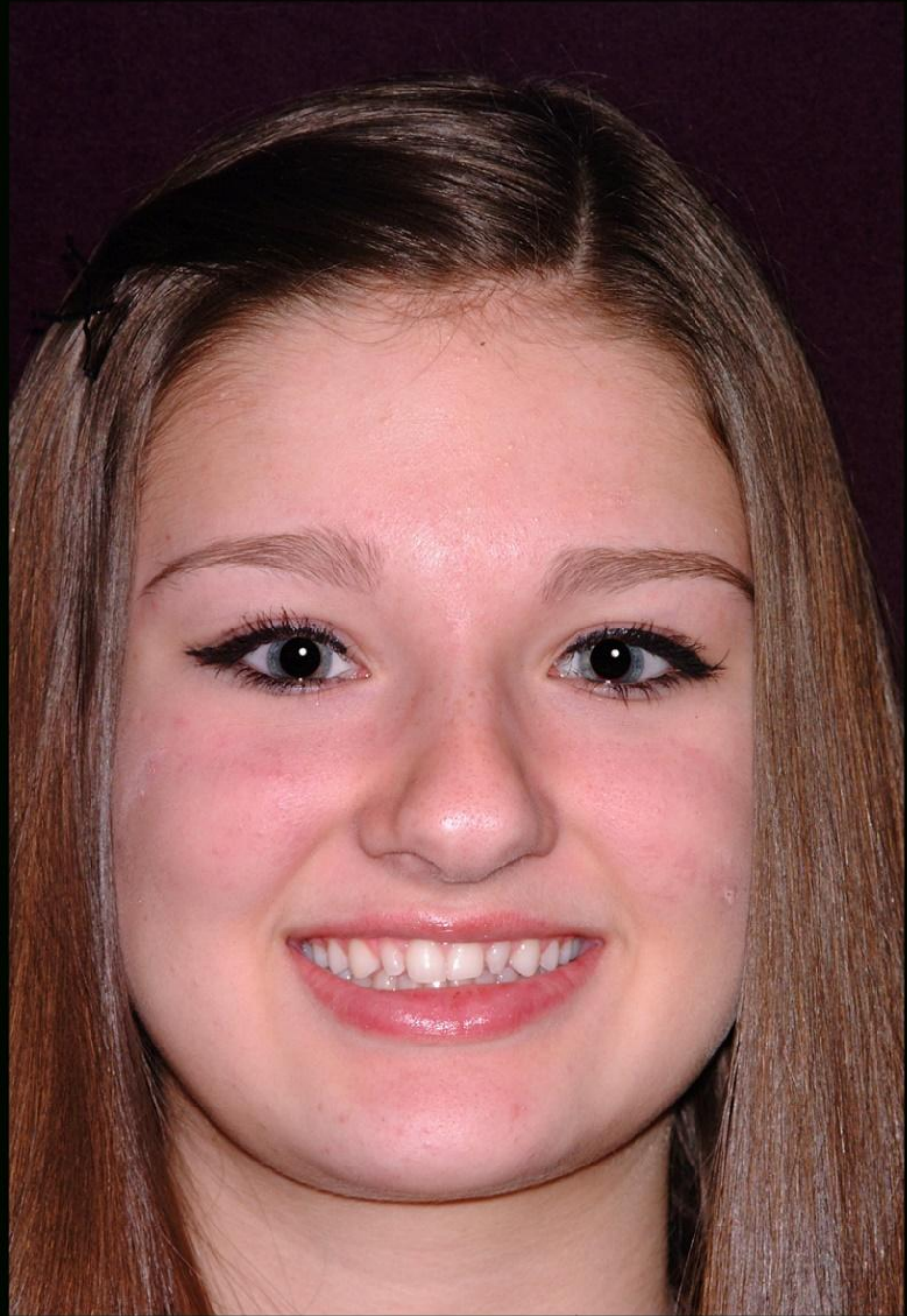




























3 year  
follow up



# 7 year follow up



# 11 year follow up

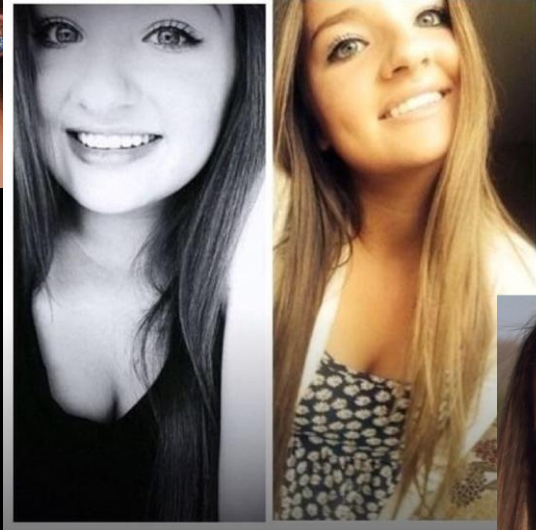




Pre-op



Immediate  
post-op



Three-year  
post-op



Seven-year  
post-op



Eleven-year  
post-op






Pre-op



Immediate  
post-op



Eleven-year  
post-op



# The Great Tooth Killer: Epidemic of Cracked Teeth, the Science of Strong Teeth

*featuring*

 BIOCLEAR

# THE SCIENCE OF STRONG RESTORED TEETH



DR. DAVID CLARK

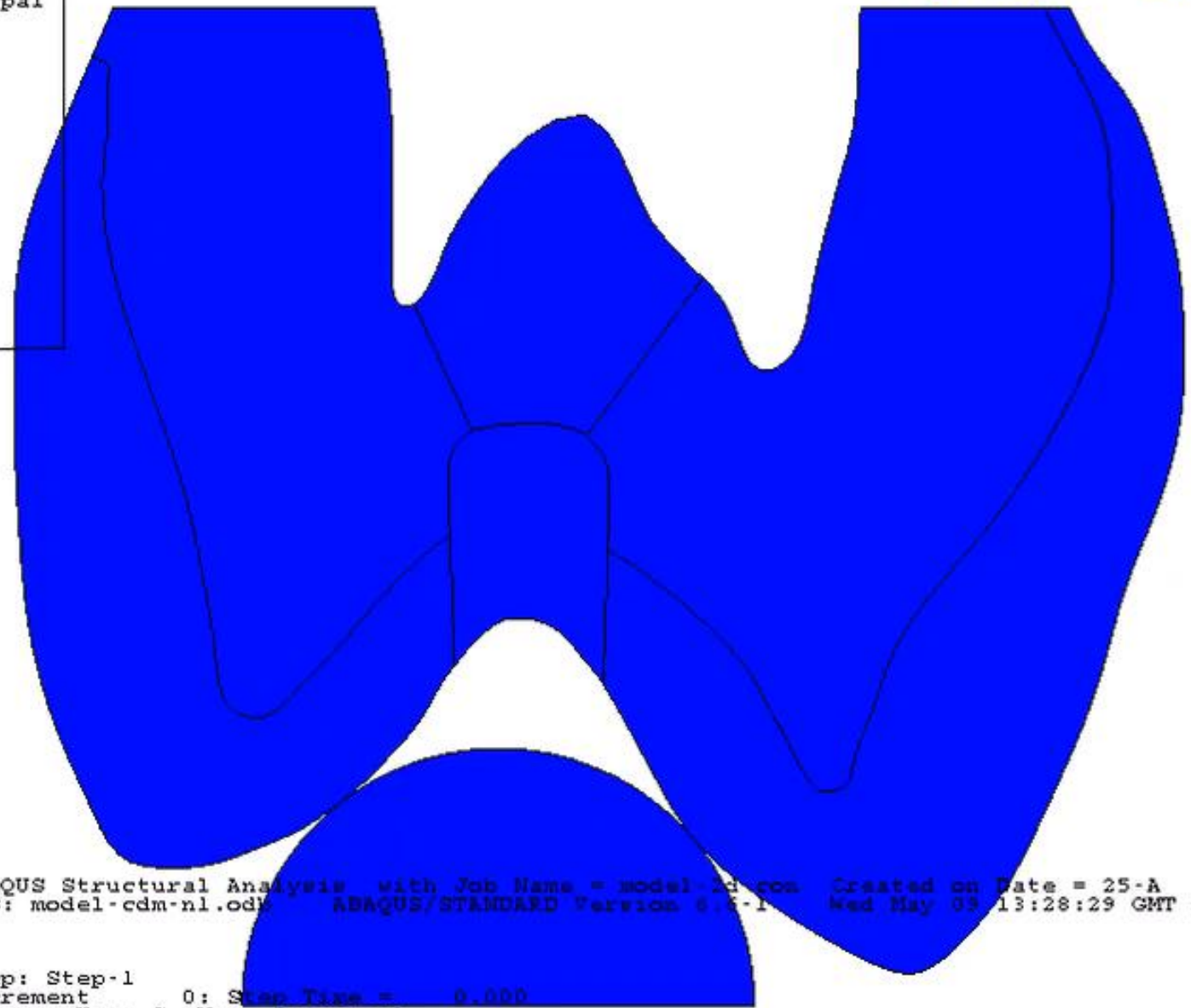
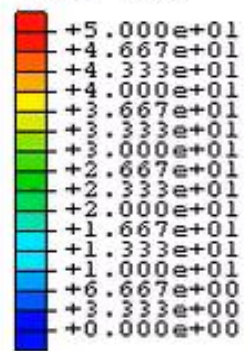


DR. ALEX FOK



Dr Alex Fok is a Mechanical Engineer with expertise in solid mechanics, structural analysis and mathematical modeling. He is currently the Academic Director of the Minnesota Dental Research Center for Biomaterials and Biomechanics (MDRCBB). The MDRCBB is an international leader in the development and application of novel characterization techniques for dental biomaterials, with long-standing collaboration with dental materials manufacturers. Dr Fok's research focuses on the development of techniques for material characterization, nondestructive examination, lifetime prediction and shape optimization of dental restorations. A principal aim of his research is to instill more engineering principles and analytical techniques into the design and assessment of dental restorations and treatments so as to improve their longevity and effectiveness.

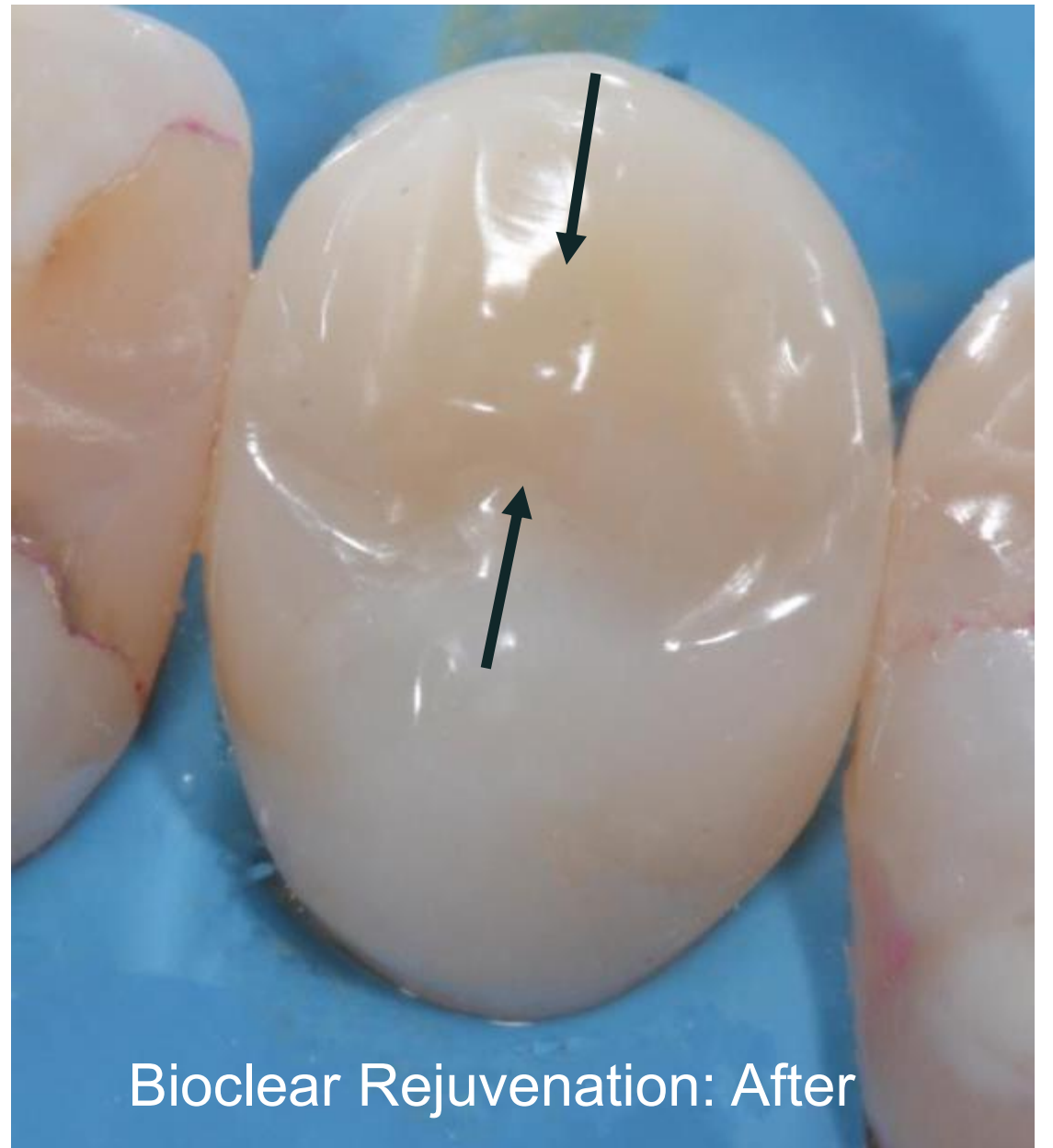
S, Max. Principal  
(Avg: 75%)



2  
3  
1

ABAQUS Structural Analysis with Job Name = model-cdm-nl.odb Created on Date = 25-A  
ODE: model-cdm-nl.odb ABAQUS/STANDARD Version 6.5-1 Wed May 03 13:28:29 GMT Daylight

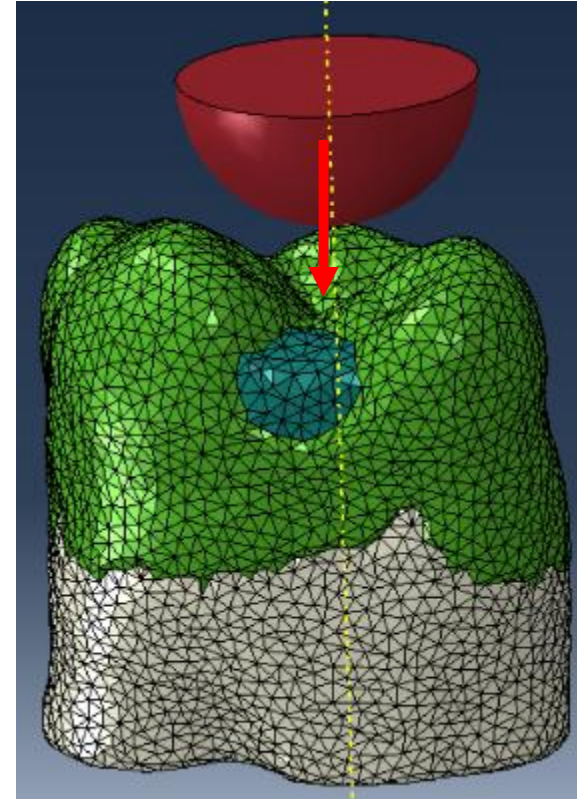
Step: Step-1  
Increment 0: Step Time = 0.000  
Primary Var: S, Max. Principal  
Deformed Var: U Deformation Scale Factor: +1.000e+01



# Finite Element Analysis of Stresses in Restorations due to Occlusal Loading

## Methods

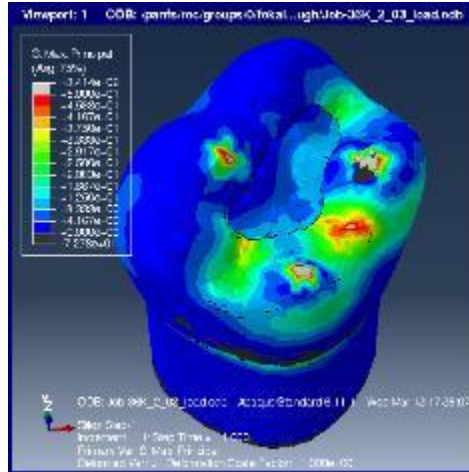
- Occlusal stress simulated by adding a hemisphere as an antagonist to the occlusal surface with downward vertical force (1000N) , resulting in three occlusal areas
- Principal stresses on the restorations and tooth were compared.



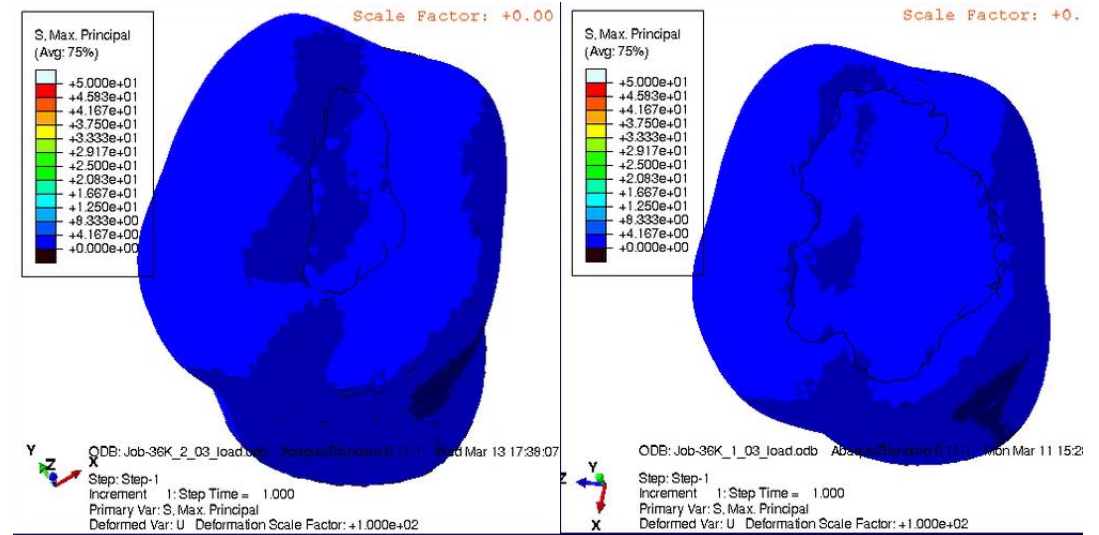
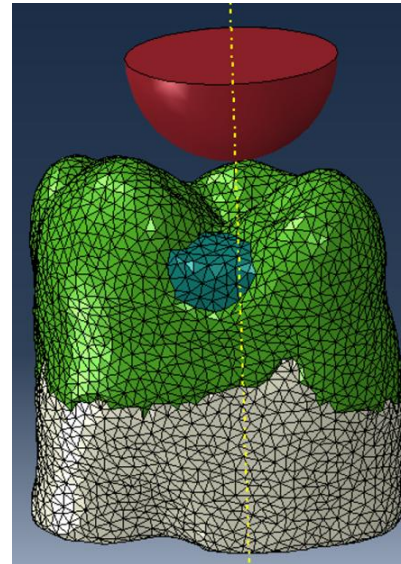
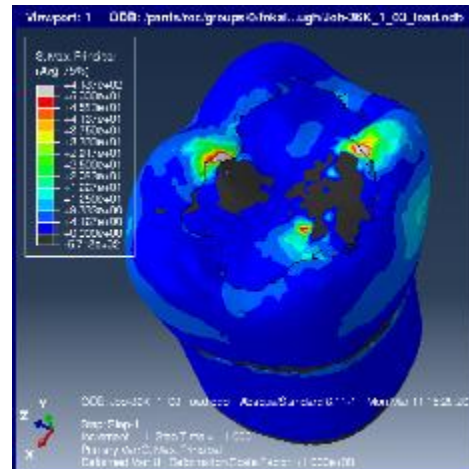
# 3D Finite Element Analysis of Stresses in Class I Restorations due to Occlusal Loading

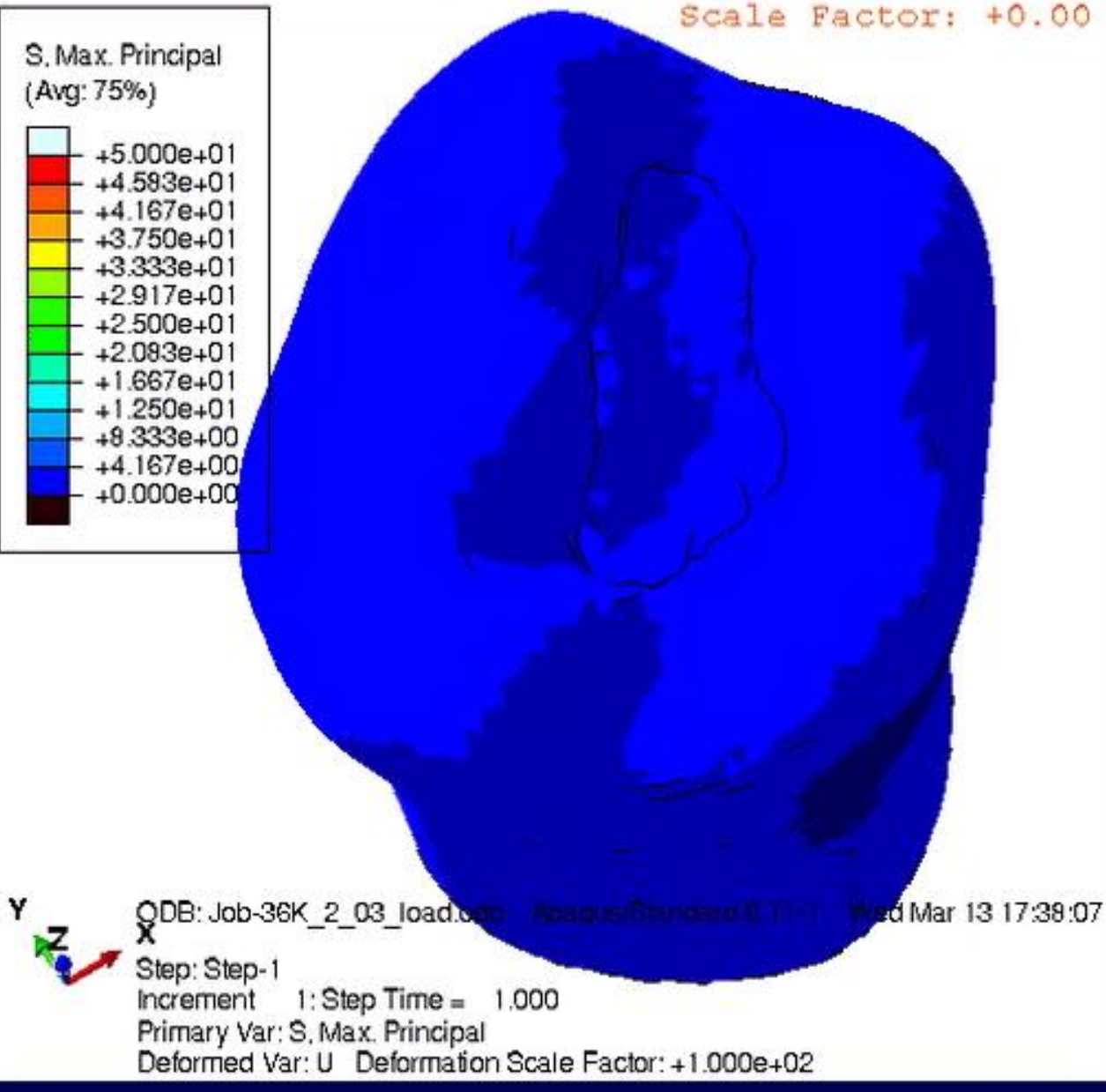
## Max principal stress contours

Black

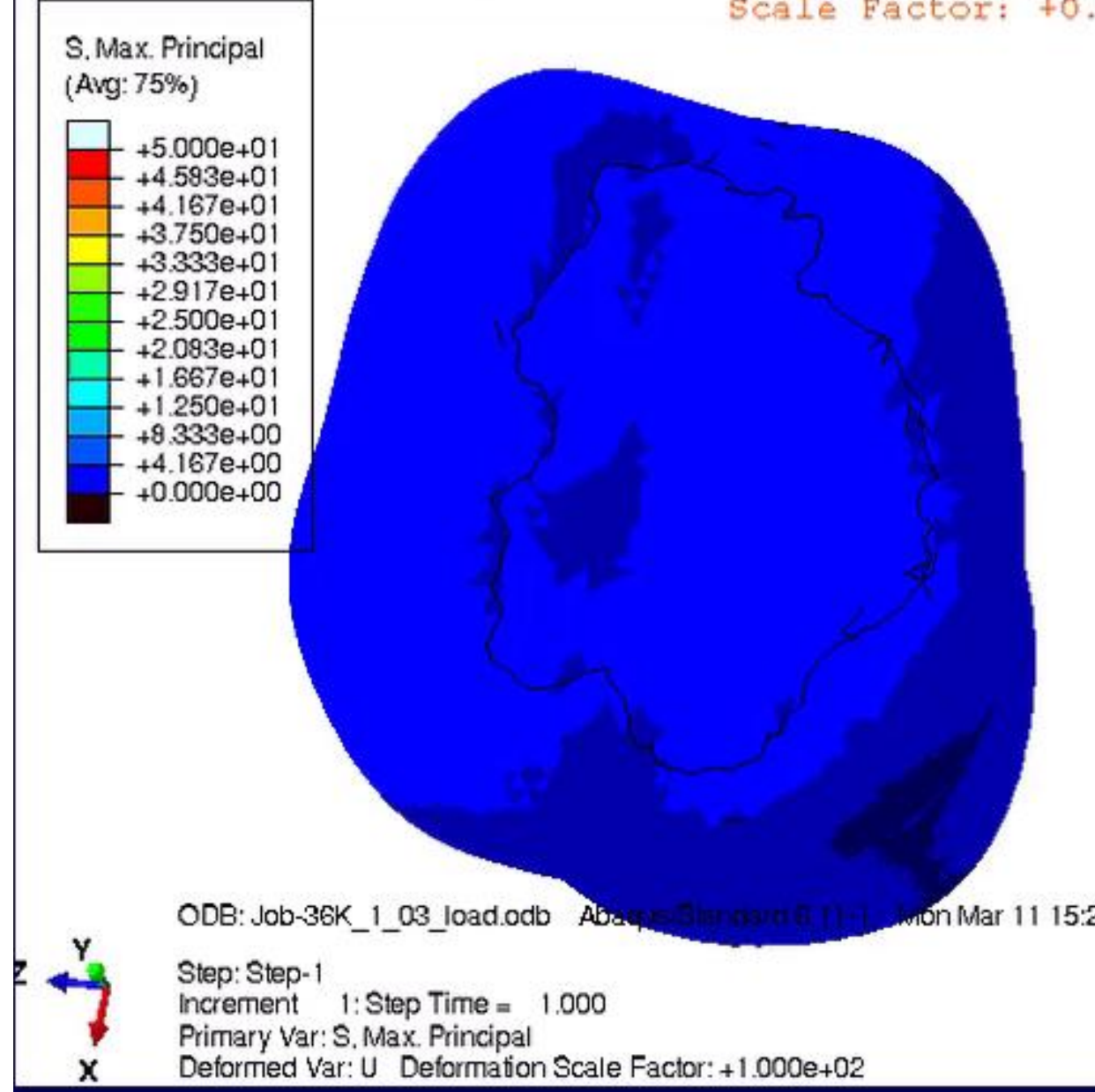


Clark





**Black**



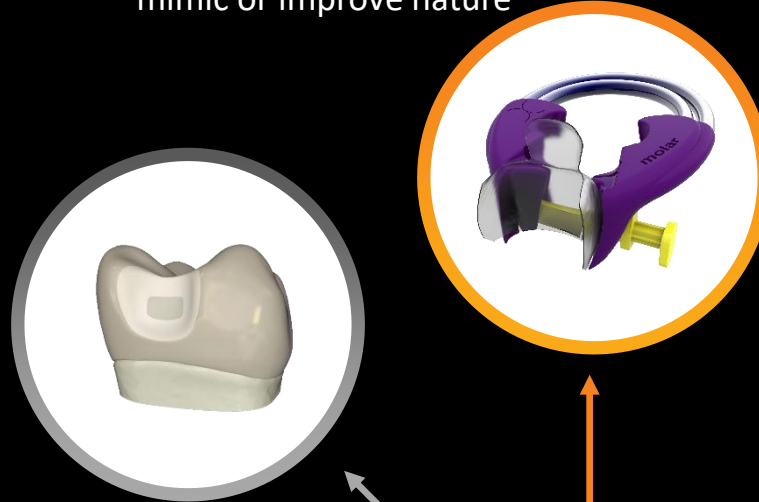
**Clark**



# Modern Method for Composite Restorations

## Bioclear Anatomic Matrices

- Anterior & Posterior Matrices designed to mimic or improve nature



## Injection Mold Composite

- Injection mold warmed Solventum Restorative materials
- Industry leading polish, esthetic, strength & wear



## Preparation Design

- I.C.E. Infinity edge, Compression based, Enamel driven
- Maximizes enamel involvement by going "around the tooth"

## Biofilm Removal

- Bioclear Blaster removes biofilm before bonding
- Allows bonding to uncut enamel
- Allows infinity edge margins



Systematic restorative protocol for esthetic long-term clinical outcomes

## Rock Star Polish

- 3M™ Sof-Lex™ XT coarse discs for reduction
- "Rock Star" polish with Bioclear Magic Mix & RS Polisher



# 1<sup>st</sup> Pillar of Bioclear

Disclosing of Biofilm, then  
Blasting to remove Biofilm plus  
remove Protein Pellicle

# Part 1 | Biofilm Removal

If you were going to paint a wall that looked like this....



