

Bioclear Advanced Anterior Restorations Hands-on Course

David Clark DDS – Taras DDS

featuring

BIOCLEAR

Your patient today…

Getting married next Friday






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

Dental schools/GPR integrating the Bioclear Method



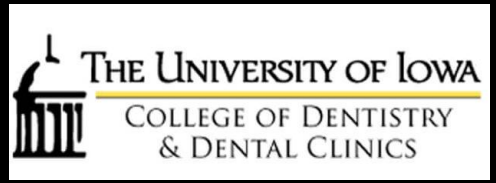




























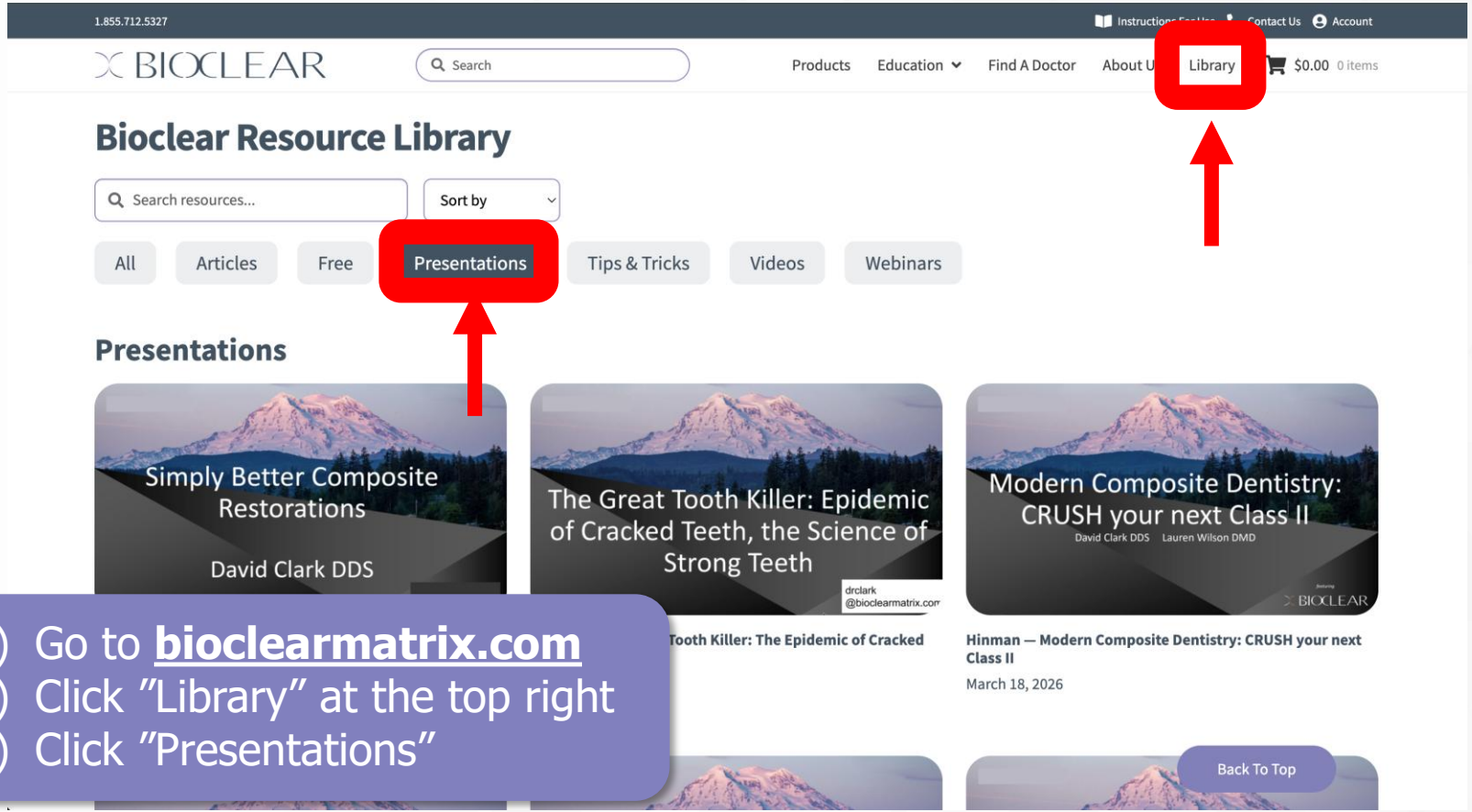






For a copy of today’s presentations, you have two choices:

Resource Library — Desktop



1) Go to **bioclearmatrix.com**
2) Click ”Library” at the top right
3) Click ”Presentations”

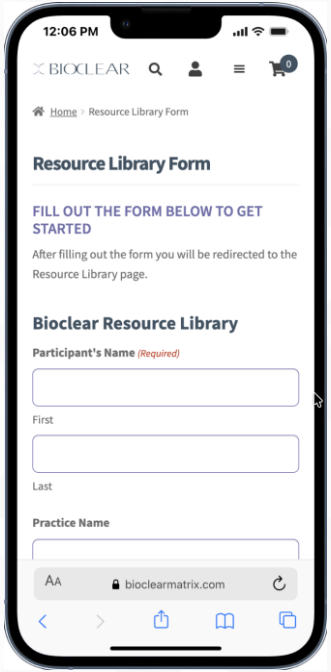
Resource Library — Mobile

BIOCLEAR

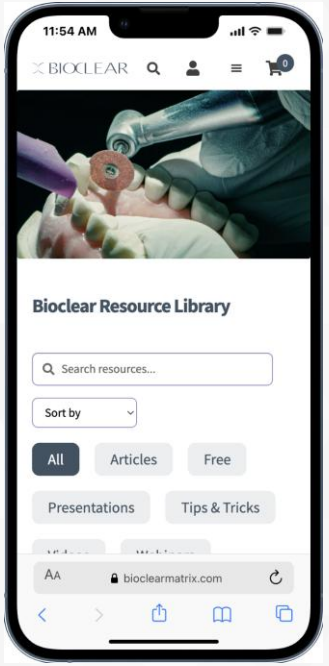
1) Scan the QR code

OR type in
bioclearmatrix.com/resources/

2) Fill out the form



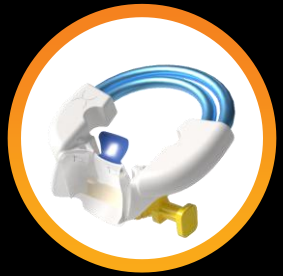
3) Automatically redirects to Resource Library



Bioclear Method for Composite Restorations

Anatomic Bioclear HD Clear Matrices

- Anterior & Posterior Matrices designed to mimic nature



Injection Mold Composite

- Injection mold warmed Kuraray Majesty anterior composites and 3M bulk fill in Class I and Class II restorations
- Like the inverse of my mullet haircut: Party in the front Business in the back



Preparation Design

- Designed for composite
- Minimizes stress concentration
- Maximizes enamel involvement



Bioclear Blaster or Equivalent for Biofilm Removal

- Uses aluminum tryihydroxide w/ water
- Allows bonding to uncut enamel
- Allows infinity edge margins



Systematic restorative protocol for esthetic long-term clinical outcomes

Rock Star Polish

- **Coarse discs for reduction**
- **“Rock Star” polish with Bioclear Magic Mix and disposable cup**
- **Bioclear RS Diamond Polisher**







kuraray™

BIOCLEAR™

Bioclear Black Triangle Restoration

with Kuraray Majesty ES Flow

1st Pillar of Modern Composite

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

Photo courtesy of Dr. David Clark

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BIOCLEAR

Blasting Class II Video



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



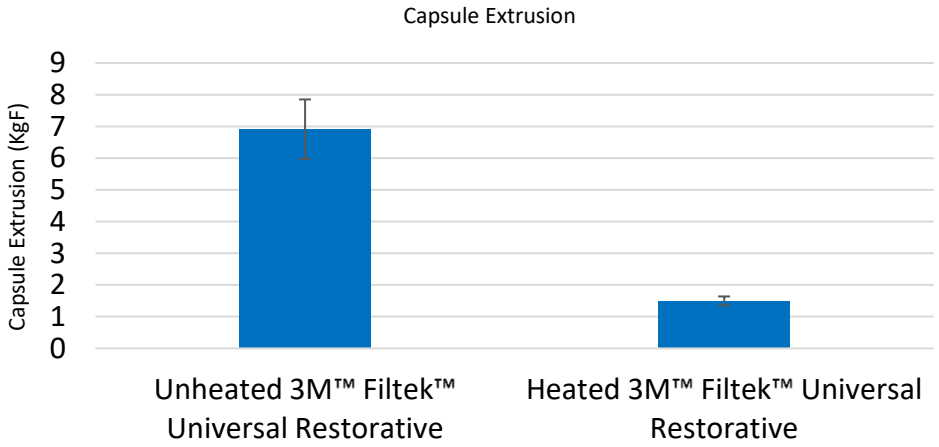
HEAT SYNC by BIOCLEAR

Bioclear HeatSync Composite Warmer pre-set to ***155° F***

Composite warming

Why warm?