...you'd prepare the surface to receive the paint and have it stay long-term.

We need to do the same with teeth...



Clean teeth surfaces allow for

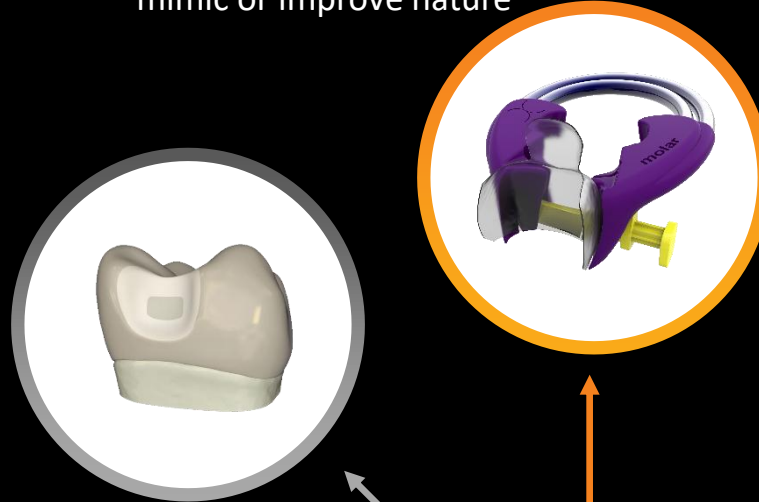
- Better adhesion
- Difference between “Flash” and an infinity edge at the Tooth Restoration Interface

Does 37% phosphoric acid  
(gel etchant)  
remove biofilm?

# Modern Method for Composite Restorations

## Bioclear Anatomic Matrices

- Anterior & Posterior Matrices designed to mimic or improve nature



## Injection Mold Composite

- Injection mold warmed Solventum Restorative materials
- Industry leading polish, esthetic, strength & wear



## Rock Star Polish

- 3M™ Sof-Lex™ XT coarse discs for reduction
- “Rock Star” polish with Bioclear Magic Mix & RS Polisher



Systematic restorative protocol for esthetic long-term clinical outcomes

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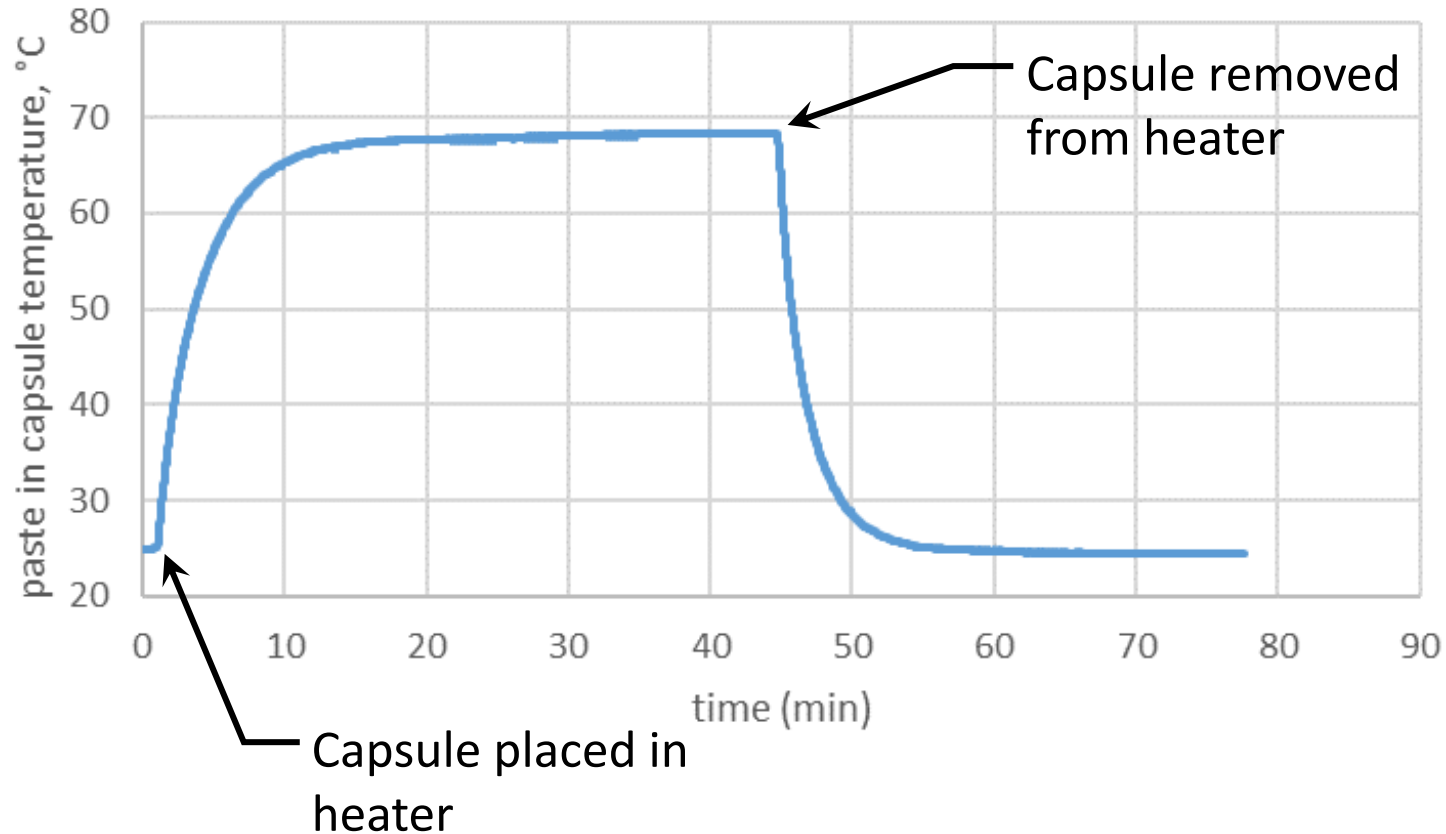
Composite  
Heating: Trend  
or the future of  
placing the  
material?

Composite Heater pre-set  
to 155° F



# Overall

Warming & Cooling of Capsules in BioClear HeatSync



- Overall experiment
- Piston removed from capsule
- Thermocouple inserted into paste in capsule
- Capsule placed in capsule gun
- Capsule & gun placed in heater at  $t = 0$  min
- Capsule & gun removed from heater at  $t = 45$  min
- Allowed to cool in room temperature air

# Conclusions

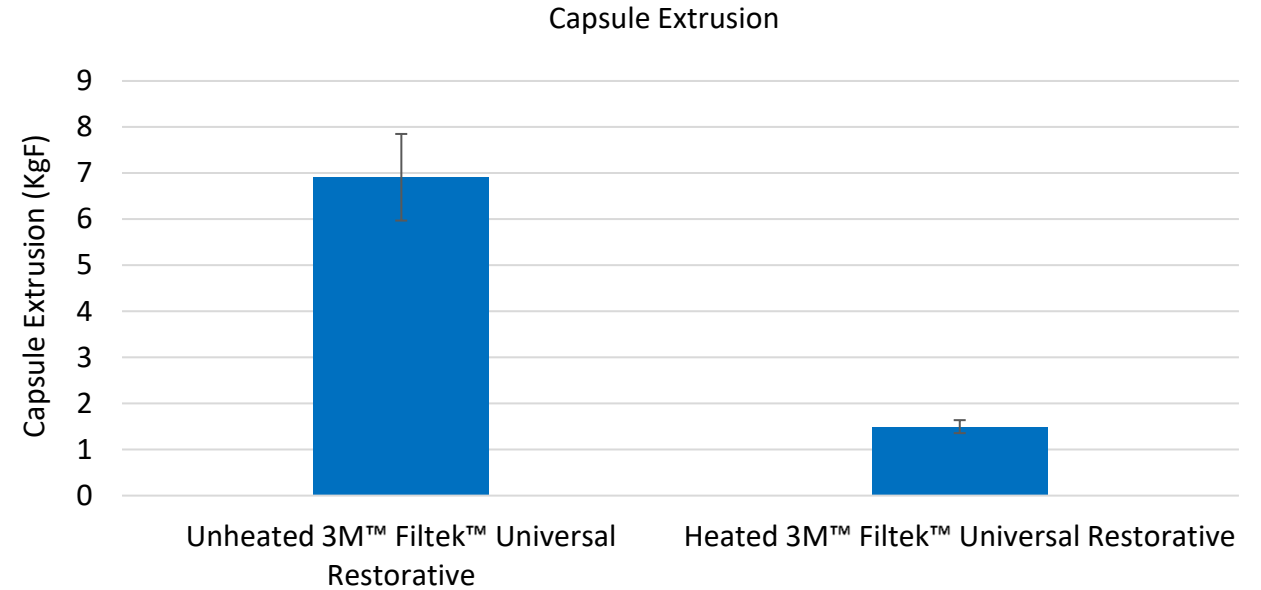
- Preheating a syringe of Filtek™ Bulk Fill Posterior to 60 °C for twenty 1 hour increments does
  - NOT harm mechanical properties such as
    - Diametral tensile strength
    - Flexural strength
  - NOT harm cure properties such as
    - Depth of cure
    - Cusp deflection (polymerization shrinkage stress)
  - NOT harm esthetic properties such as
    - Color and opacity
    - Polish retention

From: Does Preheating a Dental Composite Degrade its Post-Cure Properties?  
T.D. Dunbar et al., *J Dent Res* 95 (Spec Iss A):952, 2016 ([www.iadr.org](http://www.iadr.org)).

# Composite warming

## Why warm?

- Handling preference
- Lowers capsule extrusion force by 75-80%



3M internal data

14% of dentists survey stated they use some type of device to warm their composite prior to placement.

3M Market Research, January, 2018 N=304 Dentists (US, Russia, UK, Brazil, Germany)

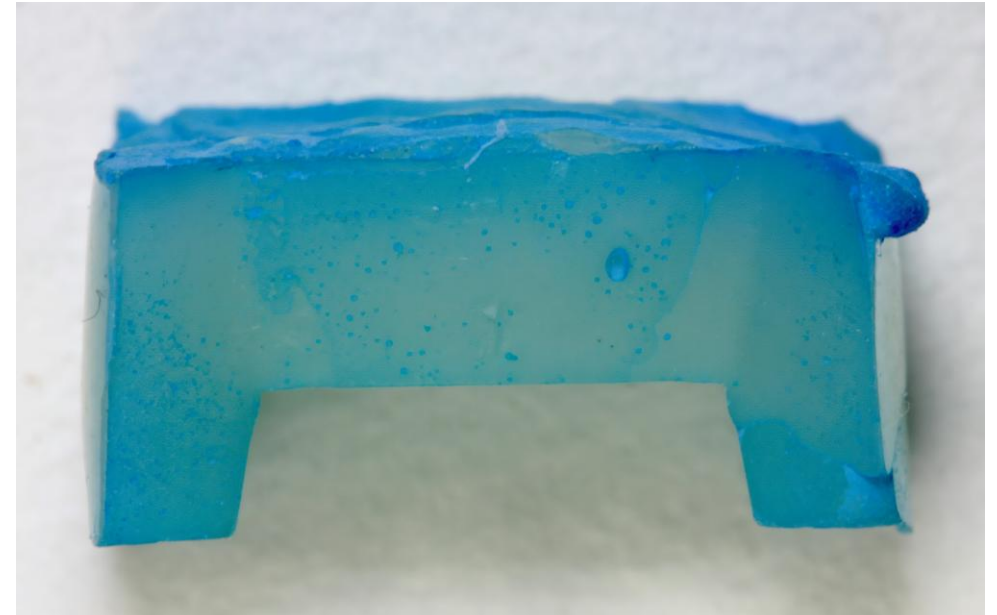
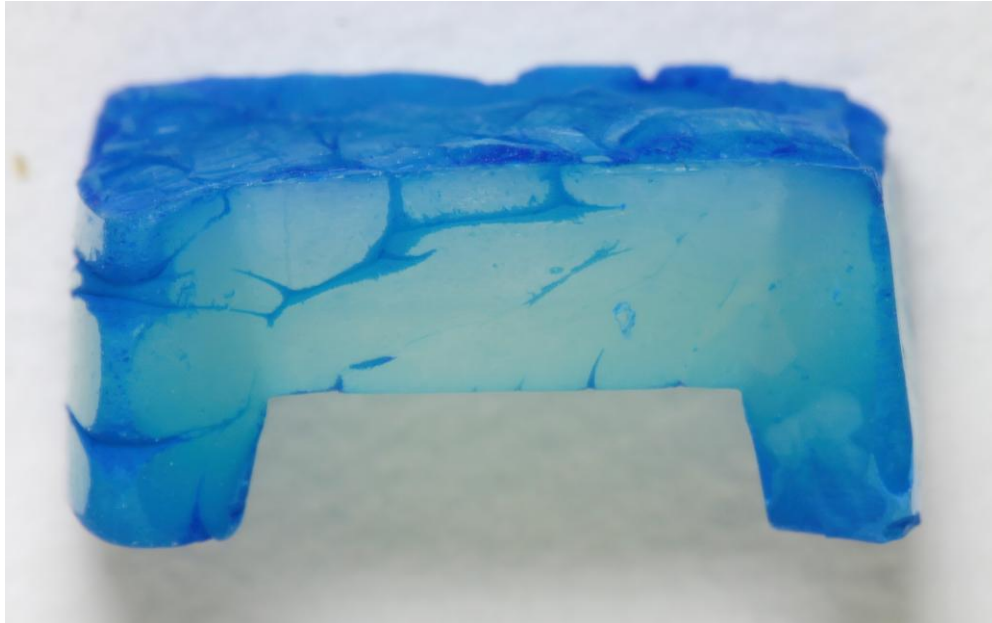
Let's go back to 2007...

“Dr. Clark, aren't we supposed to layer everything?”

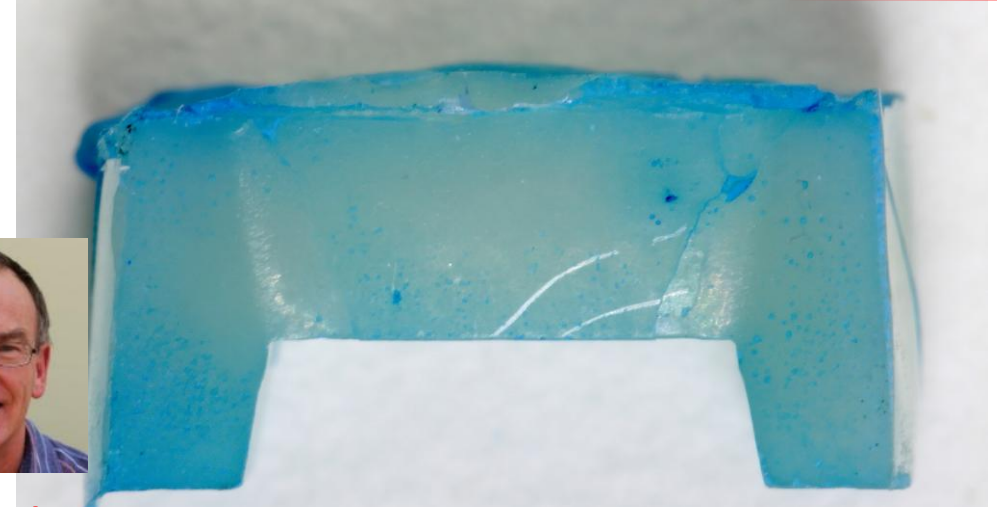
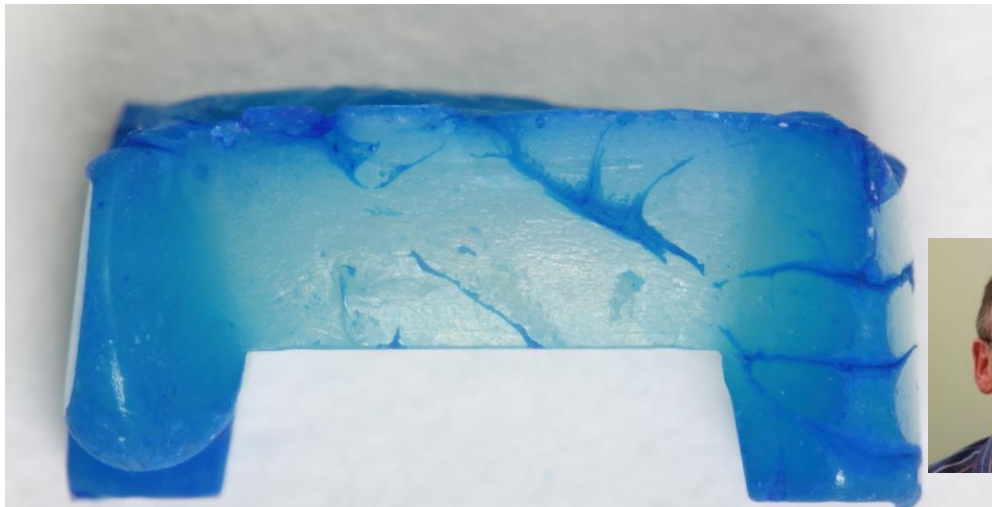
Hand-Packed and Layered

Monolithic and Injection-Molded

Dr. #1



Dr. #2



Courtesy Dr. Richard Price

A microscopic image of a tooth with a filling. The filling is a light-colored, textured material. There is a dark spot on the tooth, likely a cavity or a microleakage. The background is a light blue color.

Is layering a good thing or a bad thing?

Does layering relieve stress and reduce microleakage? **NO**

# Studies do not support layering to mitigate polymerization stress

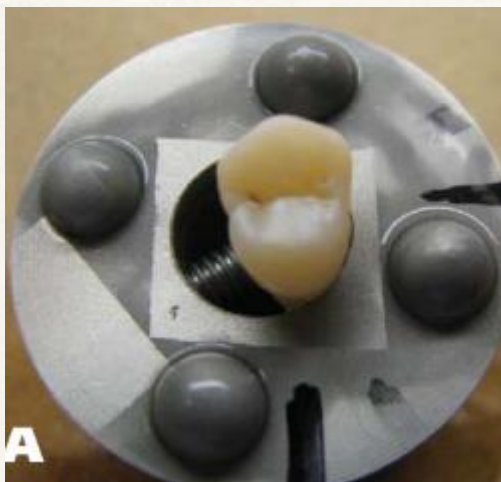
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- ◆ Does Incremental Filling Technique Reduce Polymerization Shrinkage Stresses?  
Versluis A, et.al., J Dent Res March 1996; 75(3): 871-878
- ◆ An In Vitro Study of the Effect of Restorative Technique on Marginal Leakage in Posterior Composites  
Neiva IF, et.al.; Oper Dent 1998, 23:282-289
- ◆ Microleakage and adaptation of Class II packable resin-based composites using incremental or bulk filling techniques  
Gallo JR, et.al., Am J Dent 2000; 13: 205-208
- ◆ The Effects of Adhesive Thickness on Polymerization Contraction Stress of Composite  
Choi KK, et.al., J Dent Res 2000; 79(3): 812-817
- ◆ Microleakage of Posterior Packable Resin Composites with and without flowable liners  
Leevailoj C, et.al., Oper Dent 2001; 26: 302-307
- ◆ Marginal adaptation of Class II resin composite restorations using incremental and bulk placement techniques: and ESEM study  
Idriss S, et.al., J Oral Rehab 2003; 30: 1000-1007
- ◆ A reappraisal of the incremental packing technique for light cured composite resins  
Rees JS, et.al., J Oral Rehab 2004; 31: 81-94
- ◆ Cuspal deflection and depth of cure in resin-based composite restorations filled by using bulk, incremental and transtooth-illumination techniques  
Carlos E. Campodonic, DDS 2011, October 2011 JADA

# October 2011 JADA

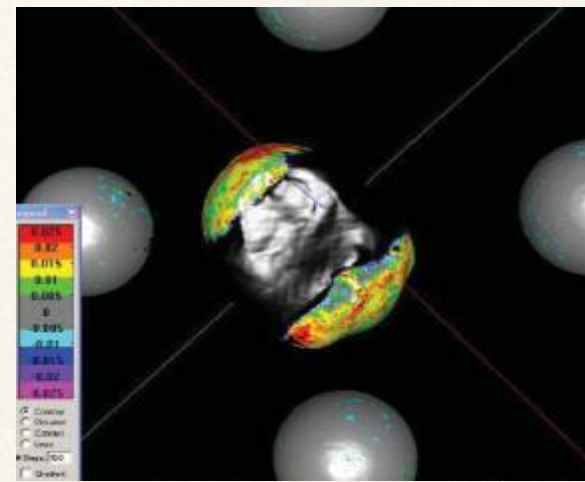
## Cuspal deflection and depth of cure in resin-based composite restorations filled by using bulk, incremental and transtooth-illumination techniques



Completed Restoration



COS Scan



Computer Cuspal Movement Analysis

**"Conclusions:** Cuspal deflection was not affected by filling techniques."

"Filtek Supreme Plus had lower curing values below a depth of 2 mm."

**"Clinical Implications.** When using resin-based composite restorative materials, clinicians should be more concerned about the effect of filling techniques on curing depth than about how these techniques affect shrinkage stresses."

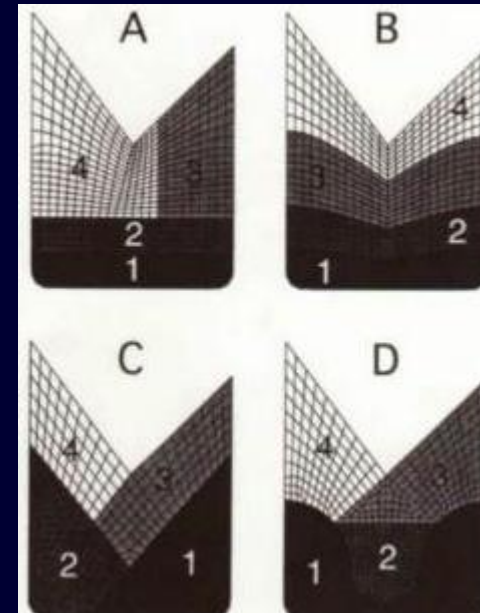
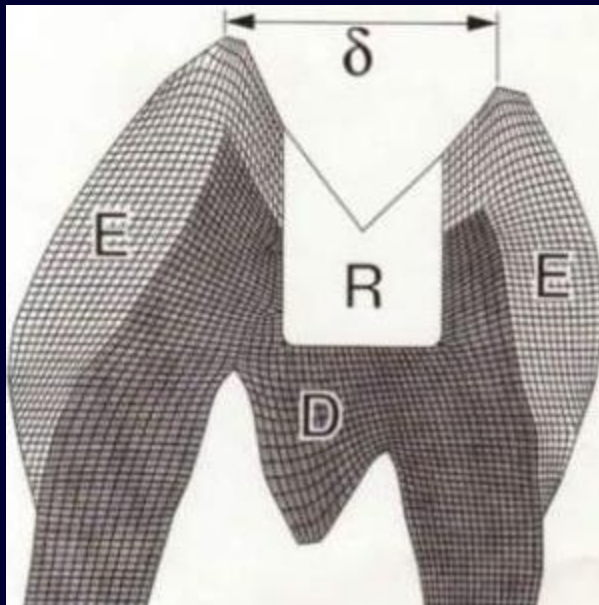
## Does an incremental filling technique reduce polymerization shrinkage stresses?

Versluis A, Douglas WH, Cross M, Sakaguchi RL.

Minnesota Dental Research Center for Biomaterials and Biomechanics, University of Minnesota, Minneapolis 55455, USA.

### Abstract

It is widely accepted that volumetric contraction and solidification during the polymerization process of restorative composites in combination with bonding to the hard tissue result in stress transfer and inward deformation of the cavity walls of the restored tooth. Deformation of the walls decreases the size of the cavity during the filling process. This fact has a profound influence on the assumption—raised and discussed in this paper—that an incremental filling technique reduces the stress effect of composite shrinkage on the tooth. Developing stress fields for different incremental filling techniques are simulated in a numerical analysis. The analysis shows that, in a restoration with a well-established bond to the tooth—as is generally desired—incremental filling techniques increase the deformation of the restored tooth. The increase is caused by the incremental deformation of the preparation, which effectively decreases the total amount of composite needed to fill the cavity. This leads to a higher-stressed tooth-composite structure. The study also shows that the assessment of intercuspal distance measurements as well as simplifications based on generalization of the shrinkage stress state cannot be sufficient to characterize the effect of polymerization shrinkage in a tooth-restoration complex. Incremental filling methods may need to be retained for reasons such as densification, adaptation, thoroughness of cure, and bond formation. However, it is very difficult to prove that incrementalization needs to be retained because of the abatement of shrinkage effects.





# Step by Step Guide for Injection Molded Class II

# Cases by Dr Sarmad Abuglam































# Case by Dr Ayman Mohammed



















# Case by Dr Ahmed Al Jaber























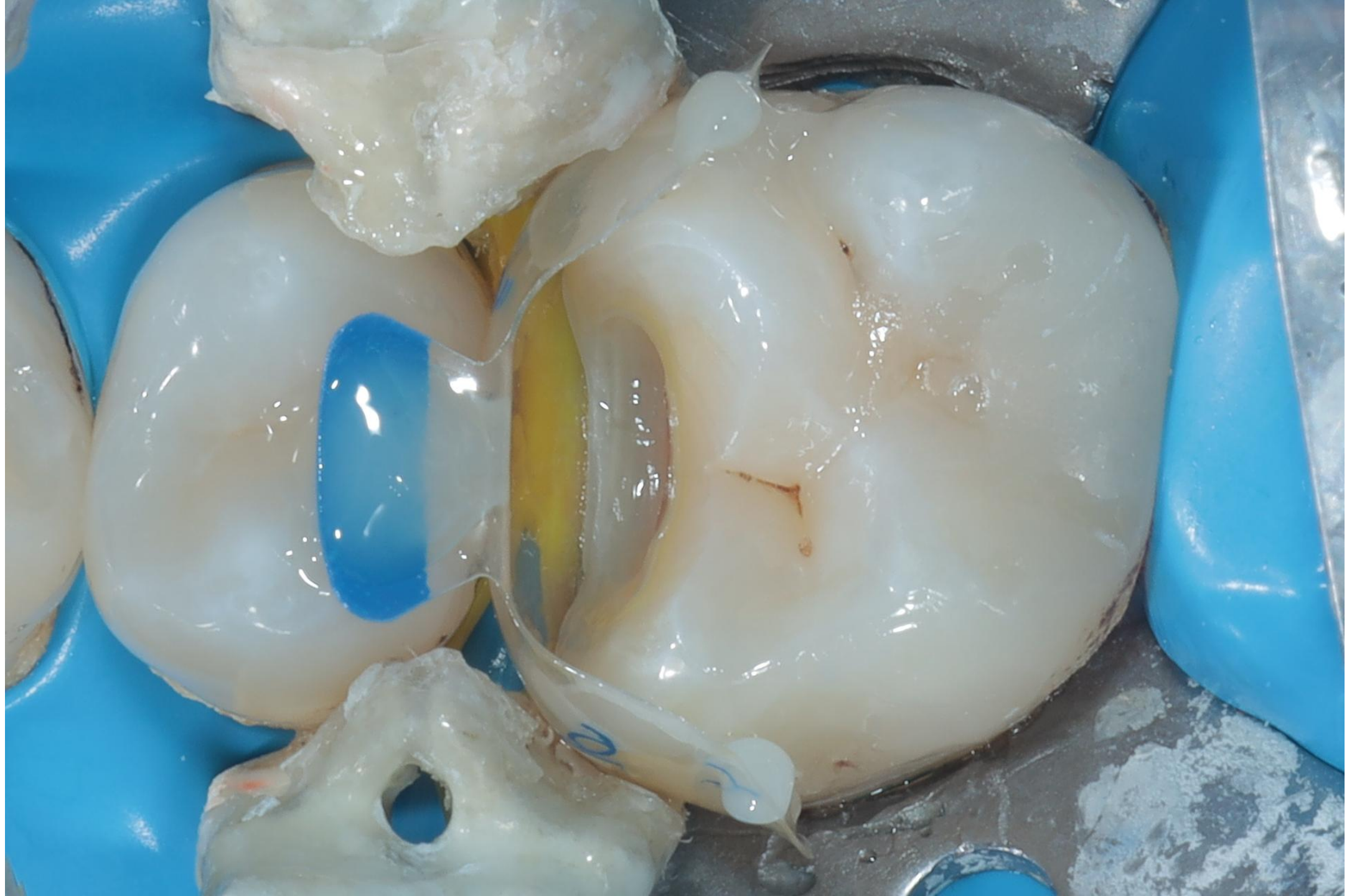






























Are all  
Separators  
Equal?

**NO!**



Stretched to 20mm ONCE!!!





And now most of the power is permanently lost

Once the yield of the metal/shape is reached, the metal undergoes plastic deformation

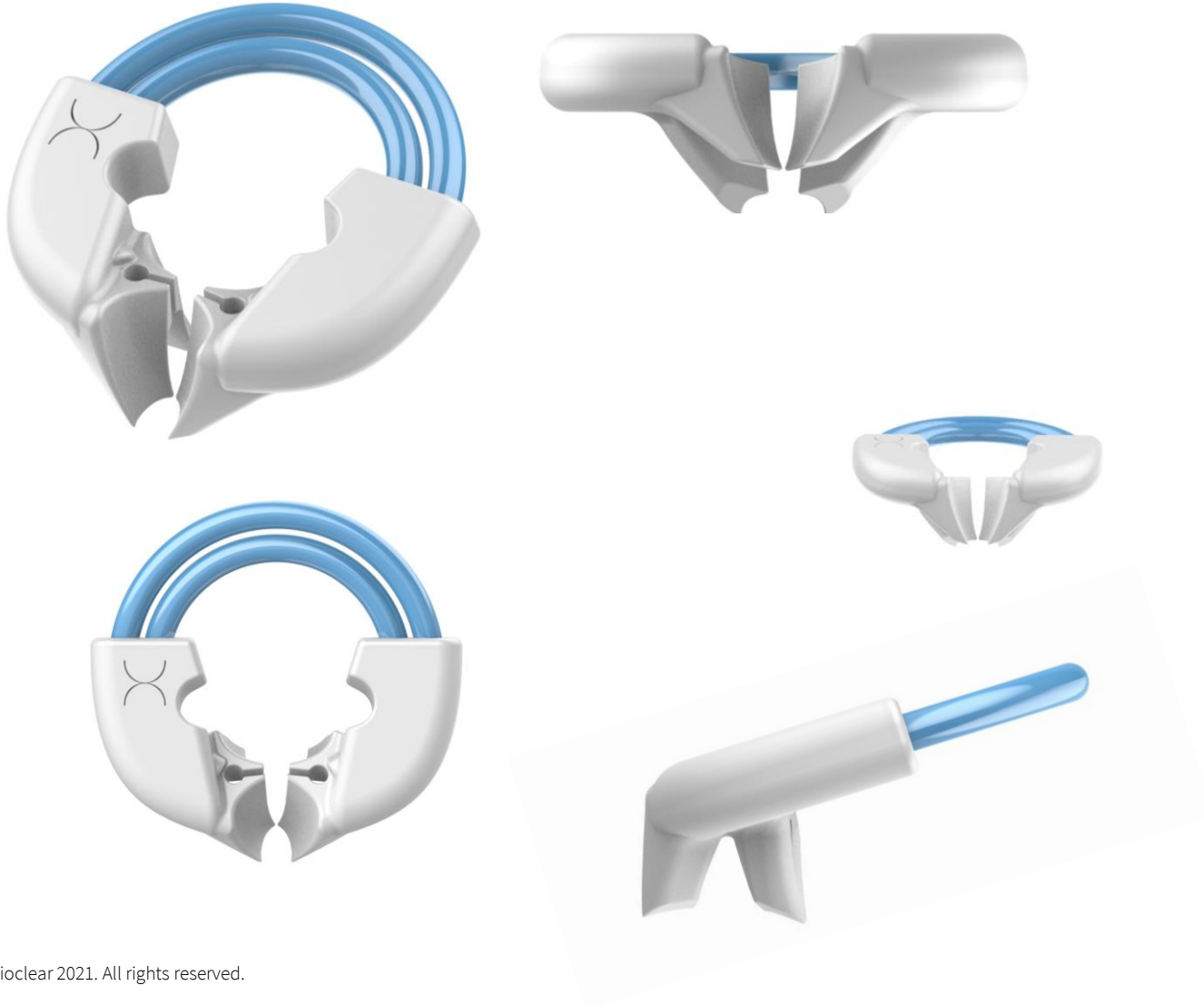
Stretched to 20mm Twenty Times



Stretched to 20mm Twenty Times



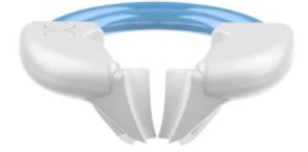
# TwinRing Universal





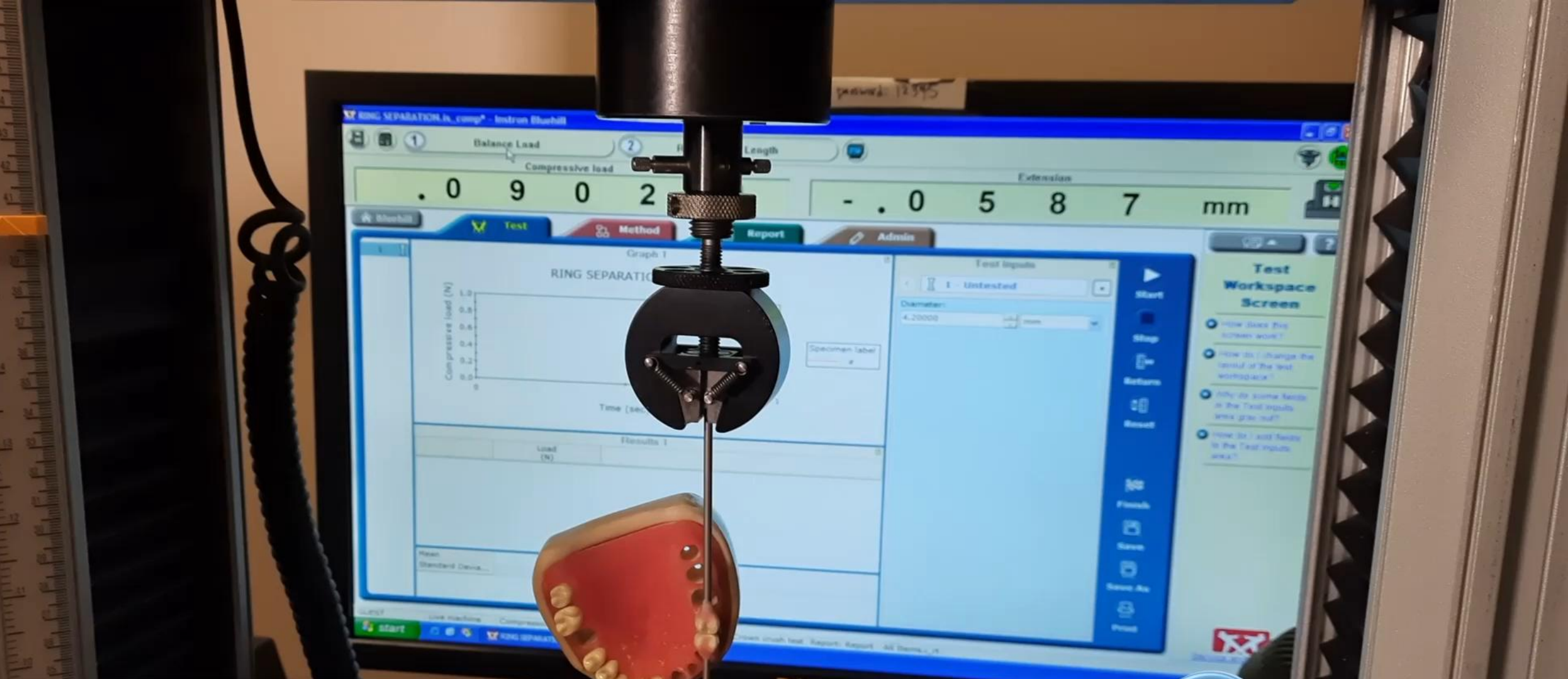
## How do we win the *Snug Contact Game?*

- Power
- Strategy
- Technique



## How do we win the *Snug Contact Game?*

- Power
- Strategy
- Technique



### Nate Lawson DMD PhD

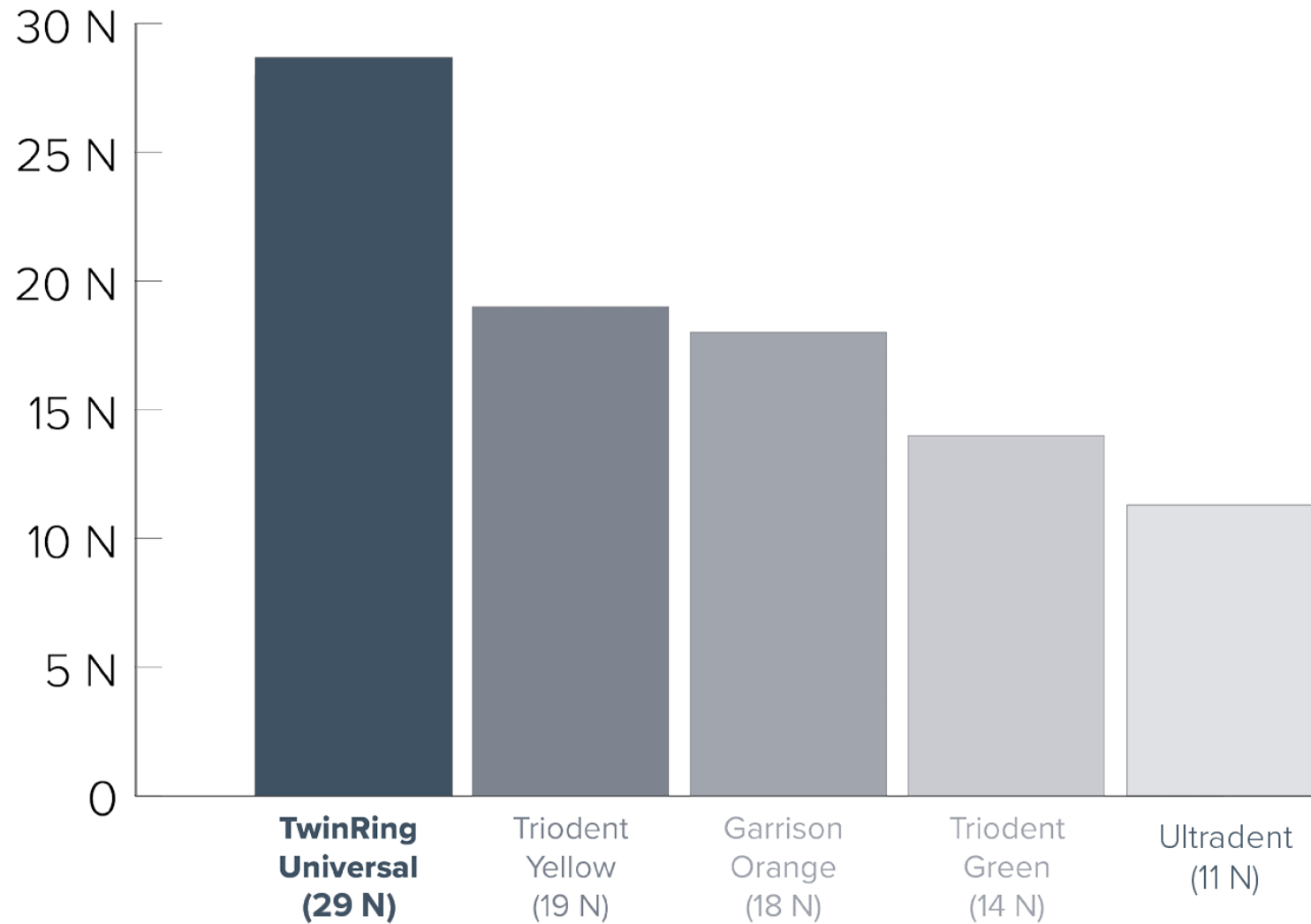
Director of the Division of Biomaterials and Pranit Bora. BDS, MDS.

Resident, Division of Biomaterials UAB School of Dentistry



TwinRing Universal  
28 N

# TwinRing Universal Instron Comparison



Note: Rings tested are not new and some rings stretch out quickly and lose up to half of their power after multiple uses. 1N = 1kg (m/s/s)

 BIOCLEAR

# Bioclear Matrices - Posterior





# EVOLVE --- MATRIX

# Premolar



# Molar



EVOLVE  
MATRIX

# Premolar Evolve: Width & Profile

- Evolve premolar matrices come in one width and profile – Black – to fit a variety of premolar tooth shapes

## BLACK EVOLVE

Designed with an aggressively rounded emergence profile. Shaped specifically for premolar teeth, these matrices can be used anywhere you would typically use a Biofit matrix or BT matrices on premolars.

Tip: Rotate the matrix into place.



Premolar Normal Width

# Black Premolar Evolve

× BIOCLEAR



5 Sizes

5mm

6mm

7mm

8mm

10mm

- Curved profile
- Normal width for a premolar



5 Sizes

5mm

6mm

7mm

8mm

9mm

- Curved profile
- Normal width

# Molar Evolve: Width & Profile

- Evolve matrices come in three widths and profiles – Blue, Orange, and Pink – to fit a variety of posterior tooth shapes

## BLUE EVOLVE

Designed with an aggressively rounded emergence profile and an average width. Blue Evolve is suitable for the majority of posterior cases.

Tip: Rotate the matrix into place.



Normal width

## ORANGE EVOLVE

Features a flatter emergence profile than the Blue Evolve. Orange Evolve is perfect for patients with average-sized molars where the tooth is too flat for the Blue Evolve

Tip: Use the Orange Evolve if the Blue Evolve inverts



Wide Molar



3 Sizes

6mm

7mm

9mm

- Curved/straight profile
- Wider width

 **BIOCLEAR**

# The Adjustable Push-Pull Instrument

*for Ideal Contacts*

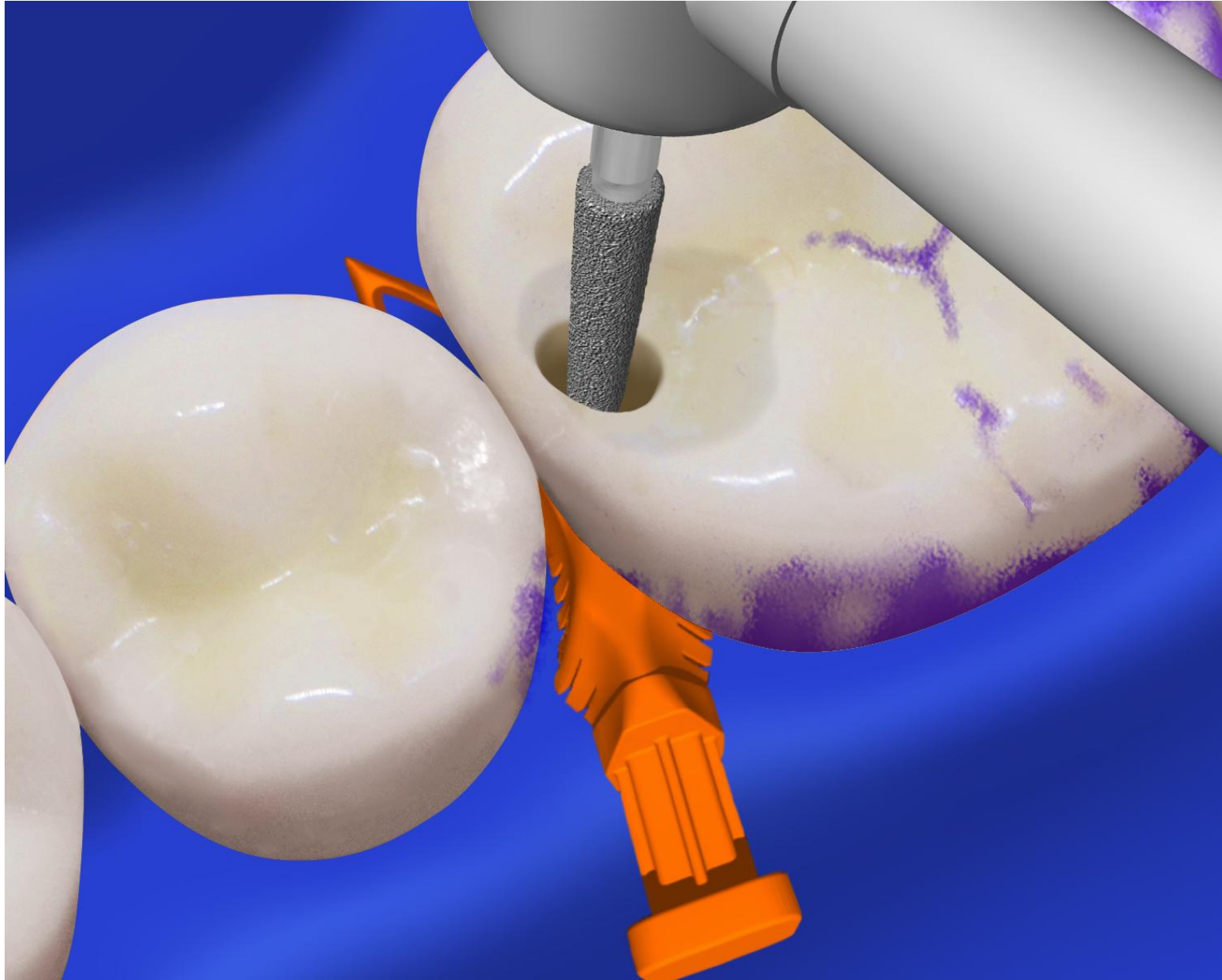


**EVOLVE MATRIX SYSTEM**

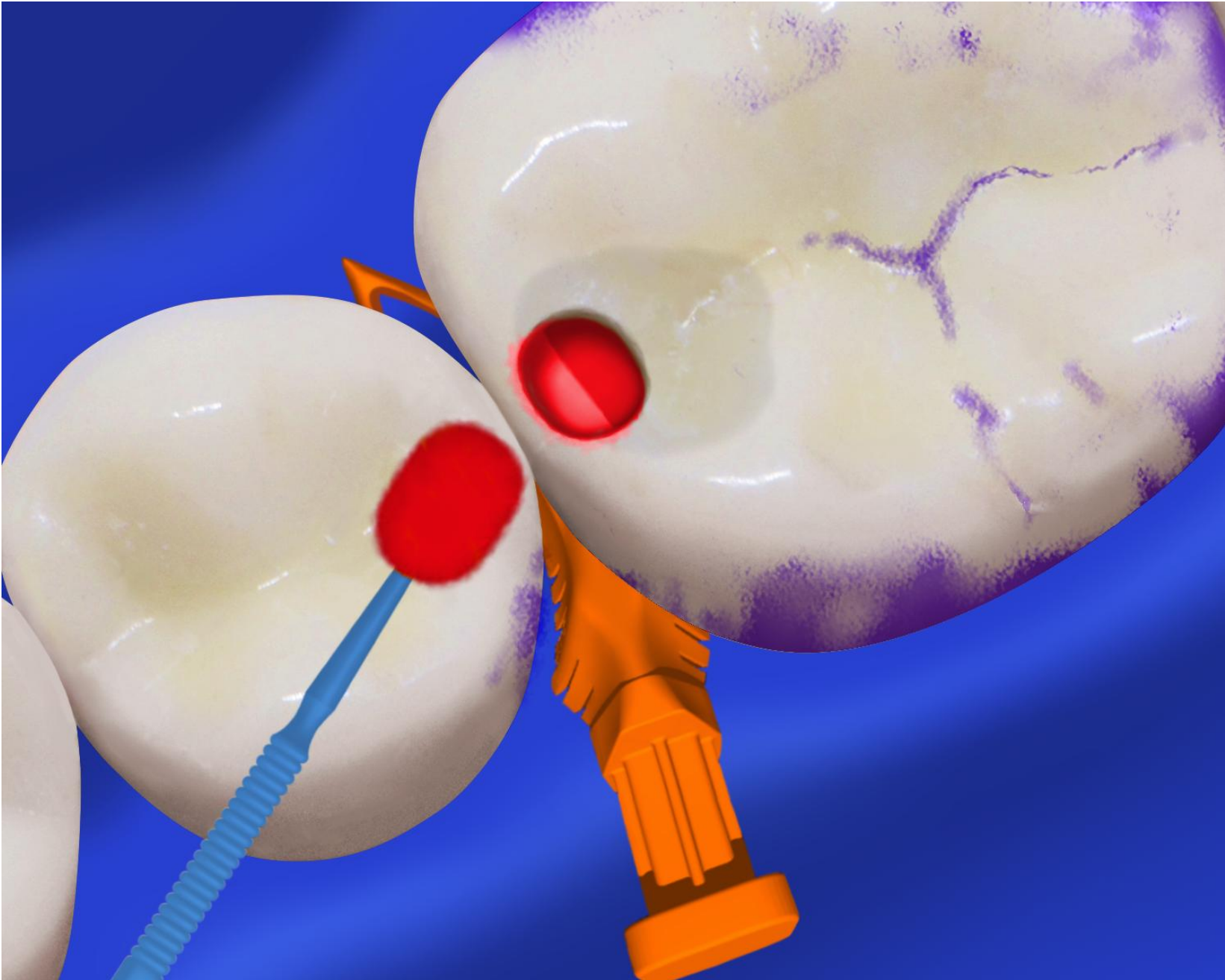
# The slip-off test



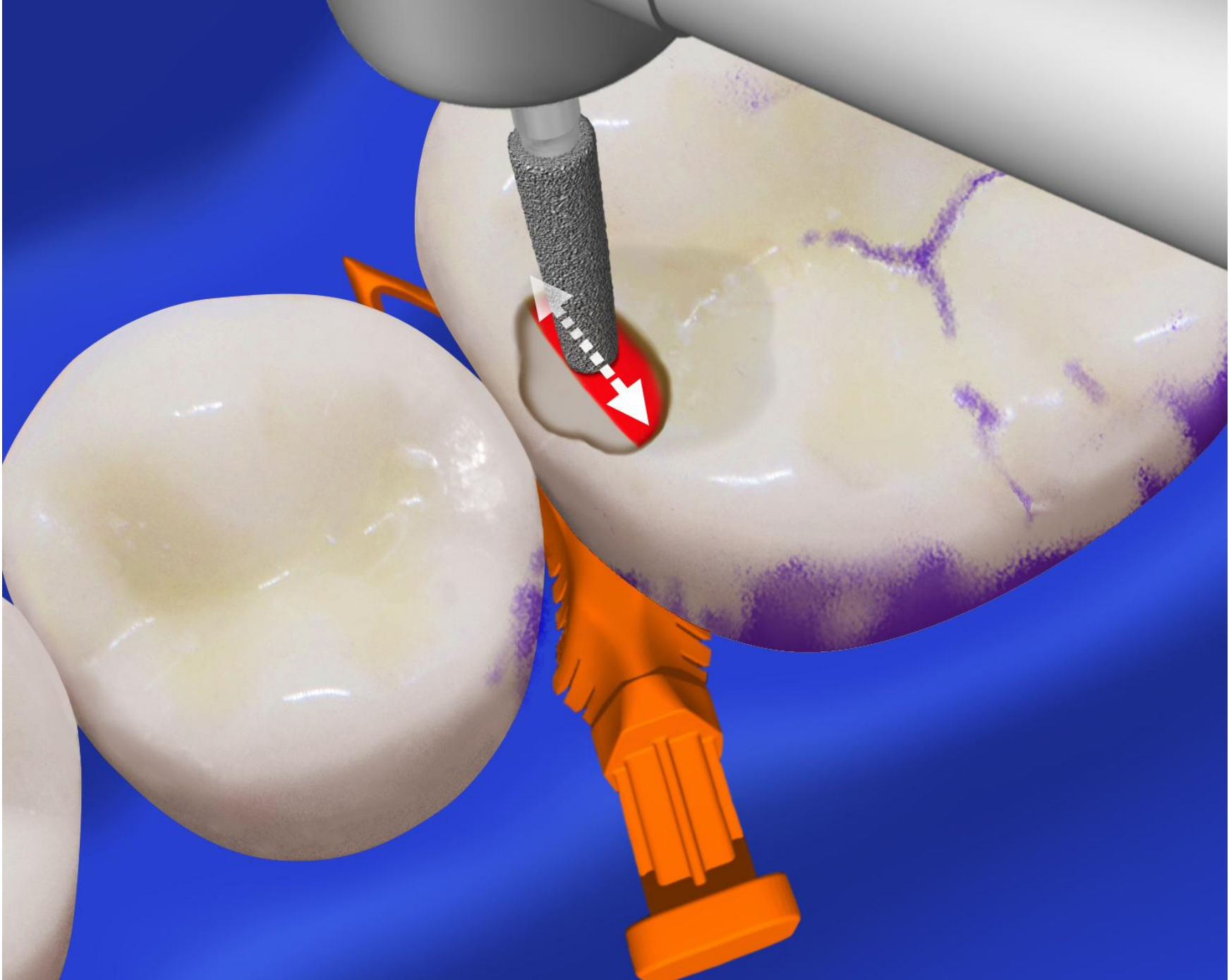
3) Bur #3 is  
dropped into the  
at the suspected  
cavitation area.  
(Bur is used with  
water coolant)



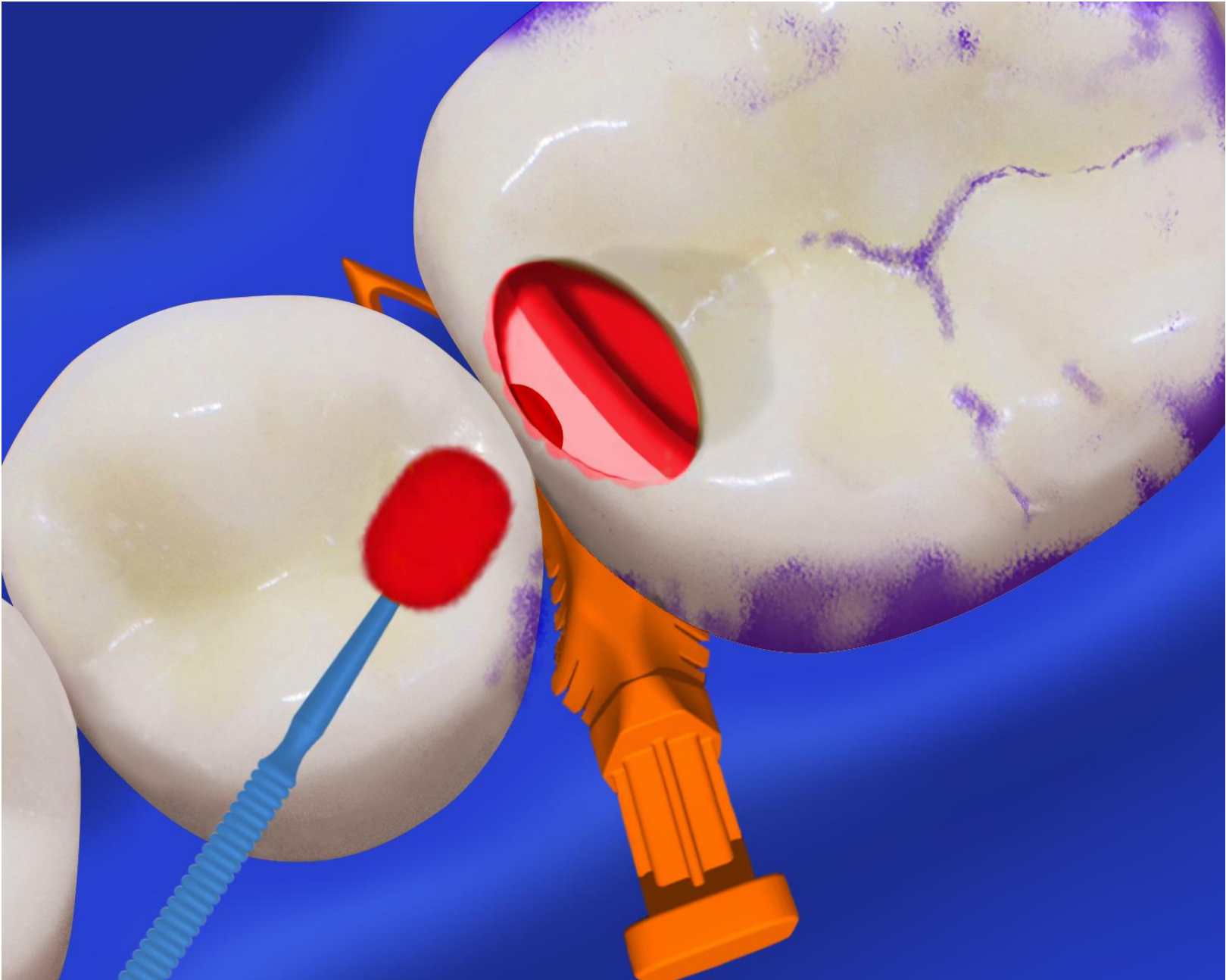
4) Caries indicator identifies dentin caries. Assessment of cavitation and caries to adjust bur movements. Axial dentin caries and healthy DEJ tissue should not be removed.



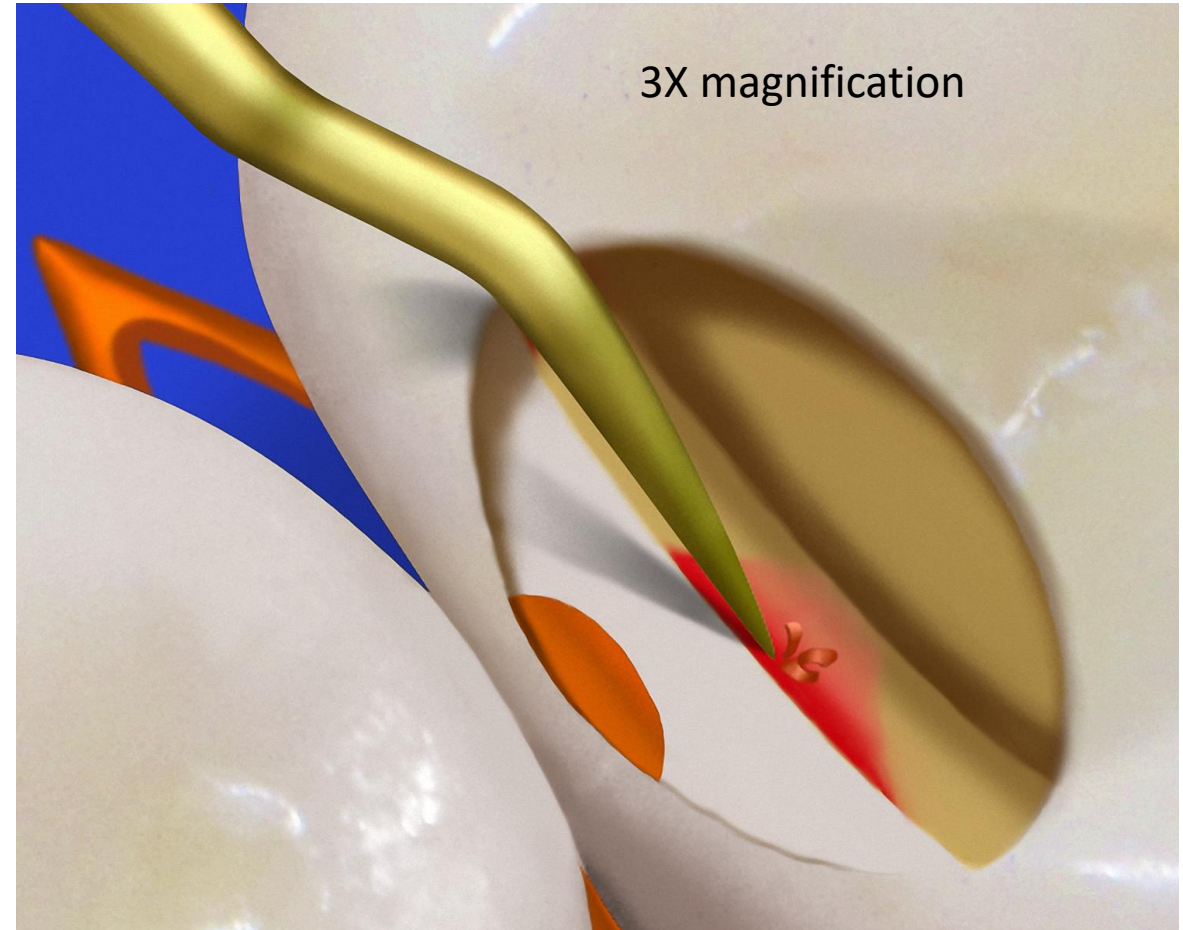
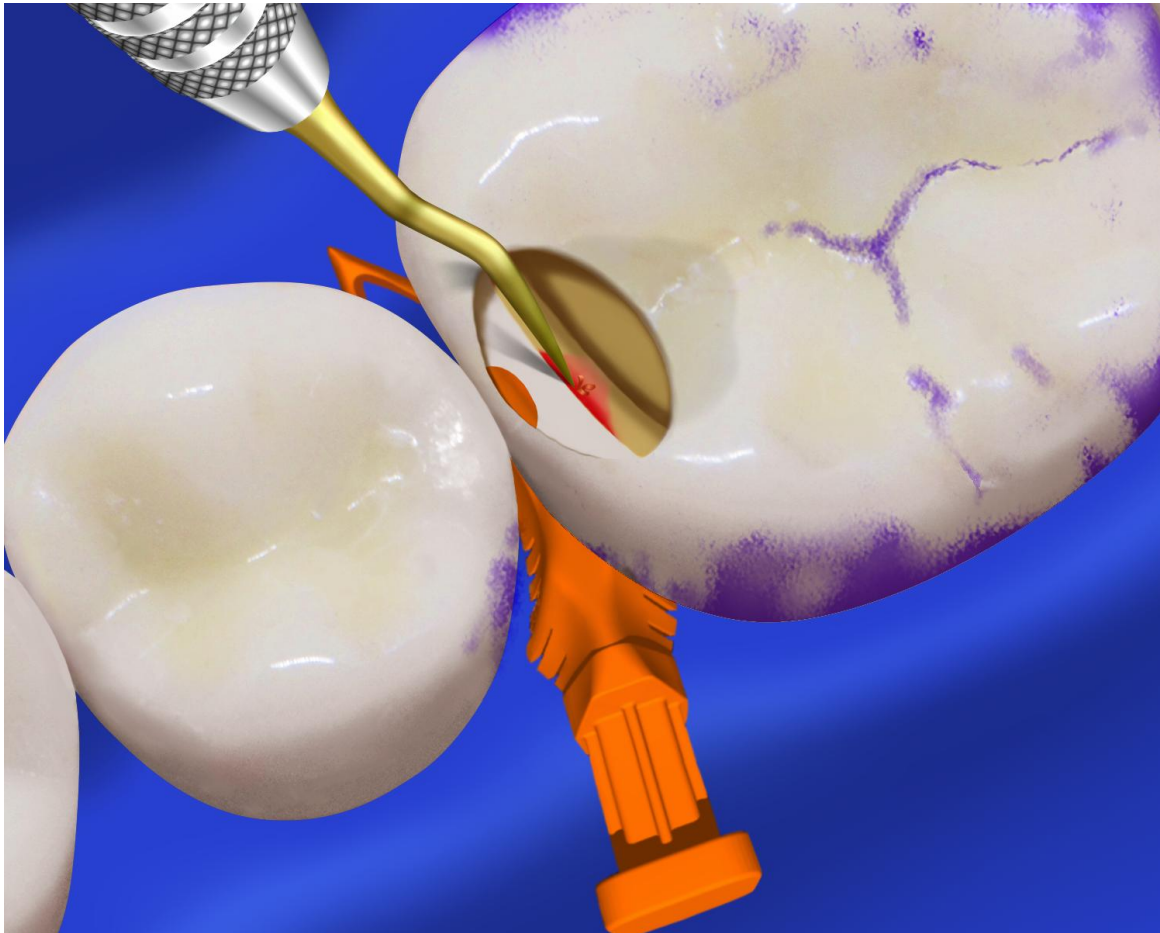
5) Bur #3 is kept *inside* of the cavity prep as DEJ caries removal proceeds.



6) Second caries indicator application. indicator application is repeated as needed until a negative stain is produced (clean dentin at the DEJ).

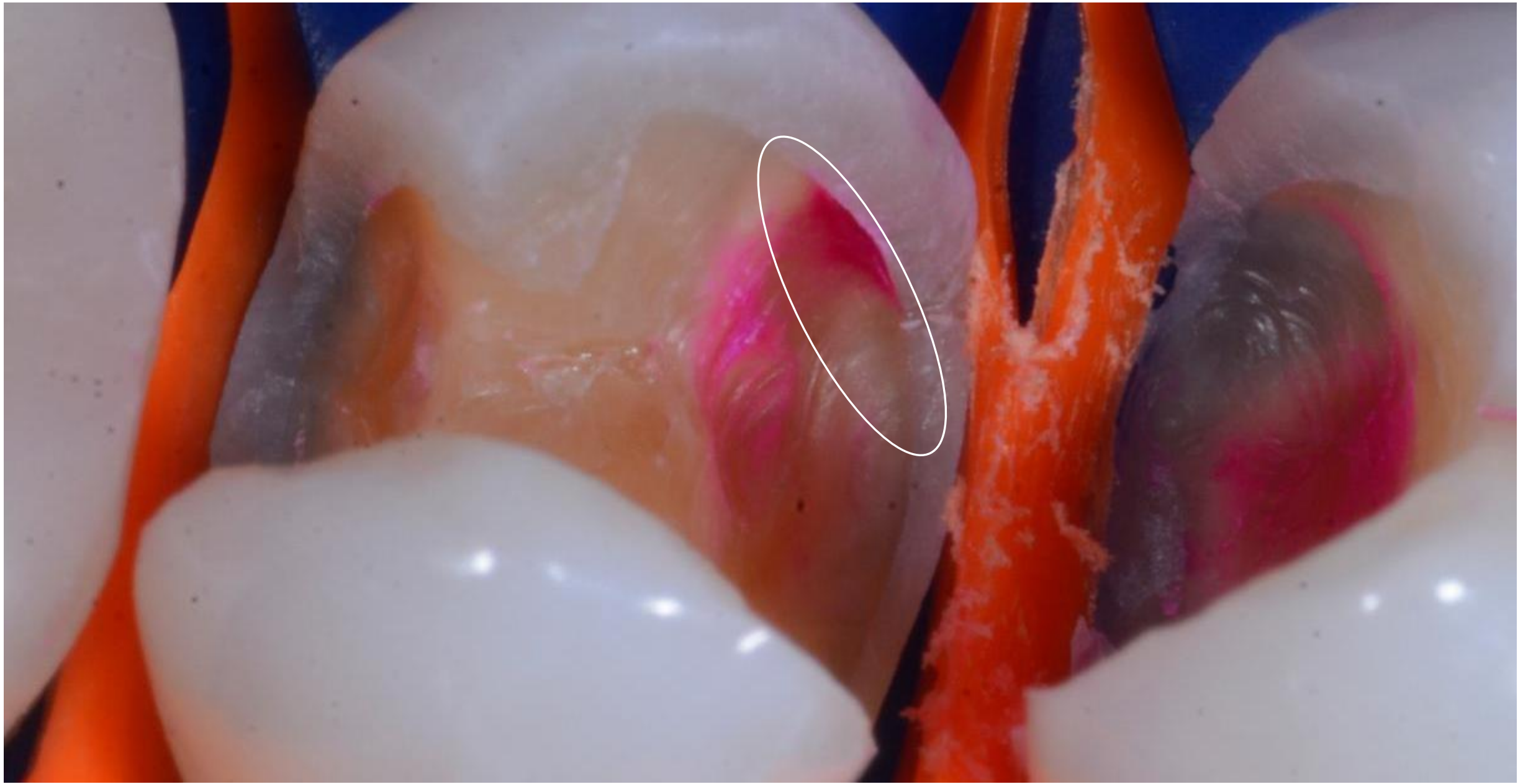


7) Clark explorer is used to achieve tactile test of healthy vs. carious DEJ dentin. Cumulative diagnosis with hardness test and caries indicator is recommended.

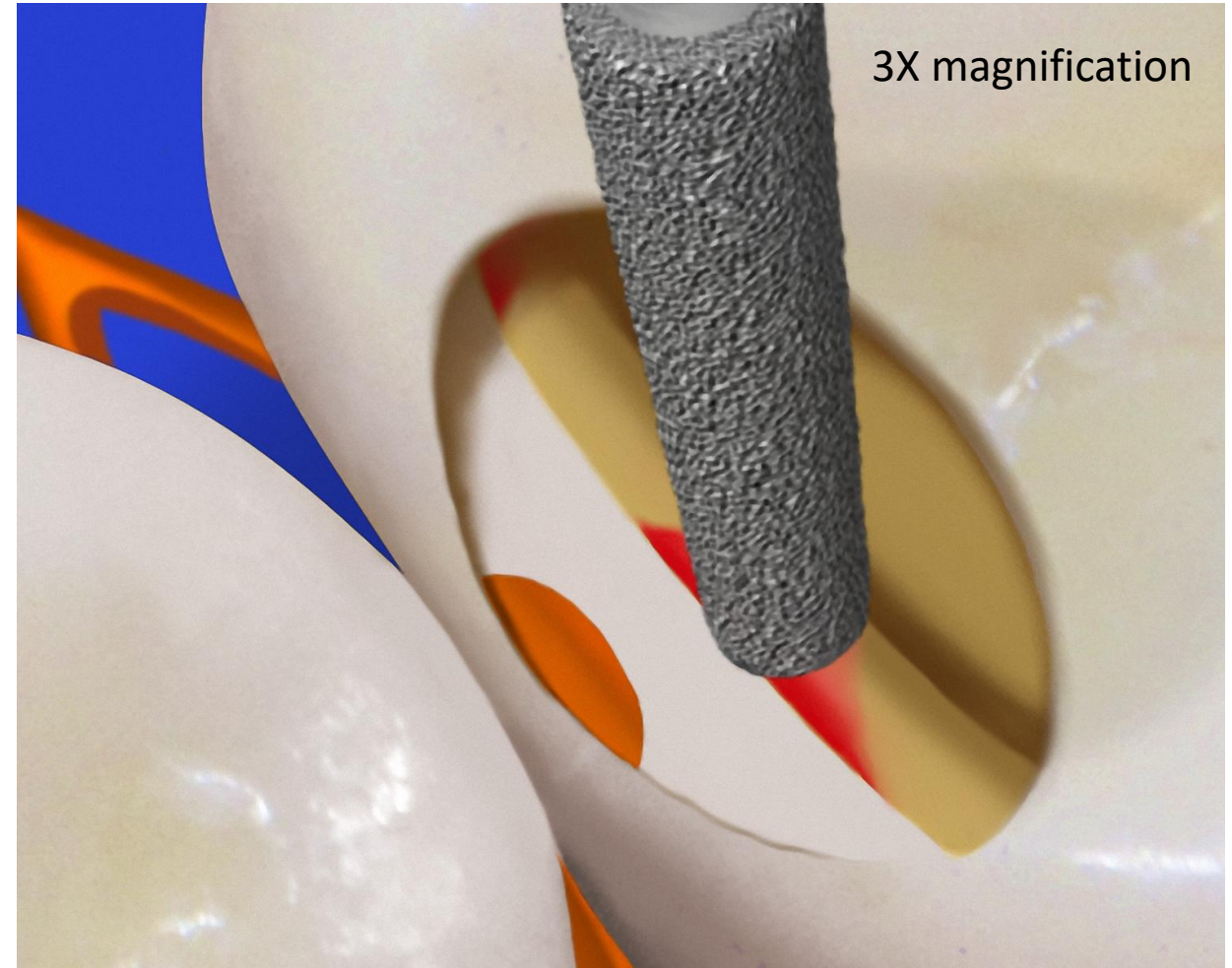
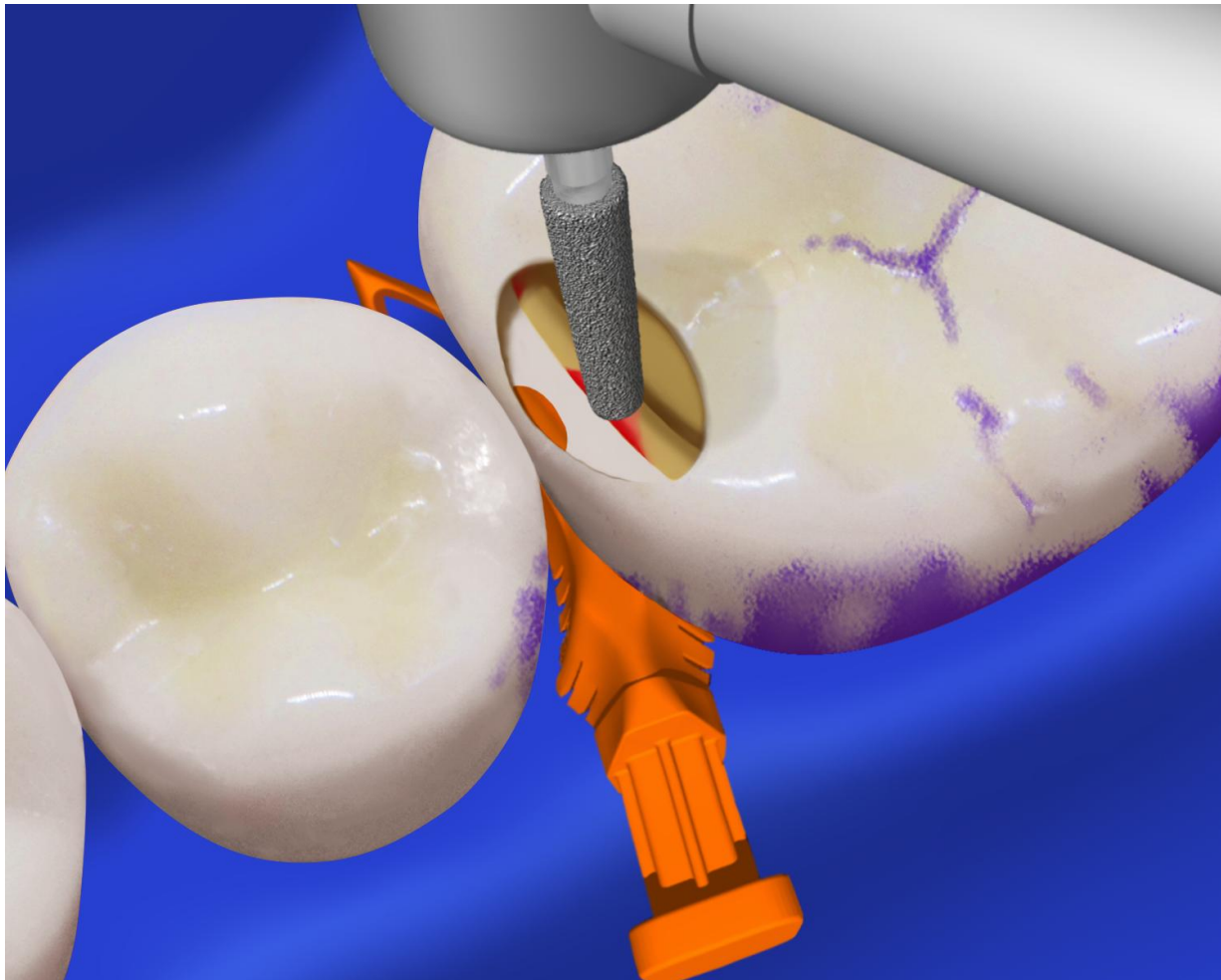




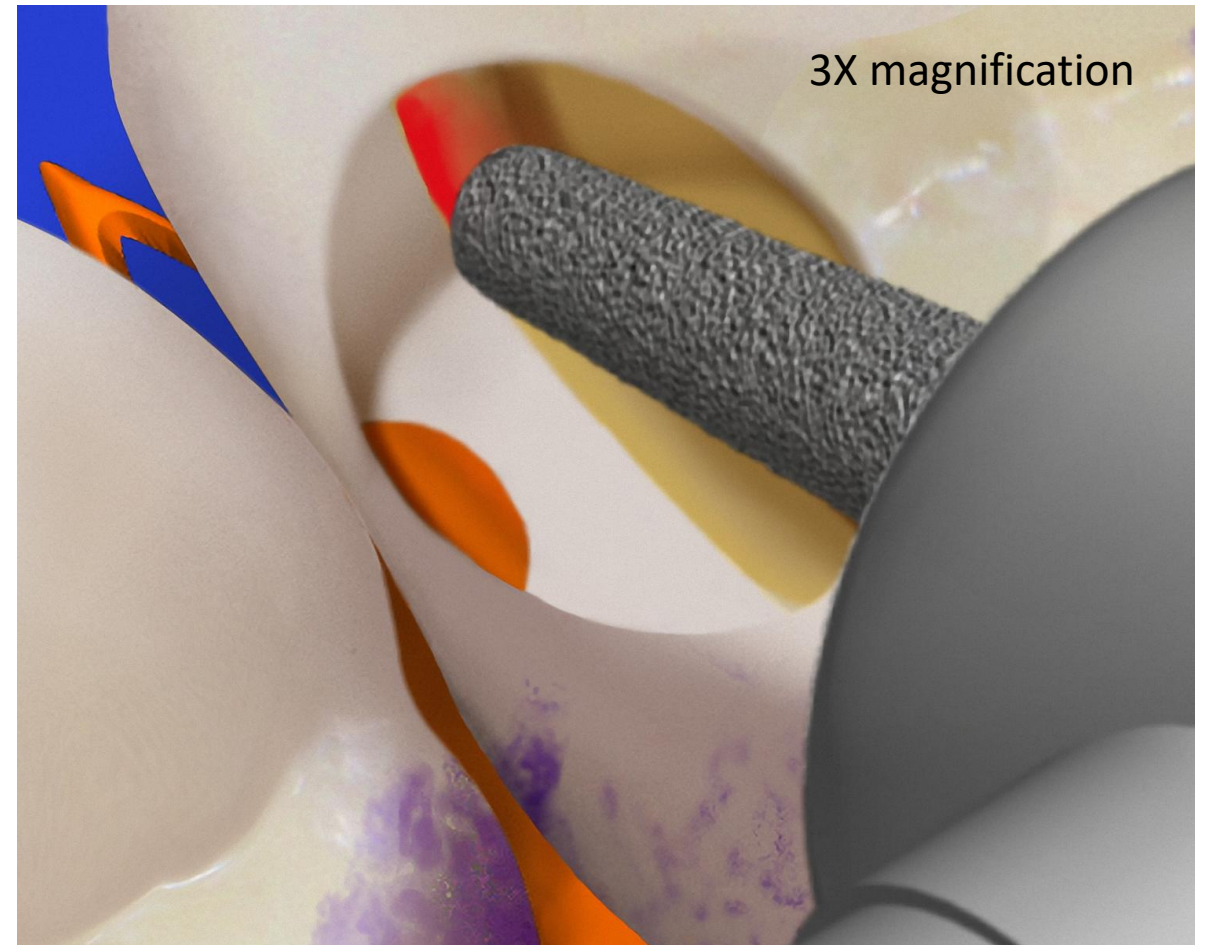
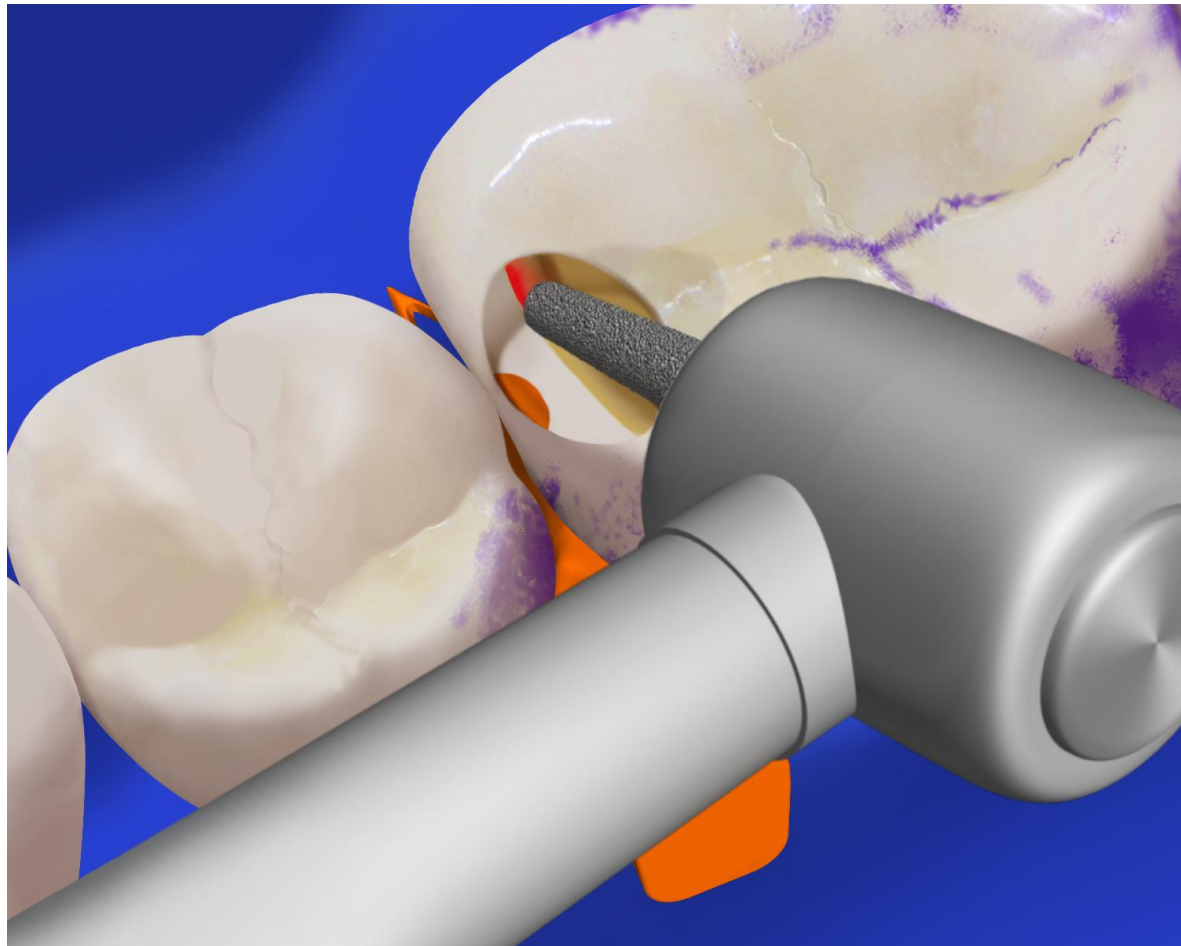




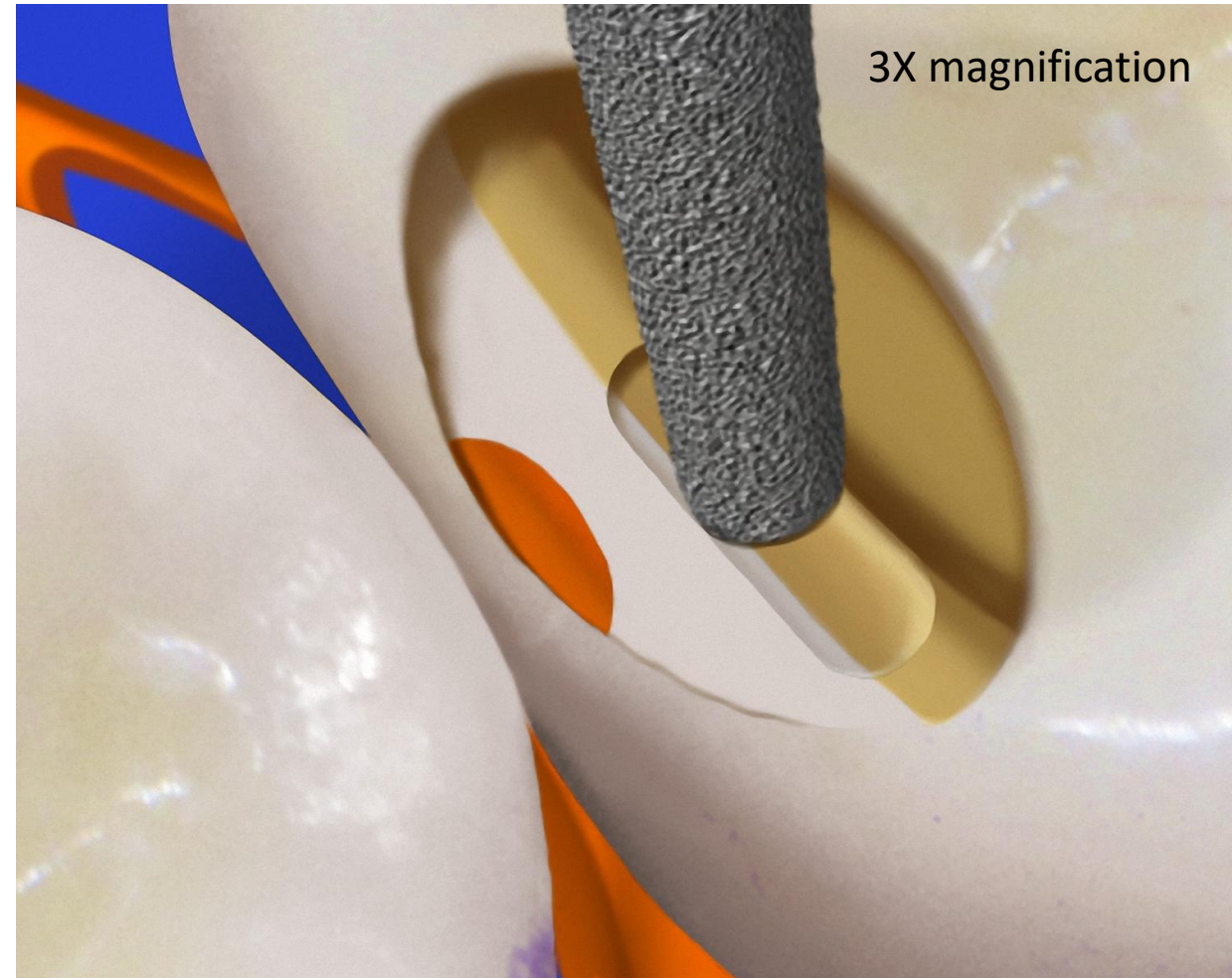
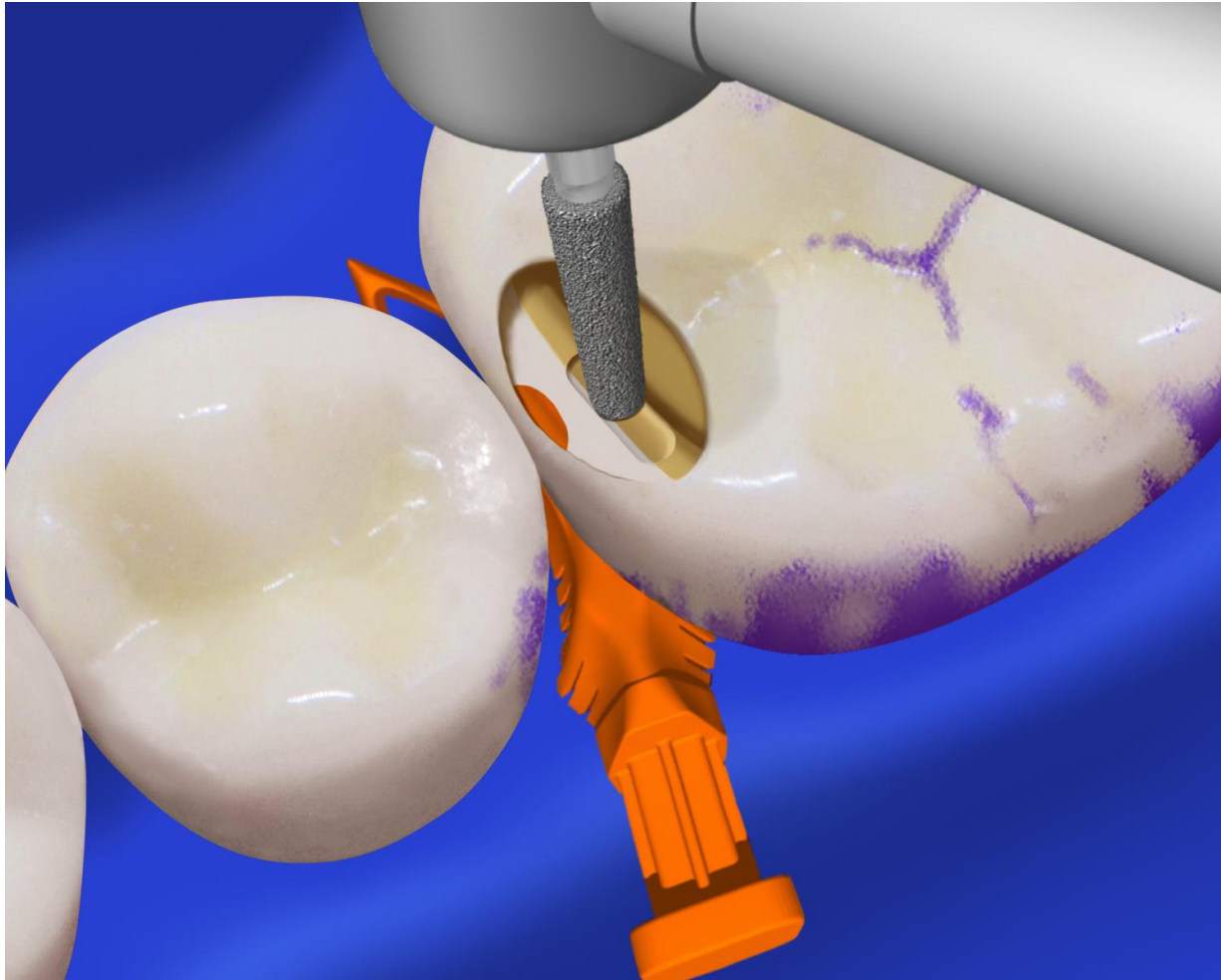
8) Final DEJ caries removal on gingival zone with #3 bur



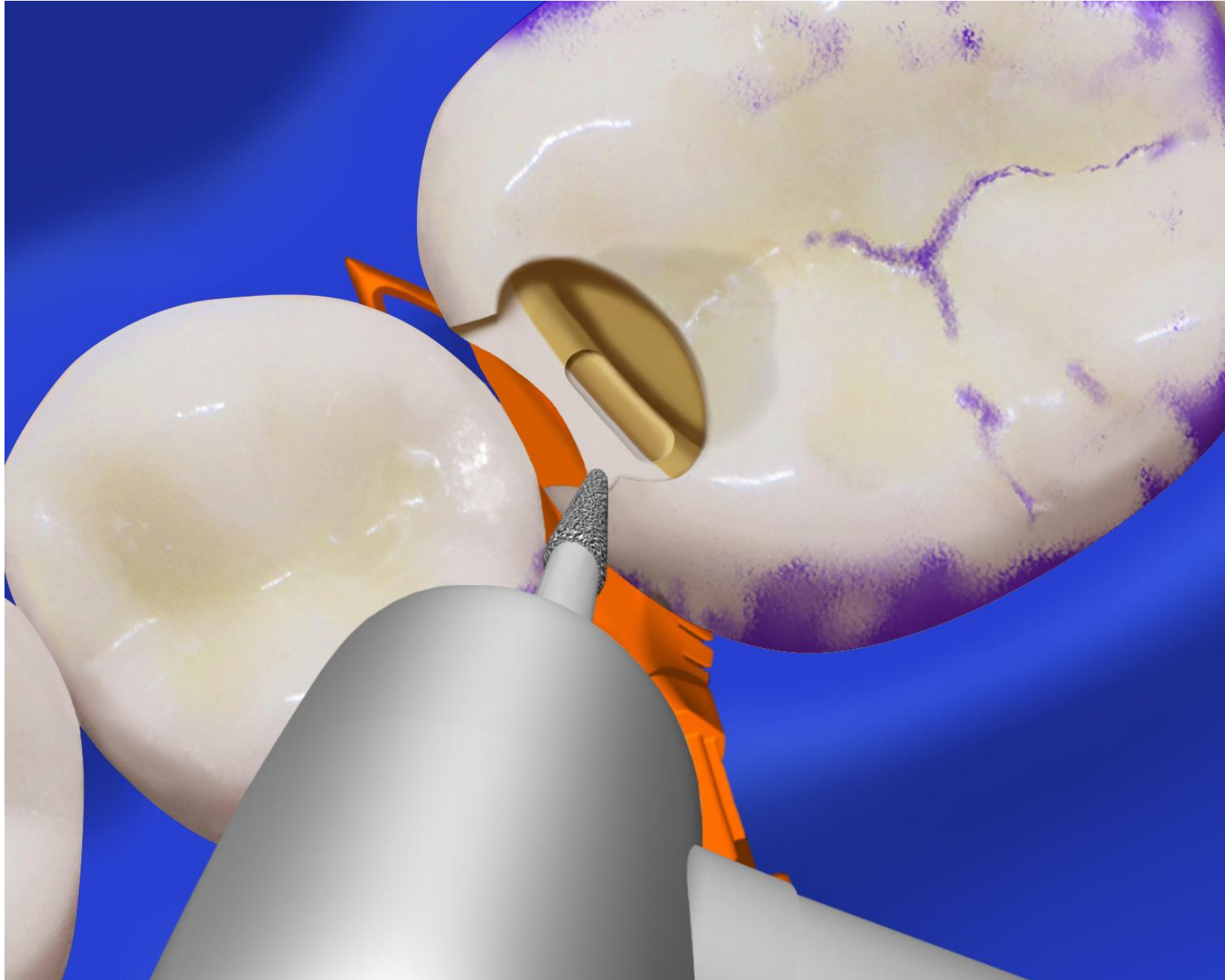
9) Buccal and caries at DEJ is also performed. Angle of bur can be changed for conservative access.



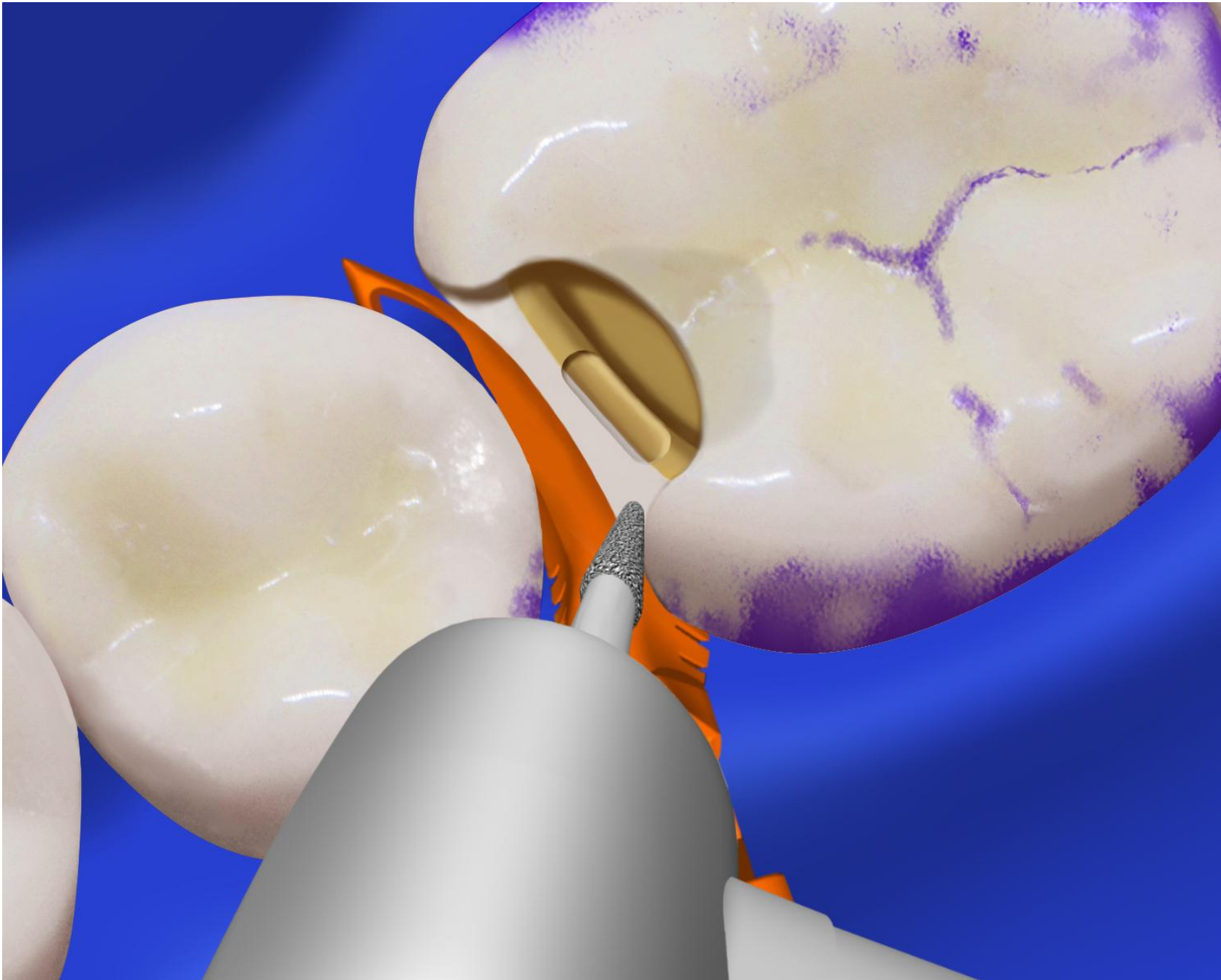
10) Final caries removal at DEJ is shown and natural cavitation area is shown.



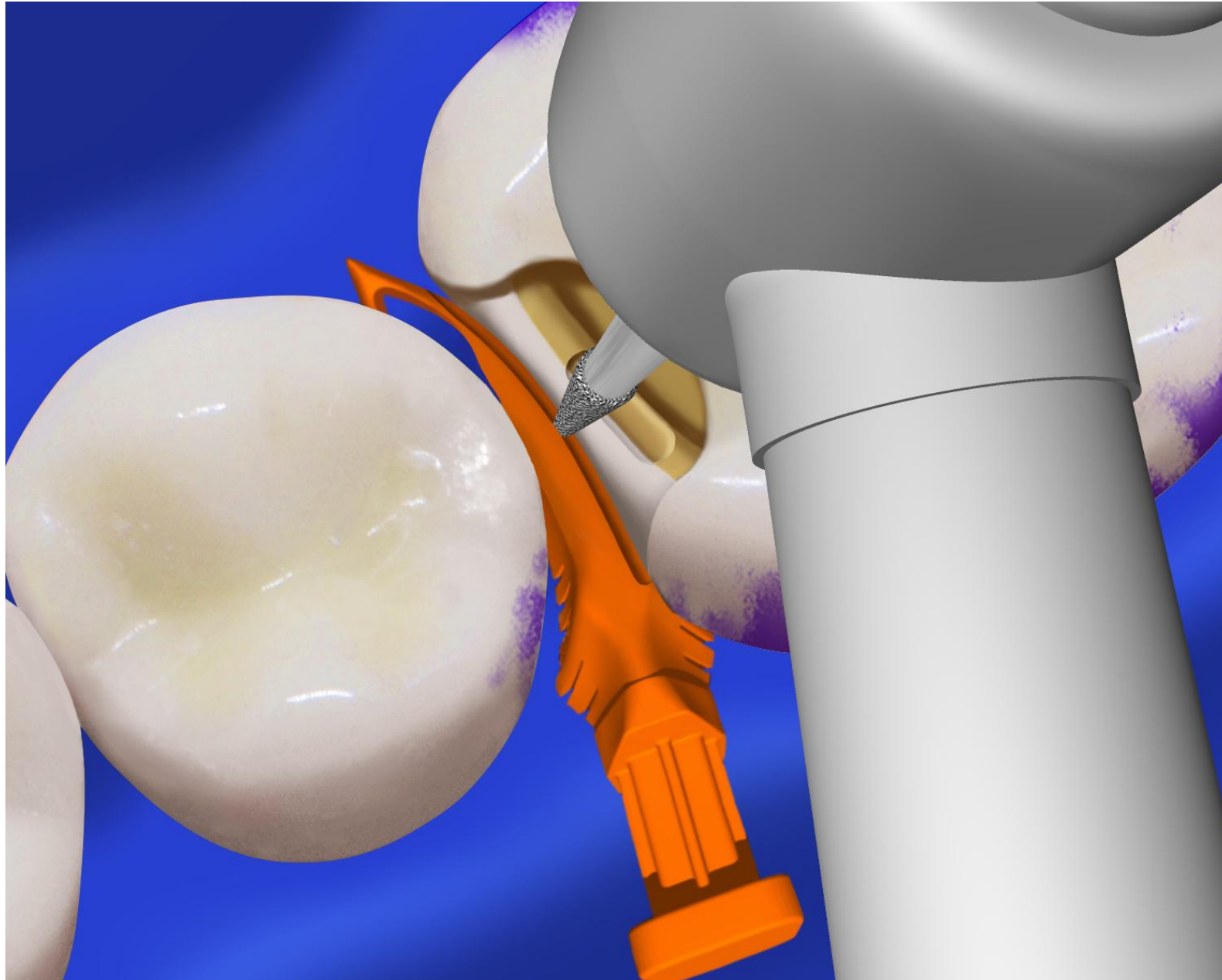
11) Komet Bur #6  
is used to break  
all contacts. Bur  
can be used  
either wet or dry)

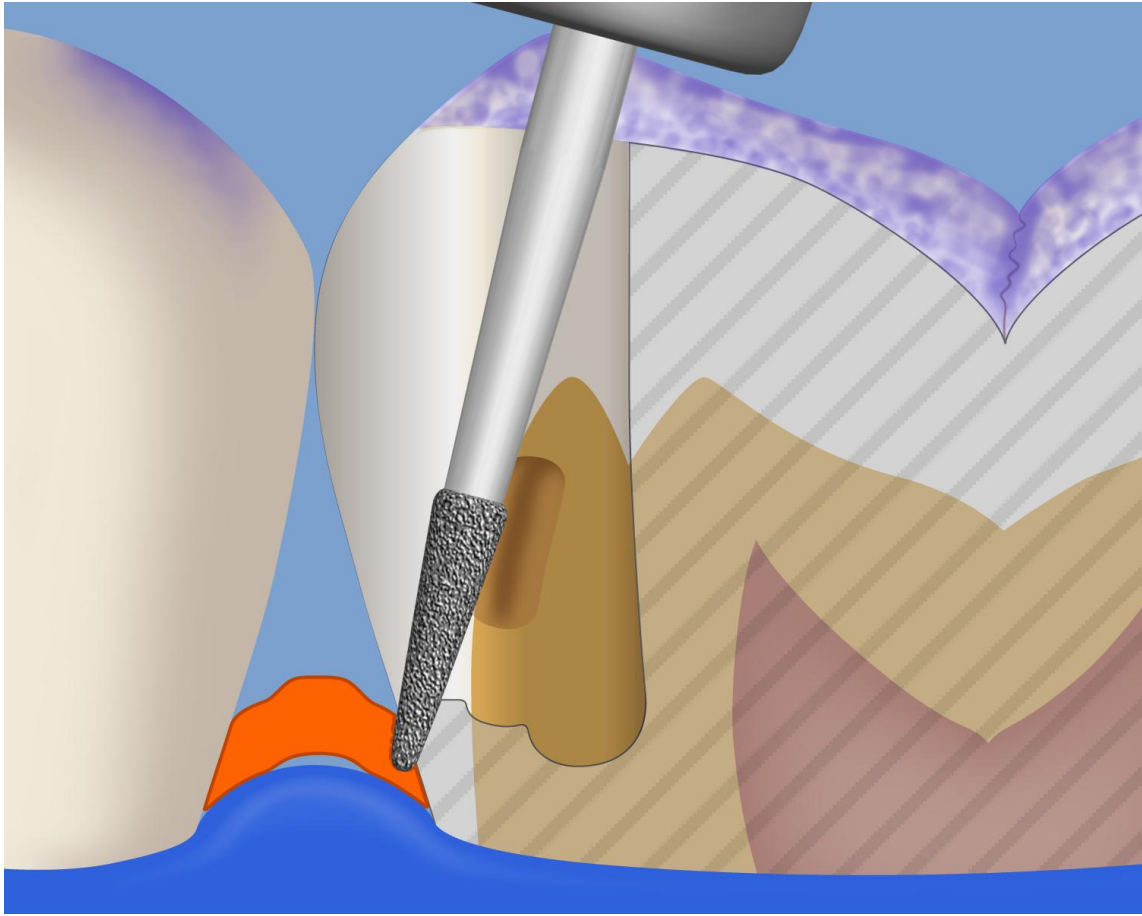


12) #6 Bur is used to create the radius bevel.

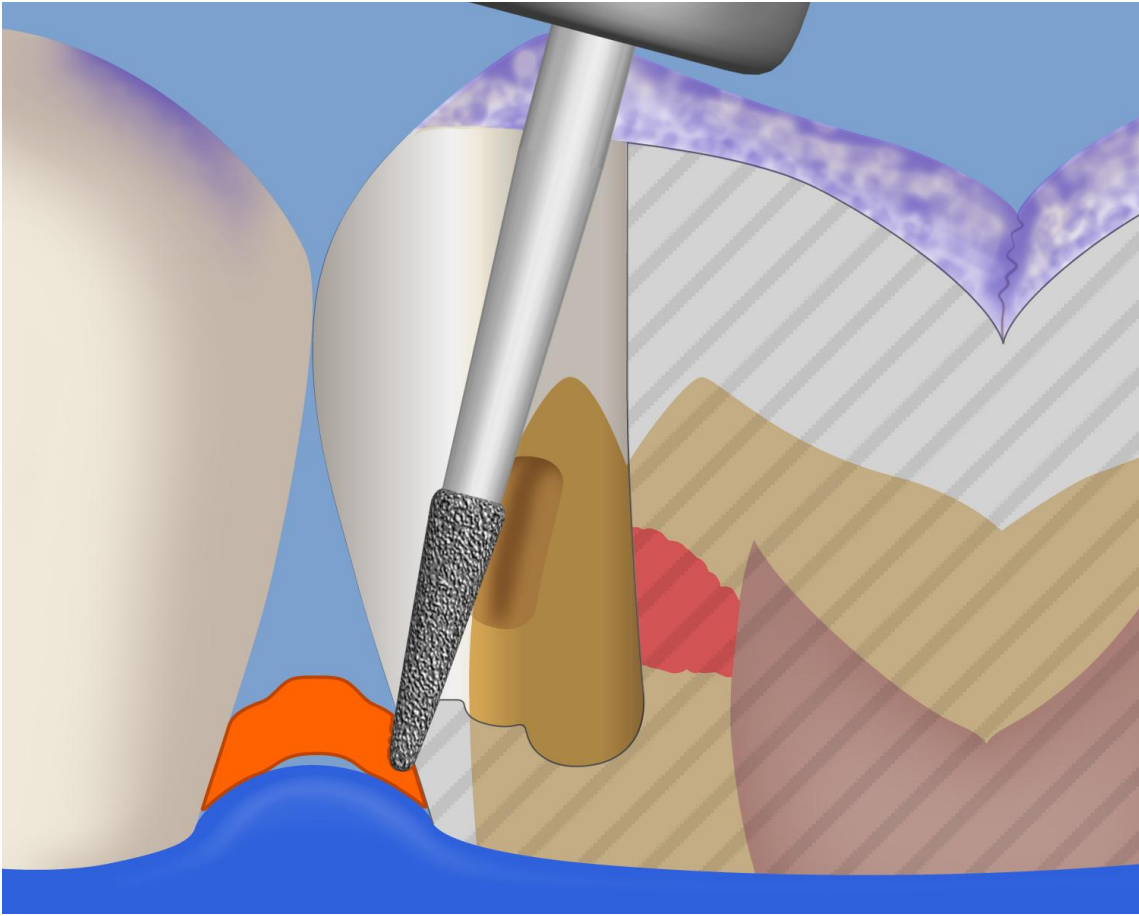


13) Create the gingival bevel.  
Diamond wedge can be removed if wedge is an encumbrance to bur.



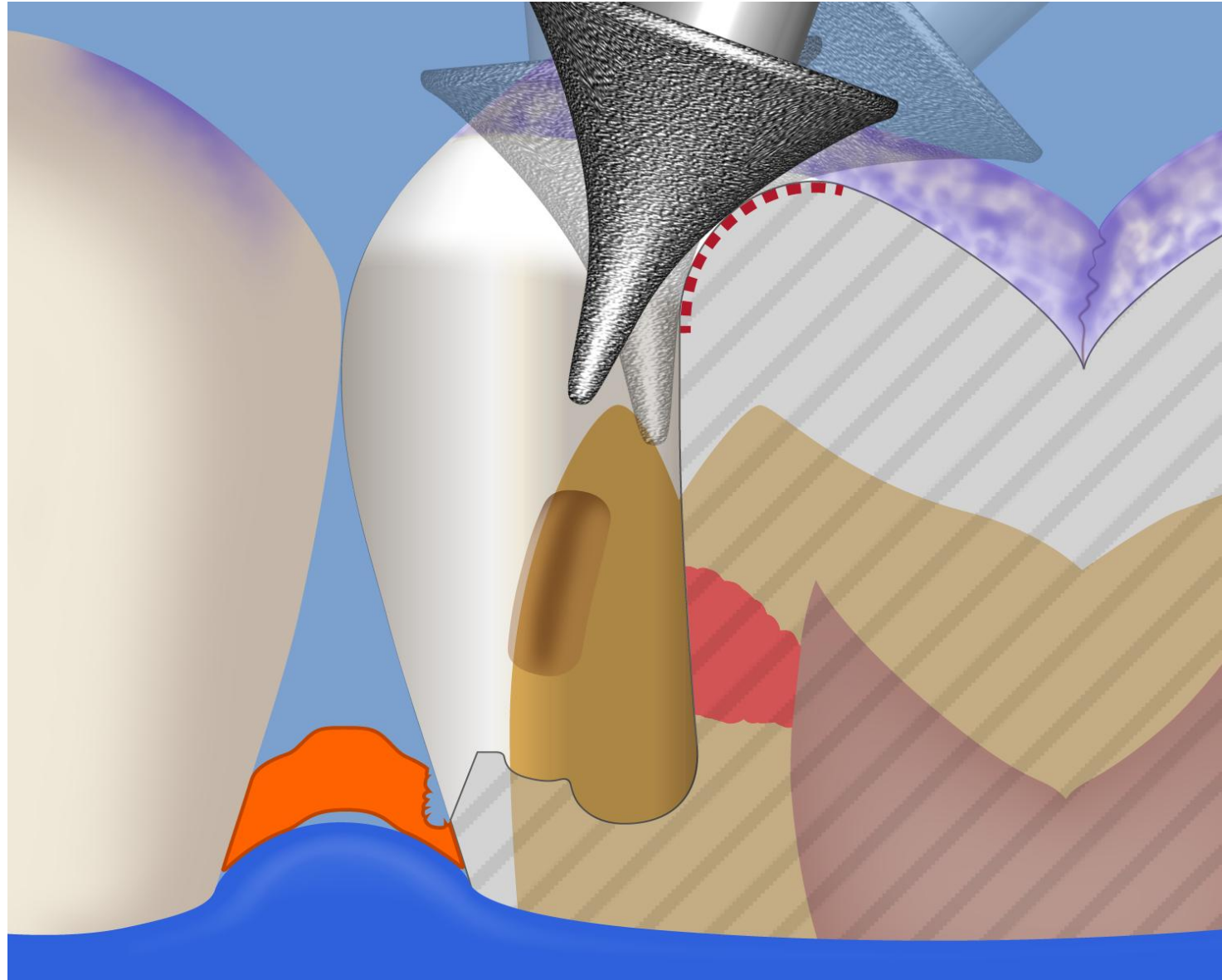


Cross section view of step 13

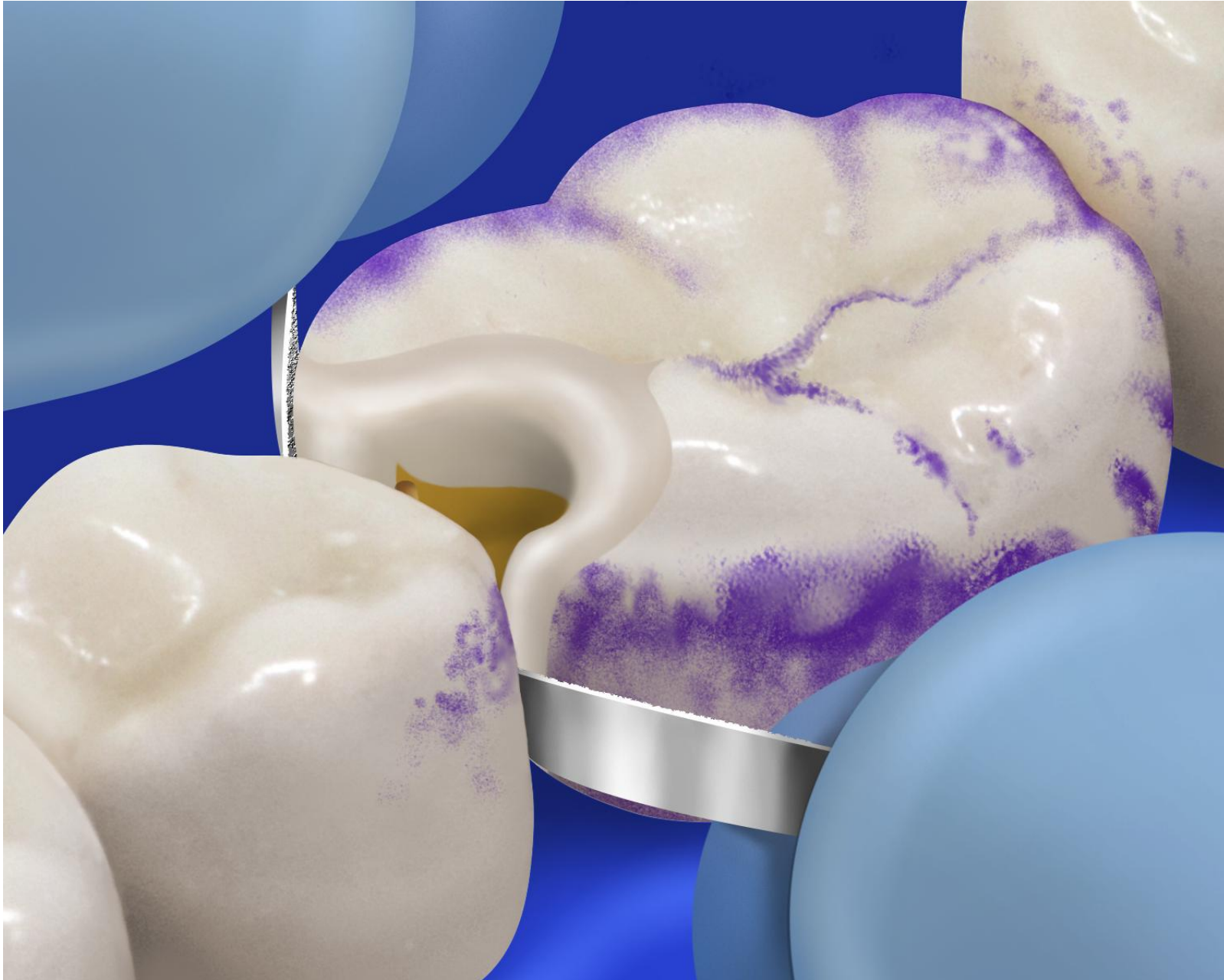


Cross section view of step 13 with Selective Caries Removal

14) Calla Lilly bur is used to create radius bevel/compression joint on occlusal enamel.



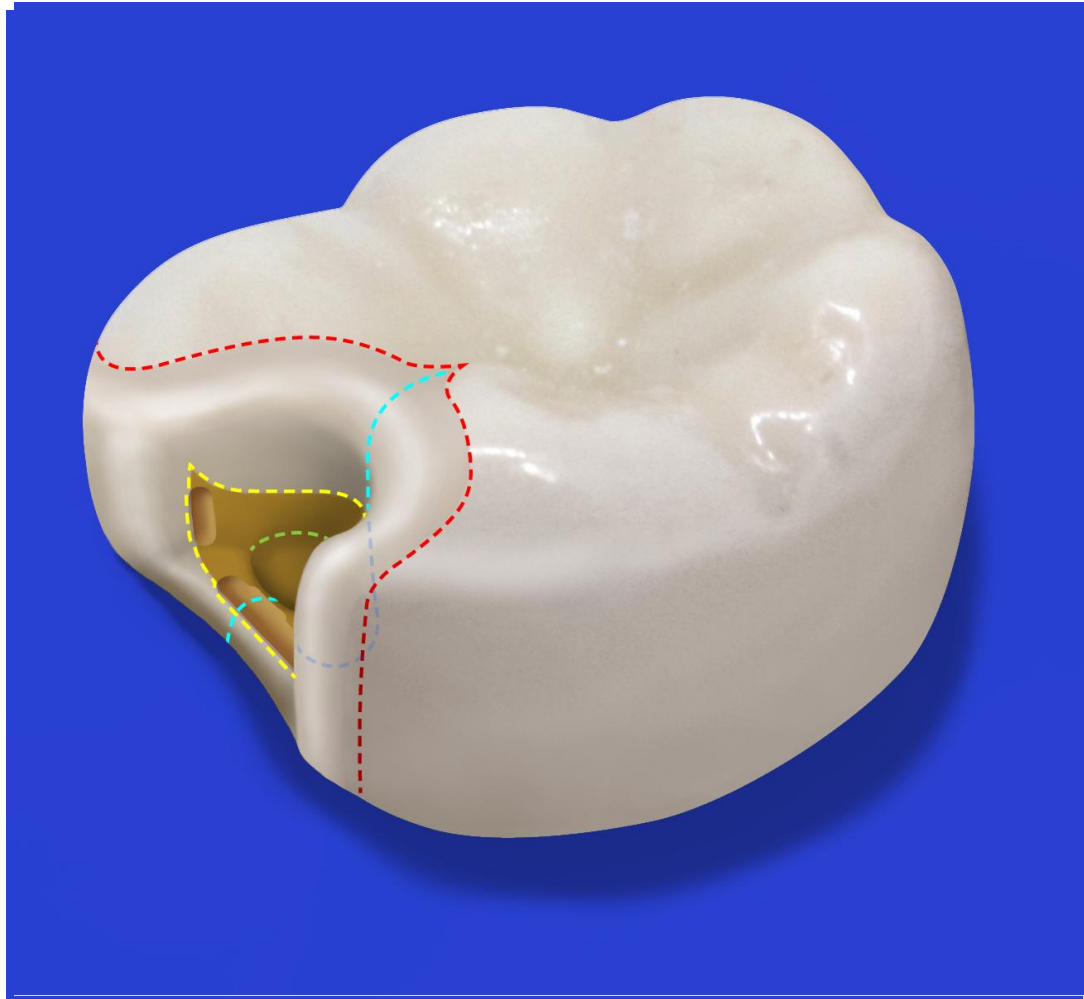
15) Diamond strip removes loose enamel rods on entire preparation and hard deposits in the infinity edge area apical to the gingival bevel.



16) Bioclear Blaster with aluminum tri-hydroxide is used to clean inside and outside of preparation.



# Final views of completed Bioclear Class II Preparation.



Natural Contacts



Traditional Composite Contacts

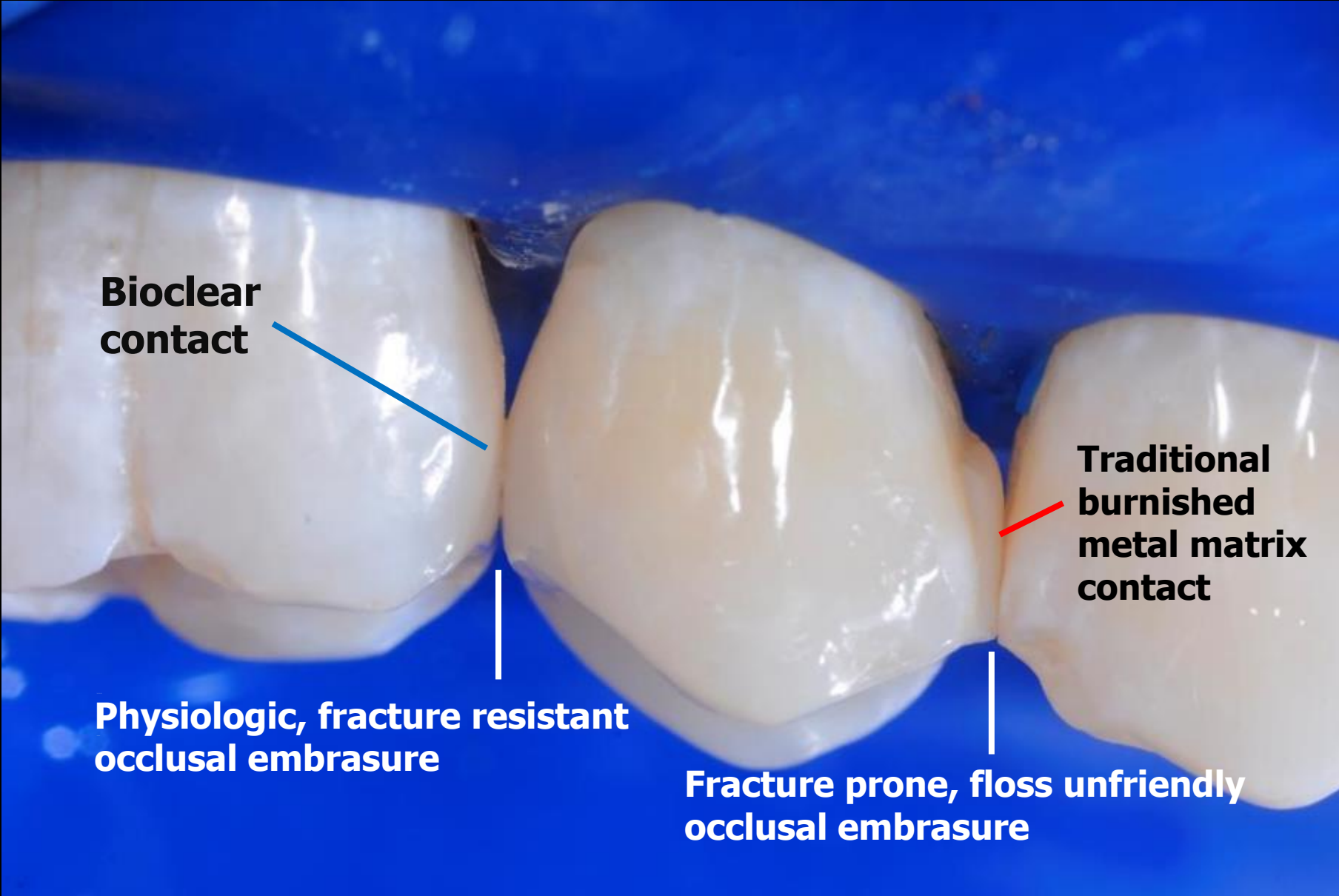


# Let's compare old vs. new

Traditional box prep restoration with staining margins and burnished mediocre shape.



Bioclear restoration with Evolve Matrix, Twin Ring Universal, and Diamond Wedge combined with an infinity edge.



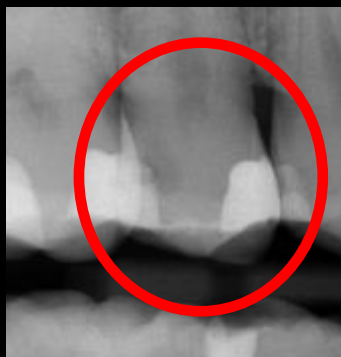
**Bioclear  
contact**

**Traditional  
burnished  
metal matrix  
contact**

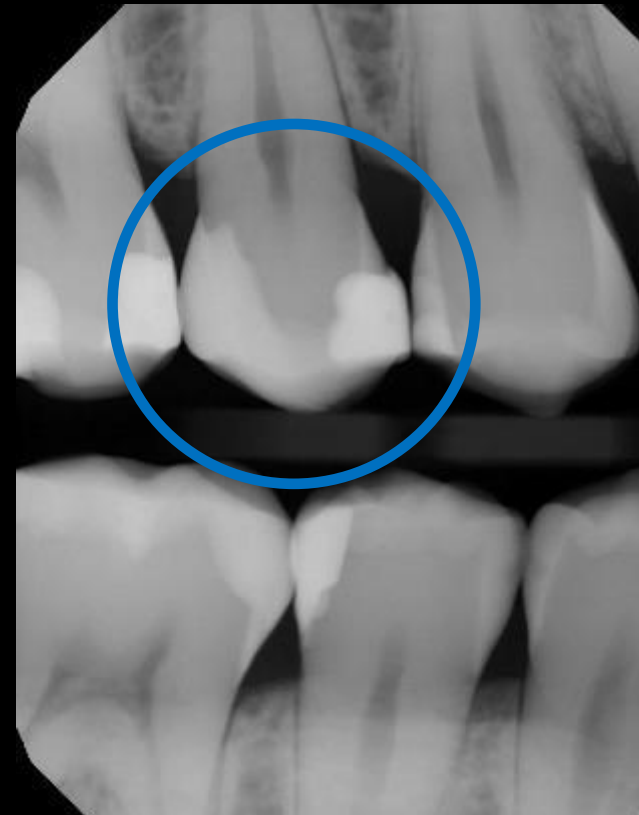
**Physiologic, fracture resistant  
occlusal embrasure**

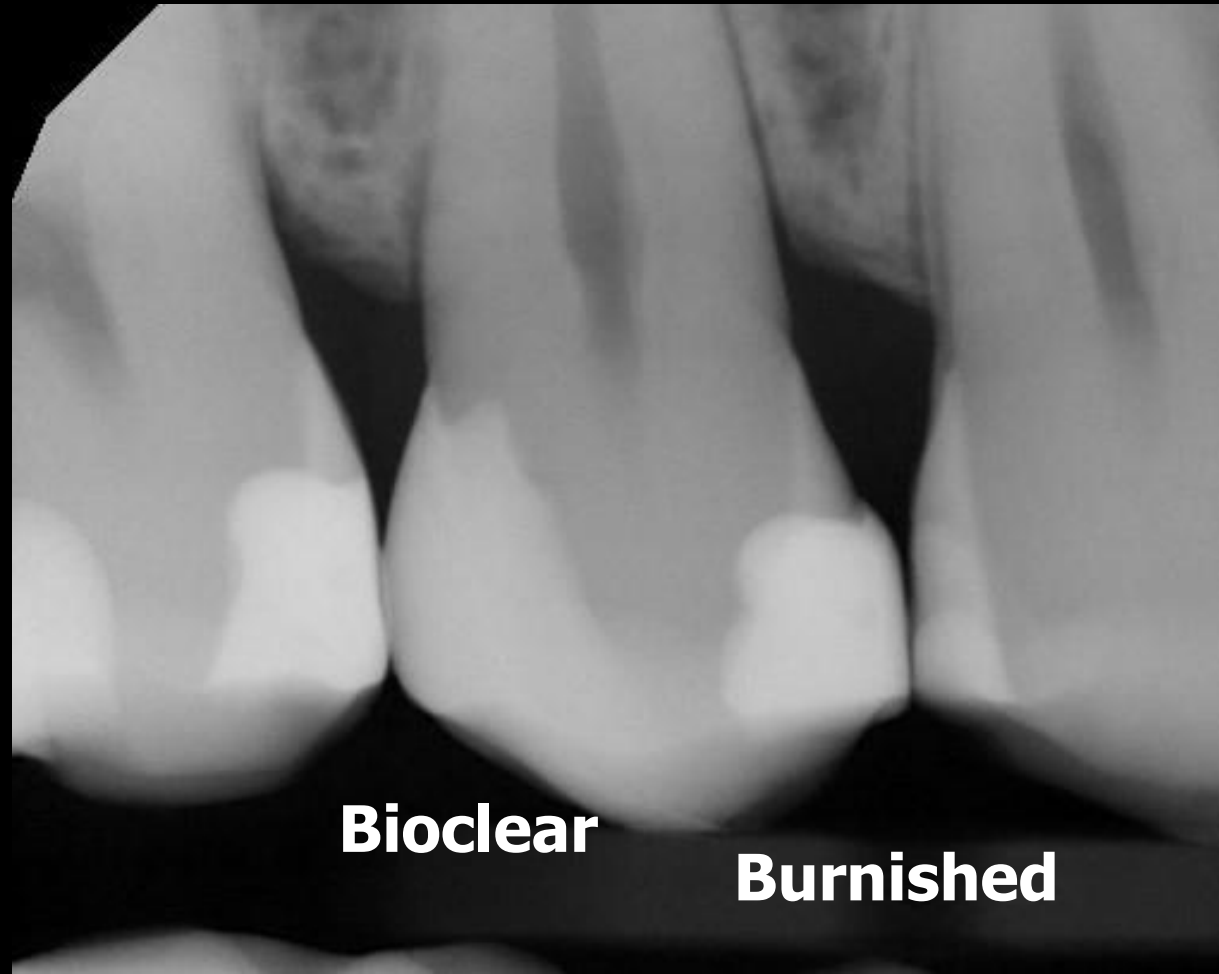
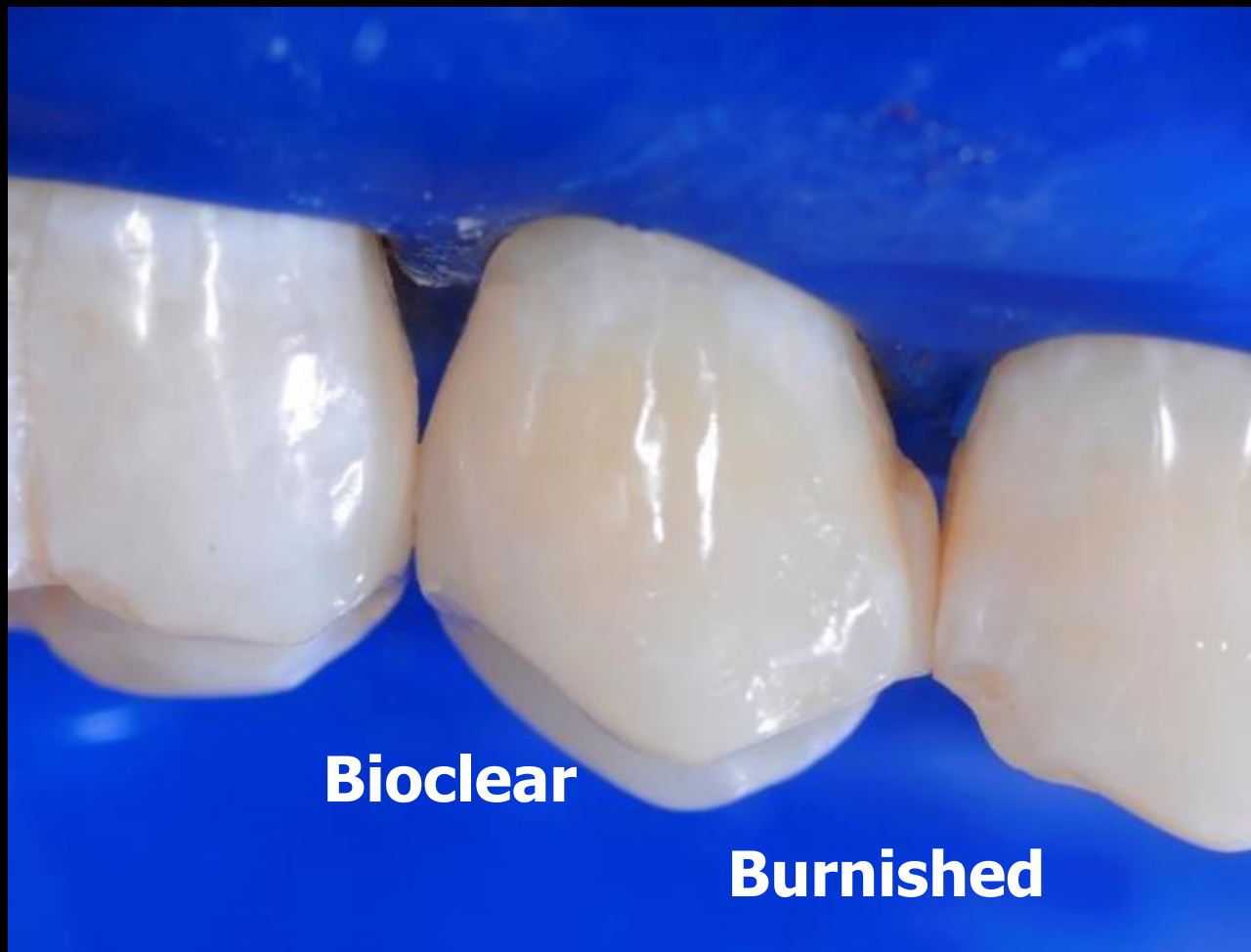
**Fracture prone, floss unfriendly  
occlusal embrasure**

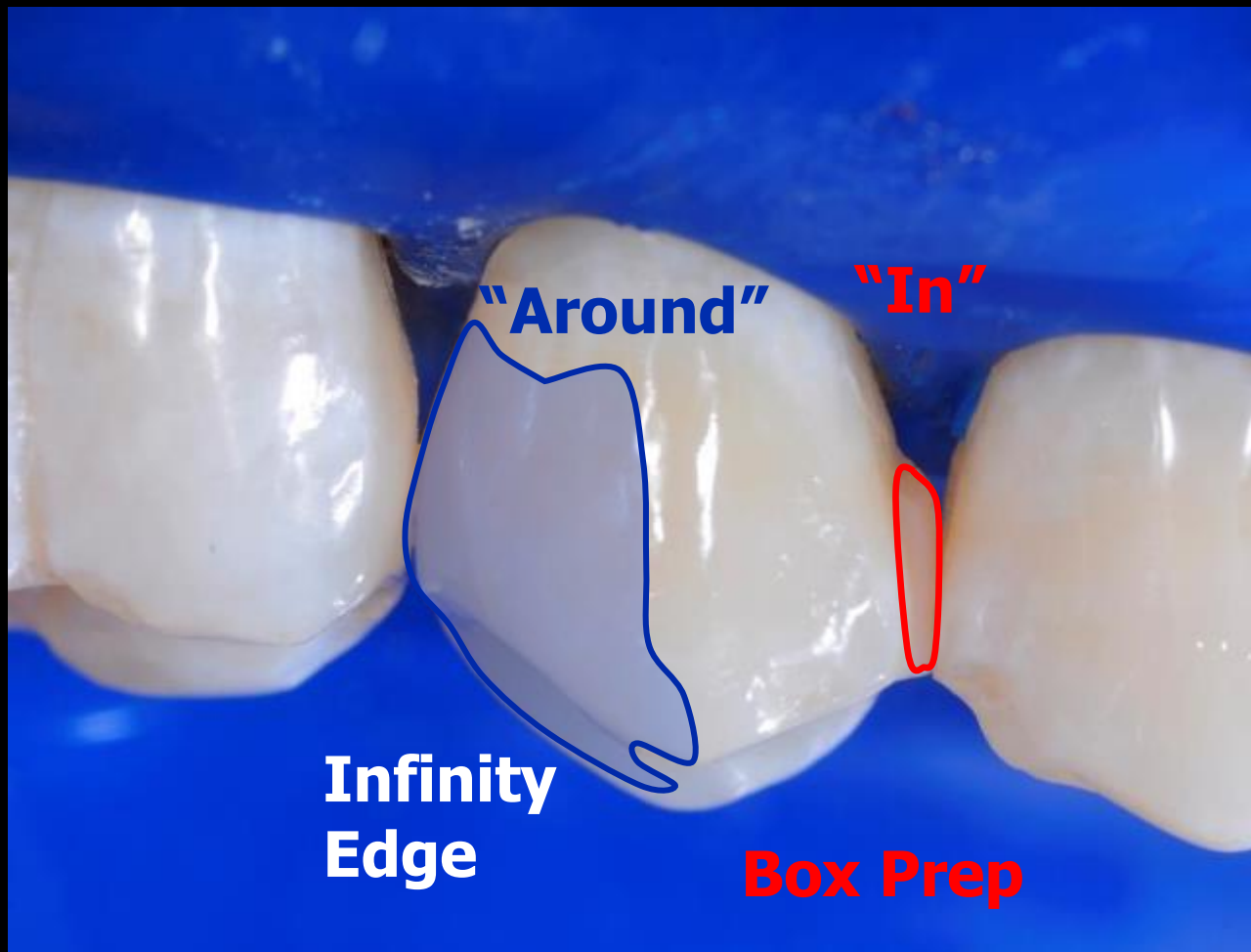
## Pre-Operative Radiographs



## 1 Year Post-Operative







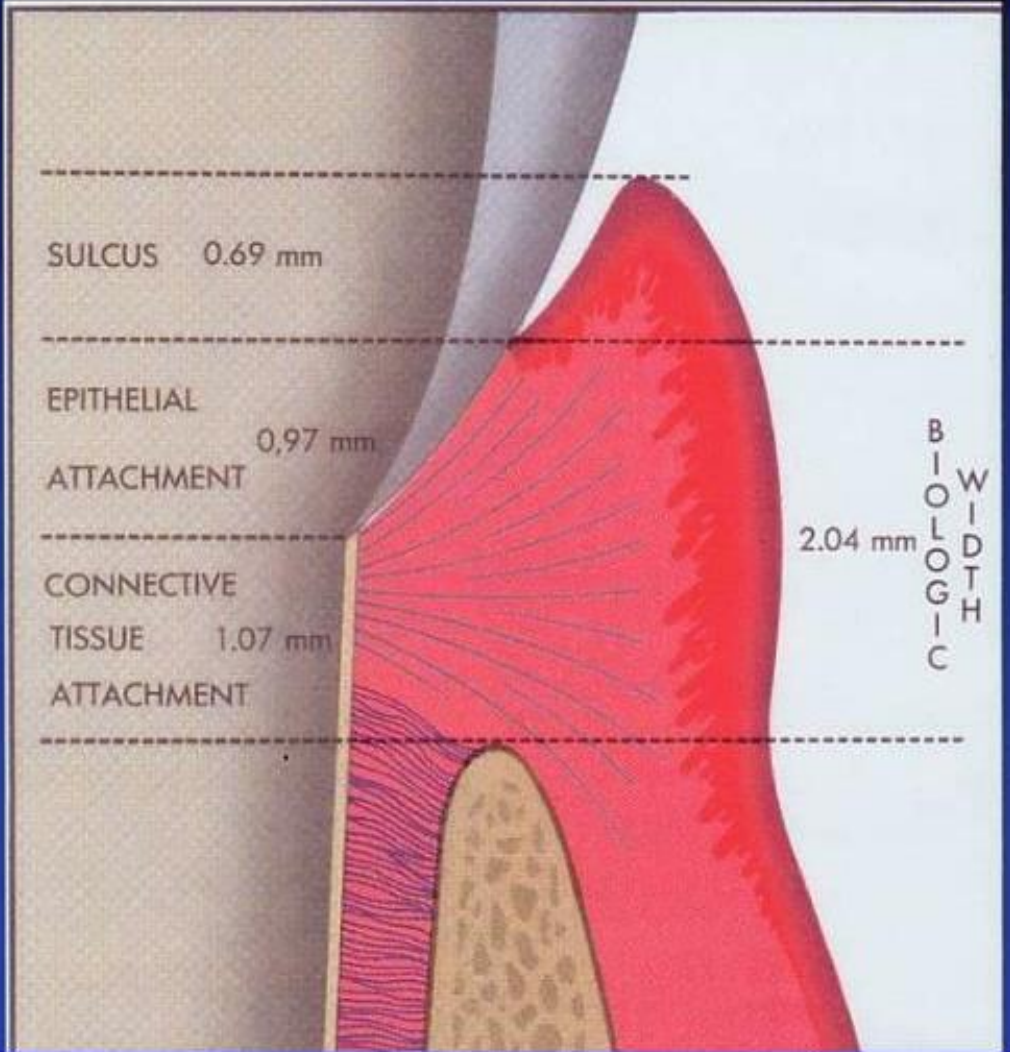
What's my  
reference?

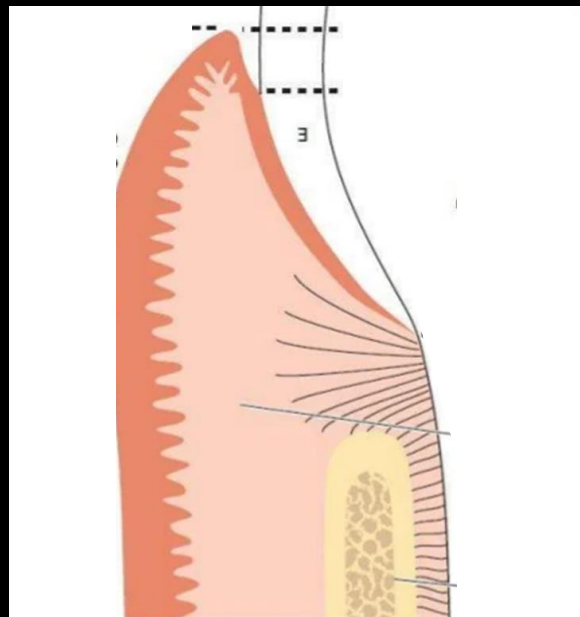


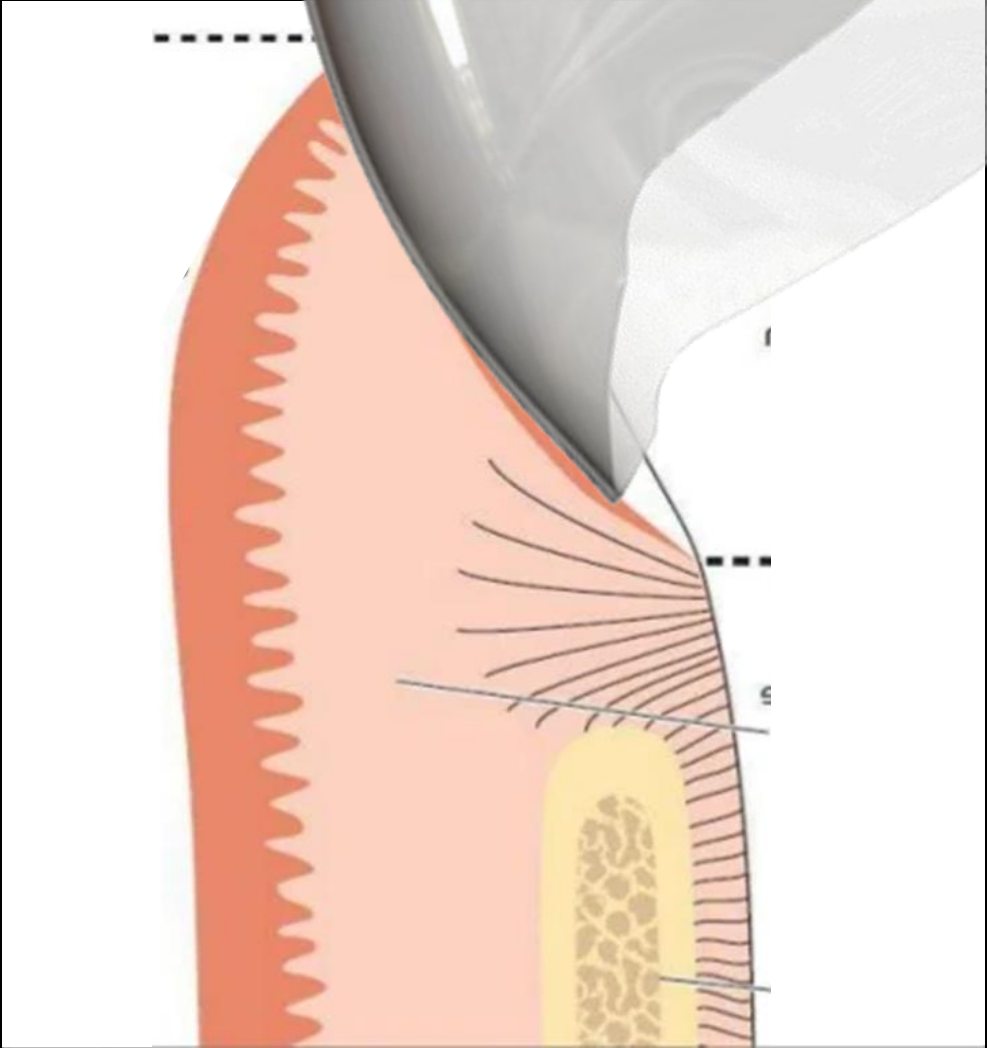
What's my  
reference?

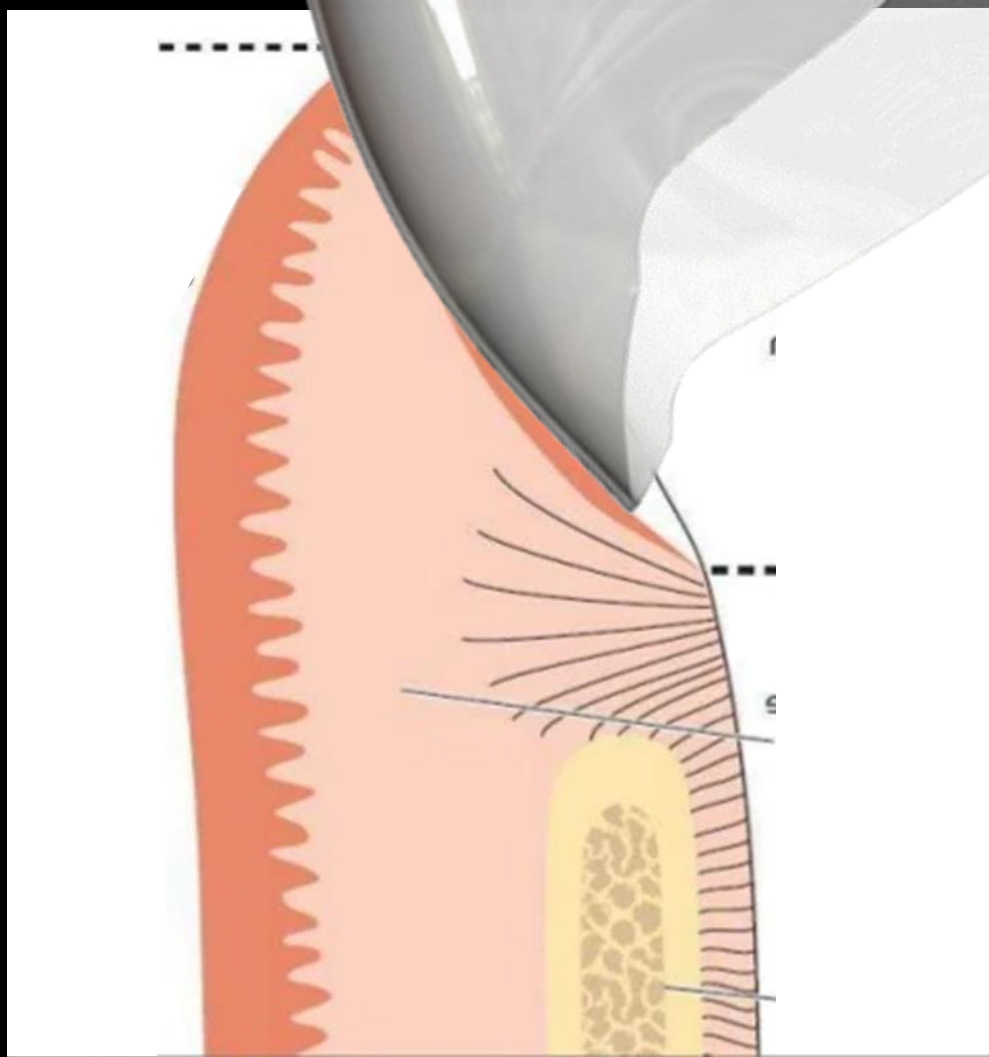


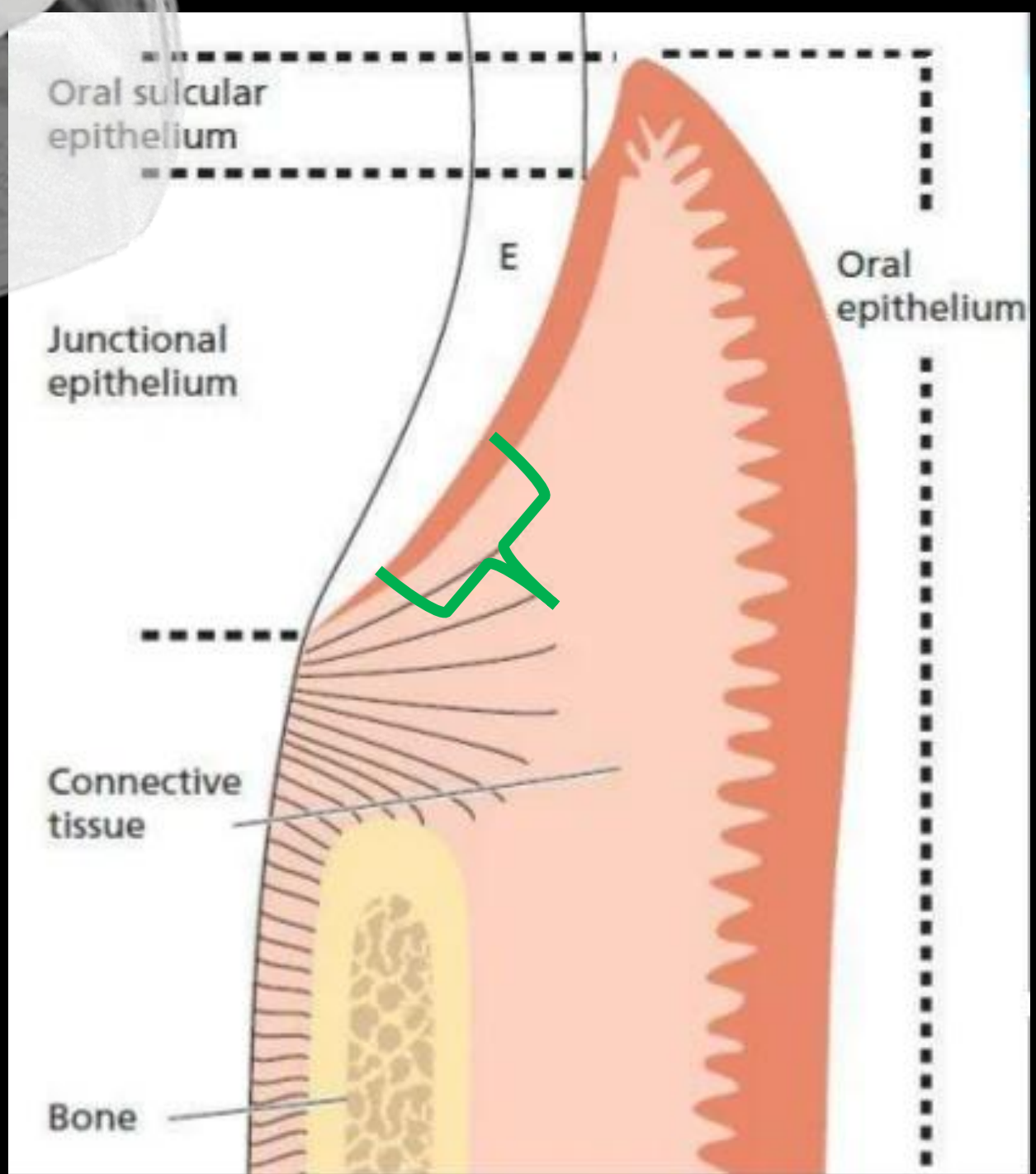
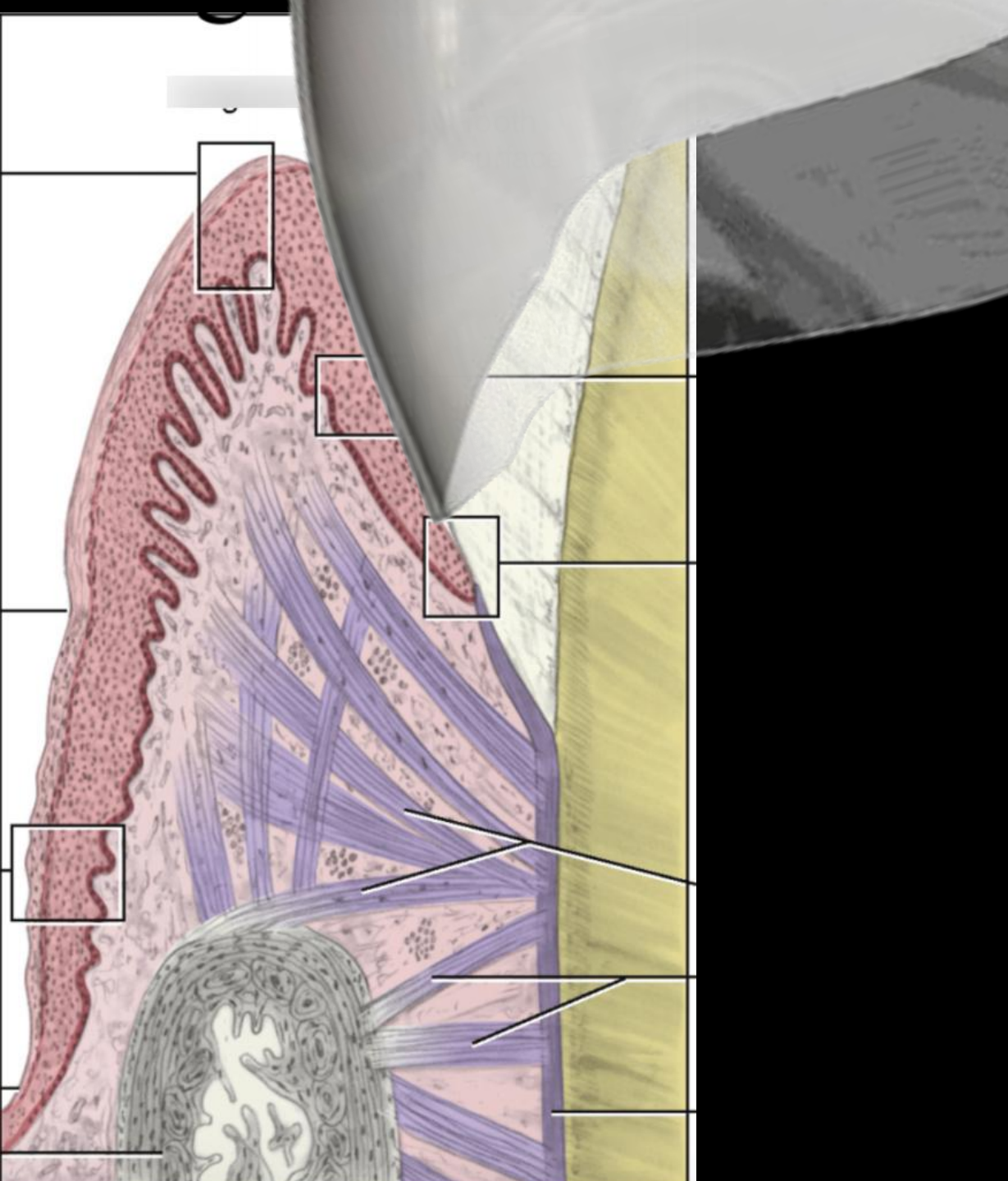












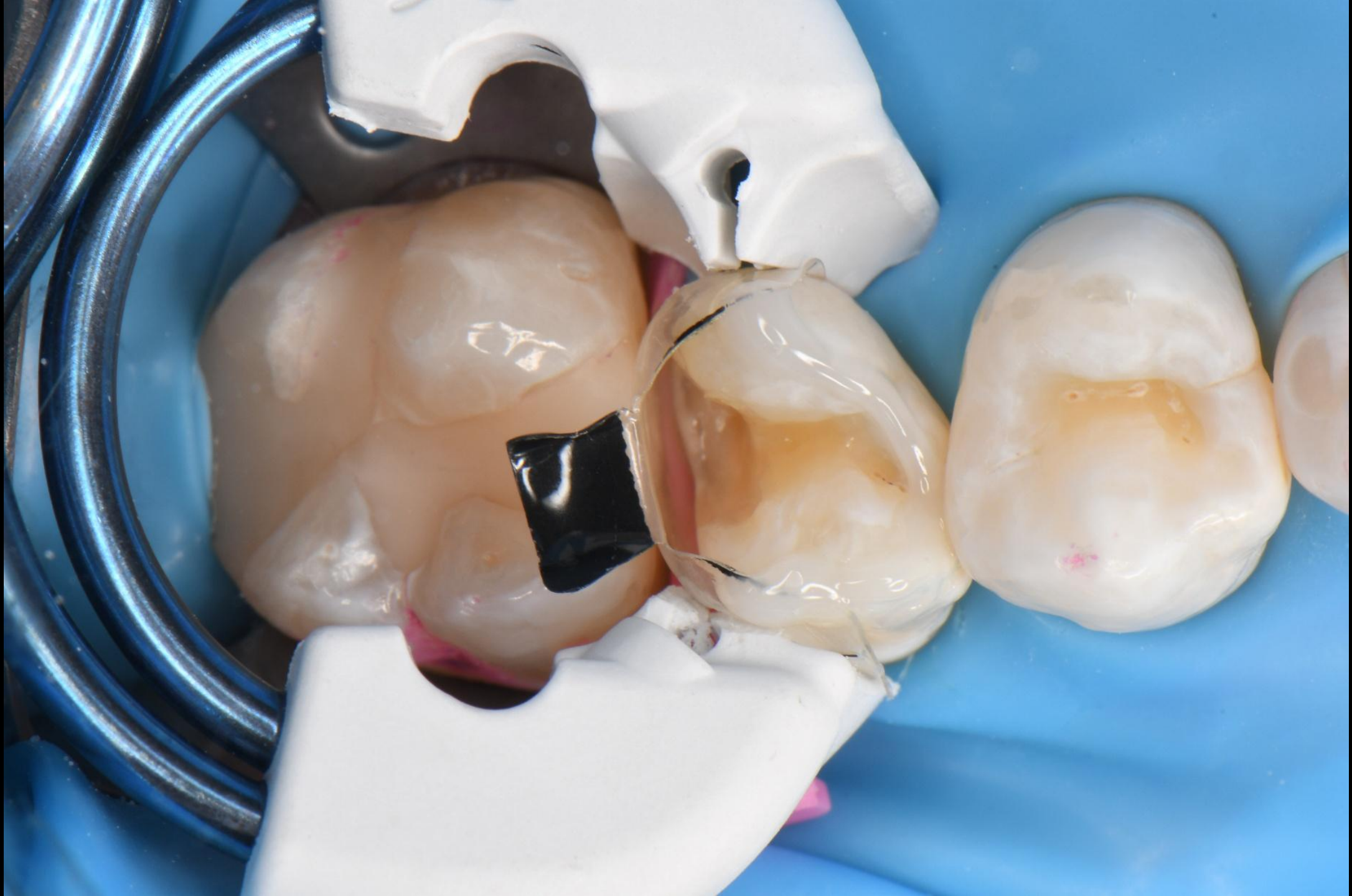


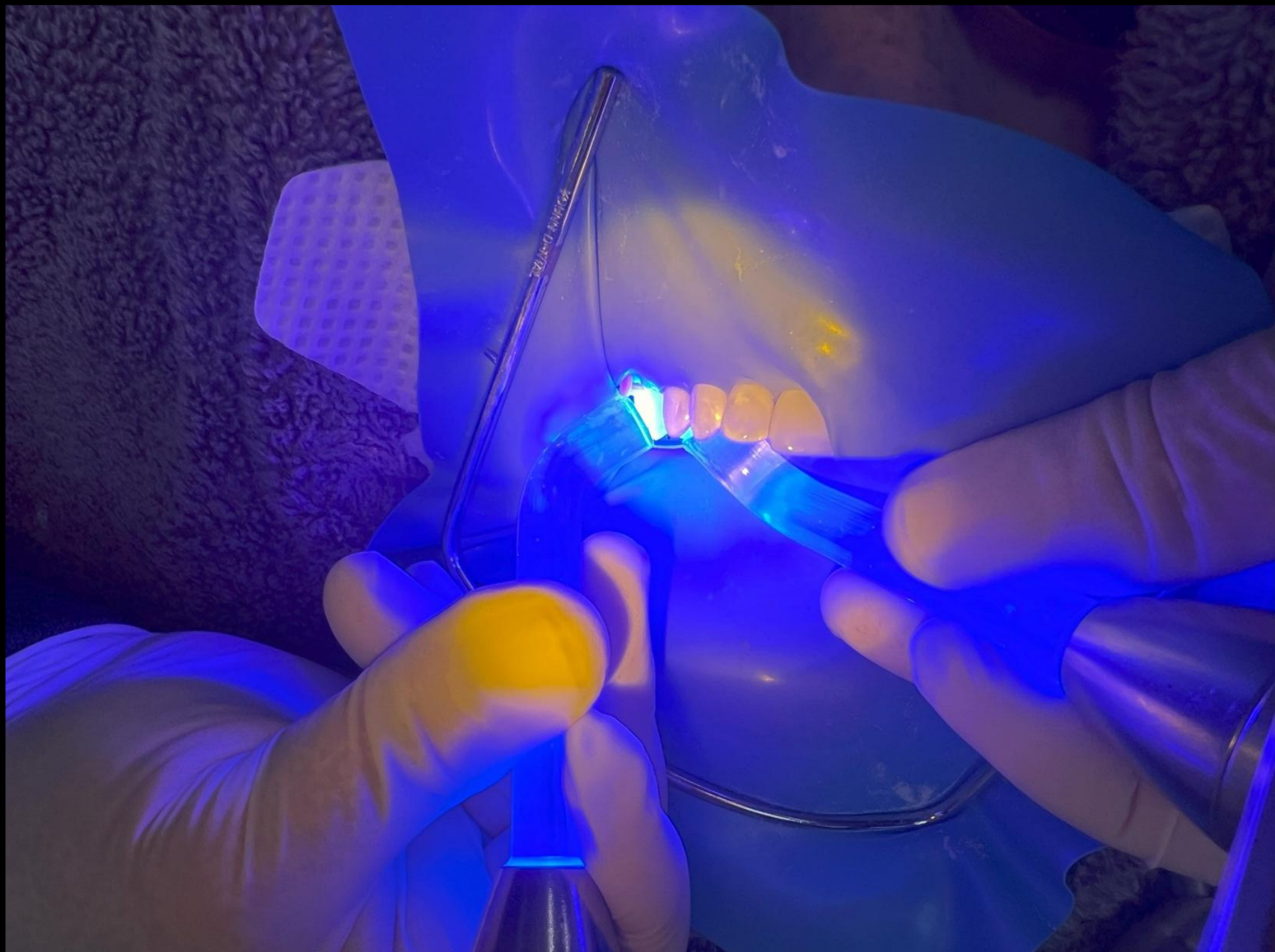














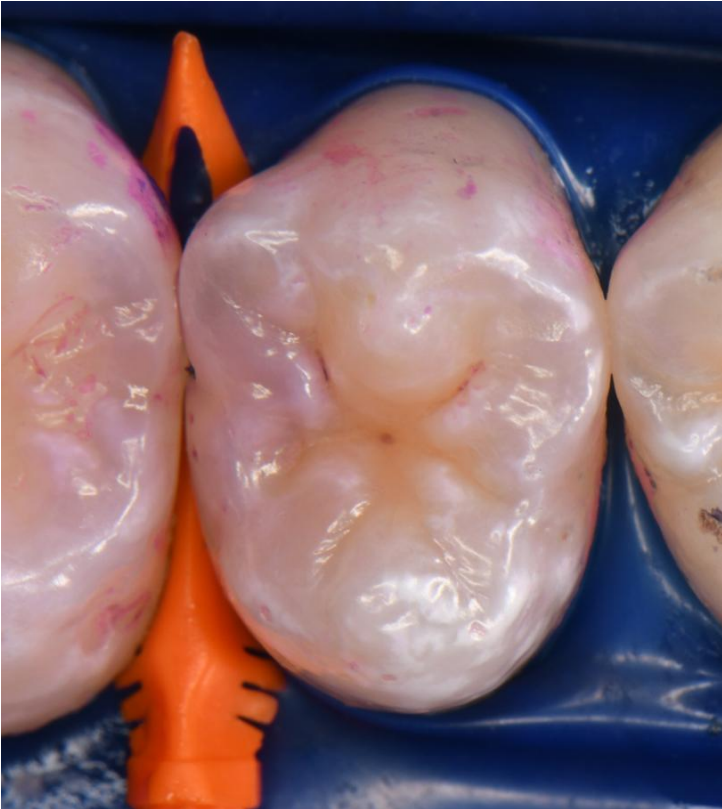




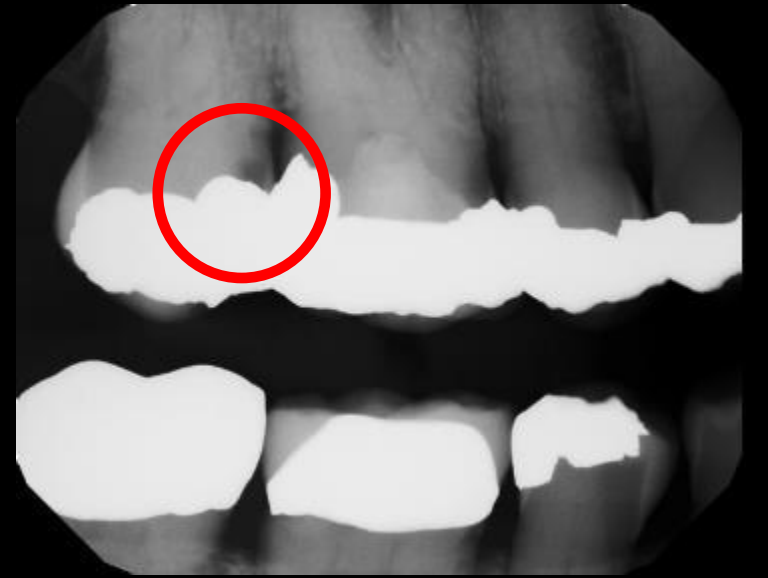




# Similar Case: Pre-op, post op, and 3 year follow up



# Deep Margin Acquisition and the Three Point Spot Weld

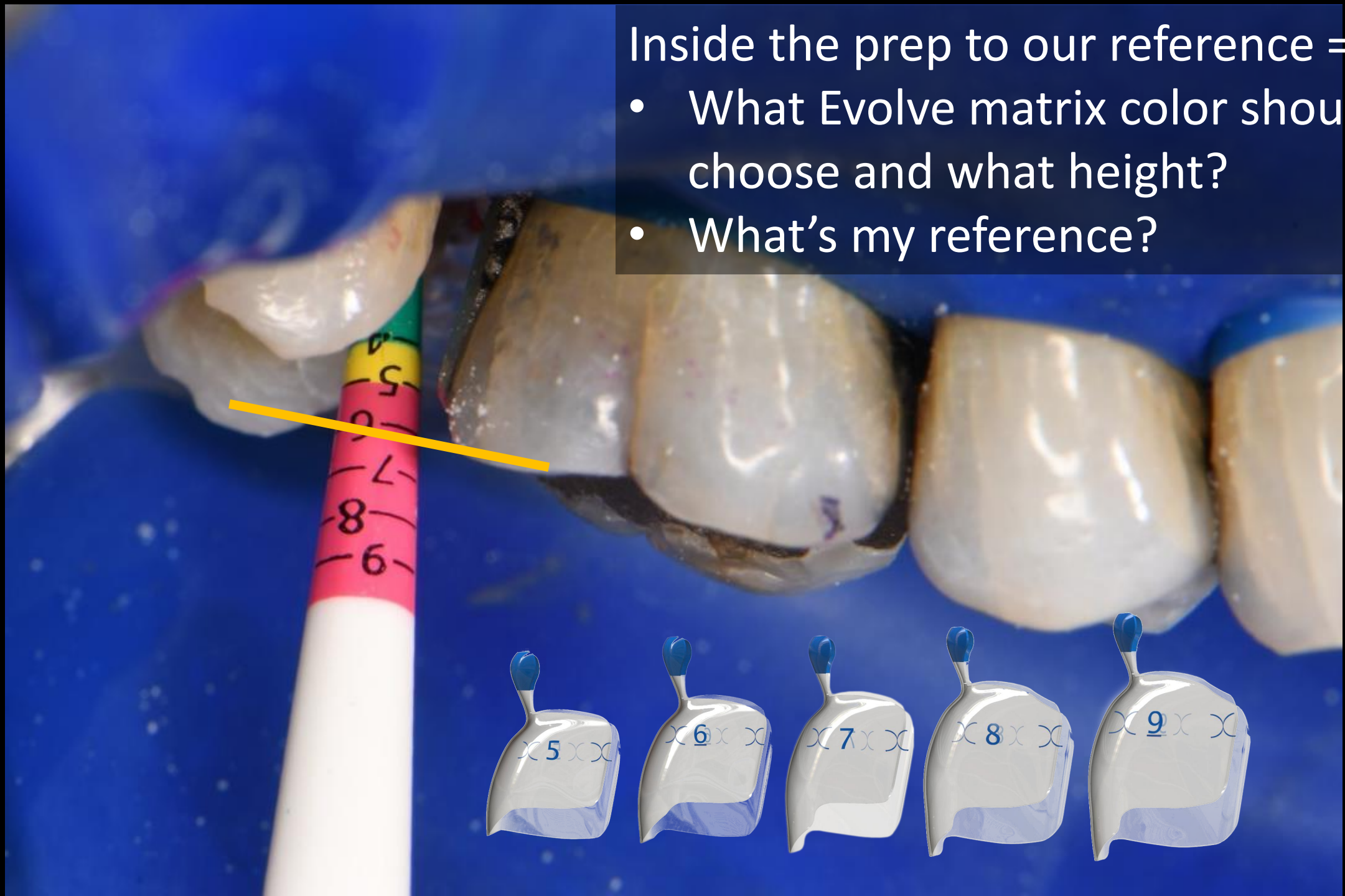


# Deep Margin Acquisition (DMA)



Inside the prep to our reference = 6mm

- What Evolve matrix color should you choose and what height?
- What's my reference?











BioClear Matrix Systems  
Patent Pending

8 7 6 5 4.5



8 7 6 5 4.5

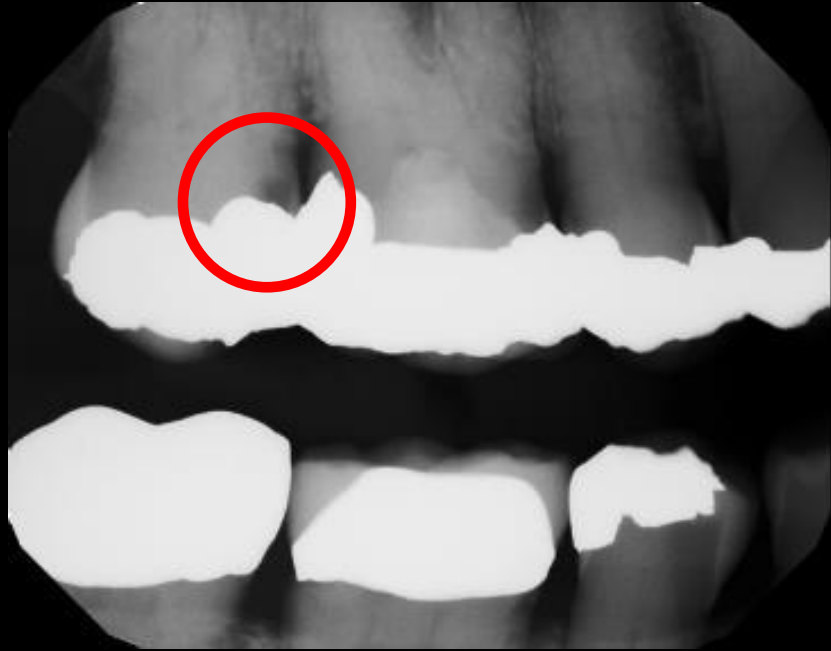
Biolear Matrix Systems  
Patent Pending  
15572120



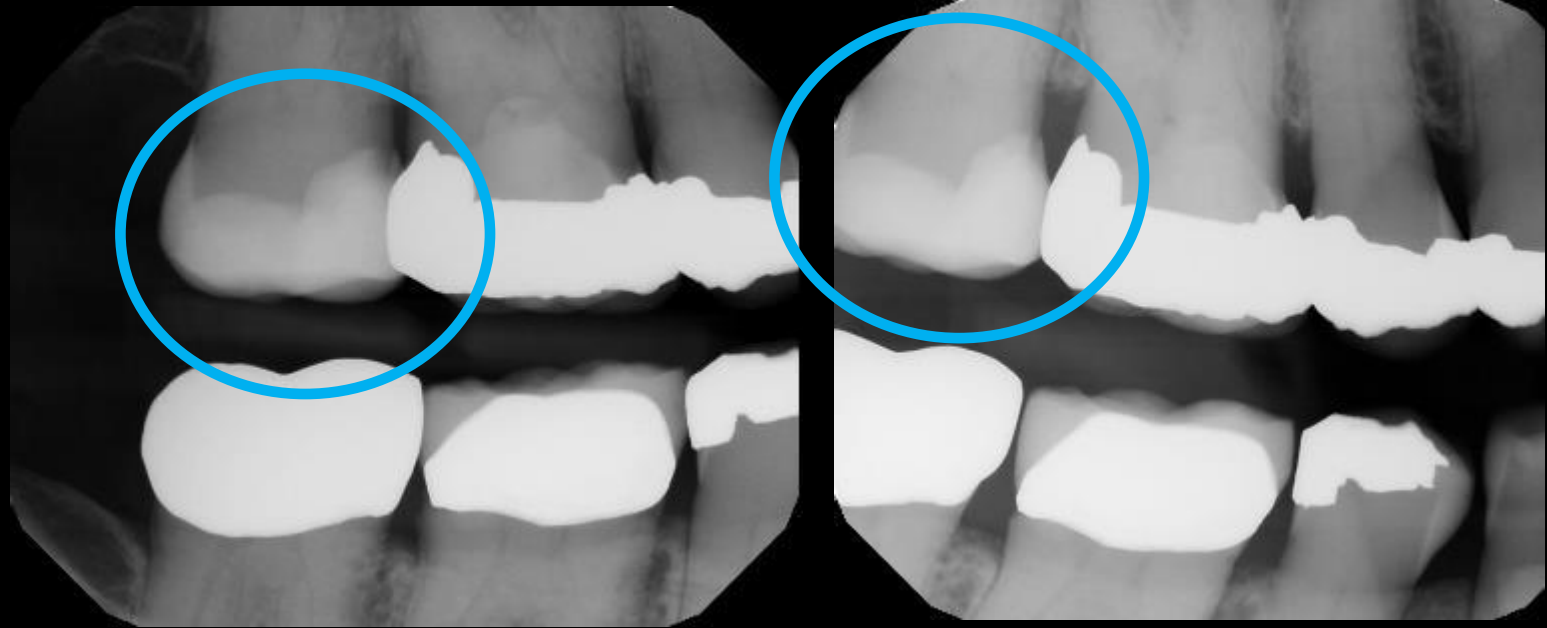




Pre-op



Post-op (two views)

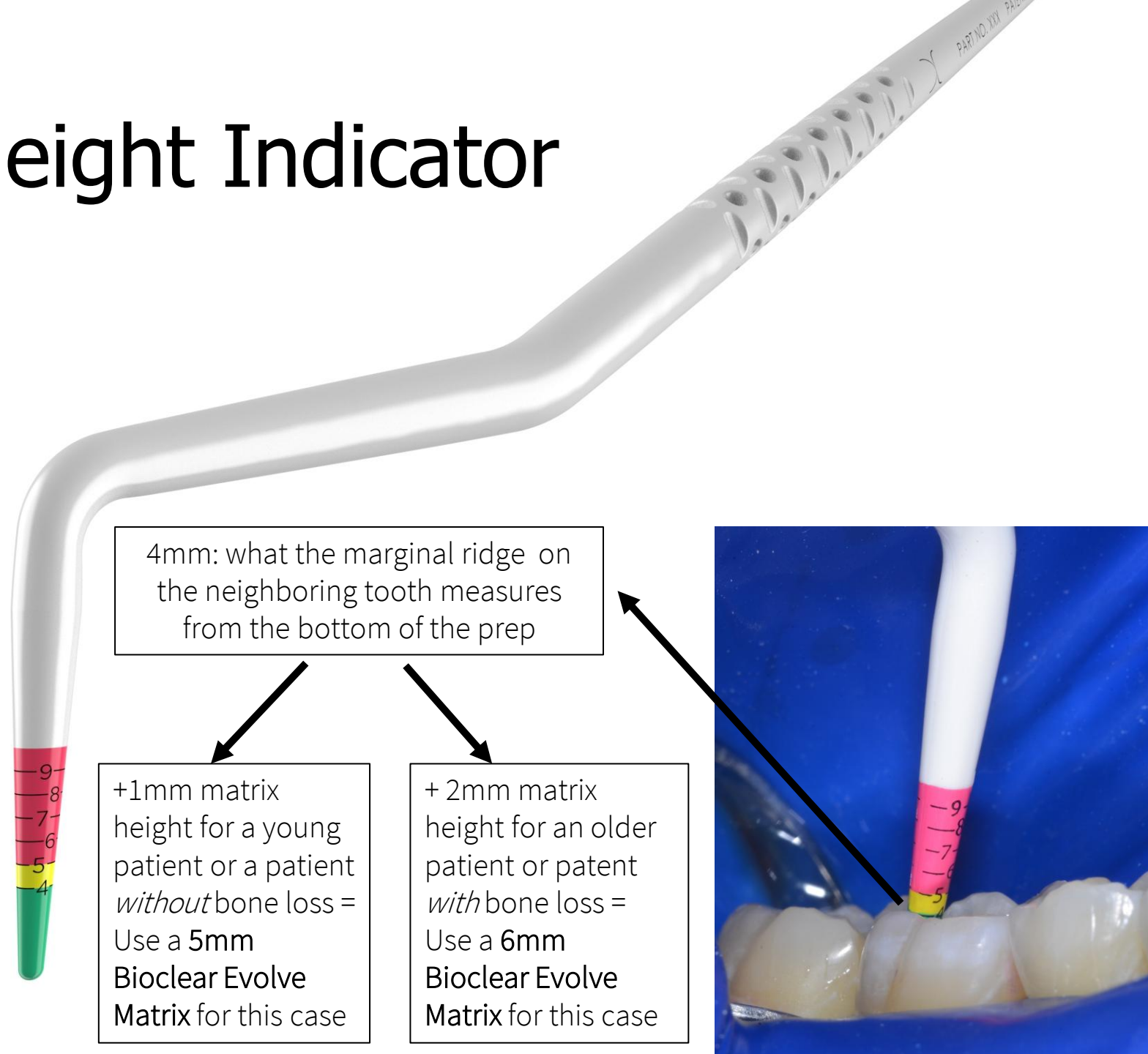


# Evolve Matrix Height Indicator

## Matrix Height Indicator:

Numbers are printed on the indicator so the correct Evolve matrix for a restoration is chosen the first time. This helps reduce waste when incorrect matrices are chosen.

Once you have measured the depth of the cavity in relation to the marginal ridge of the neighboring tooth, you will generally need to add 1-2mm from that reading.



# Evolve Matrix Height Indicator

## Go/No-Go:

The colored tip indicates if a cavity prep can be cured in one layer or if more must be used.

**Red:** NO-GO the composite will be deeper than 5mm

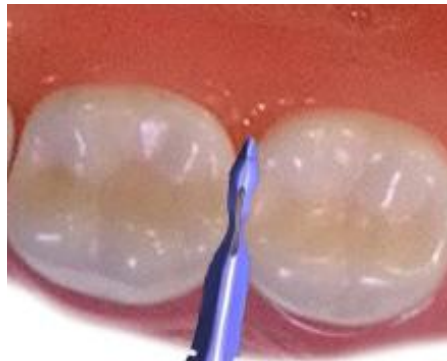
**Yellow:** GO WITH CONDITIONS

**Green:** GO



*Tip: The best reference point is the marginal ridge of the neighboring tooth. If you are doing a back-to-back restoration and no marginal ridge is available, then use the gauge to estimate the height the composite should be when you are finished injection molding but before curing.*





DC

XL

L

M

S



DIAMOND  
WEDGE



# DC BIOCLEAR LEARNING CENTER

Tacoma USA · Solihull UK

Varberg Sweden · Cairo Egypt

Syracuse Italy · Taubate Brazil

Livermore CA (Bioclear pediatrics)

Seoul Korea

Madrid/Barcelona · Sydney Australia