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

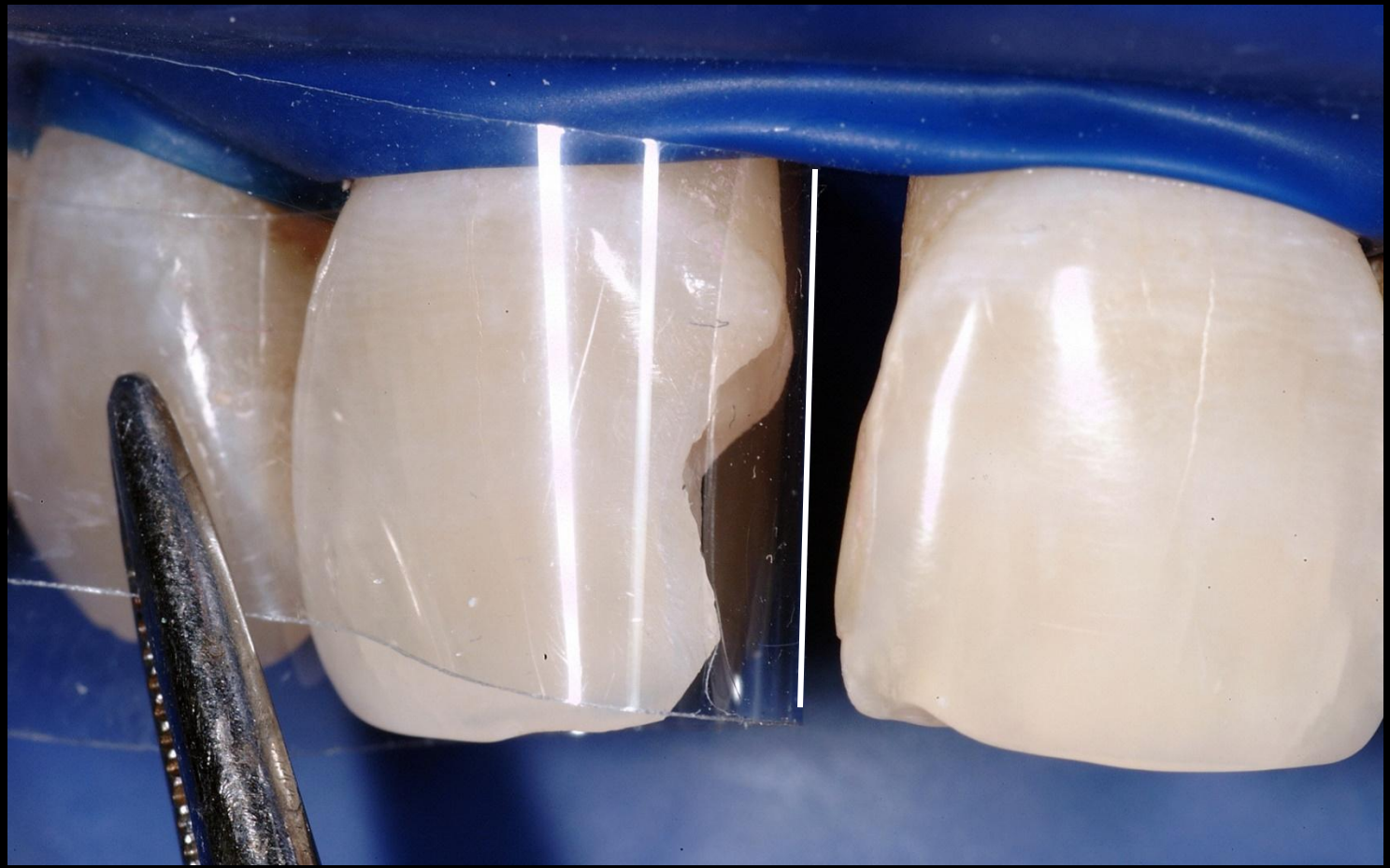


3M internal data

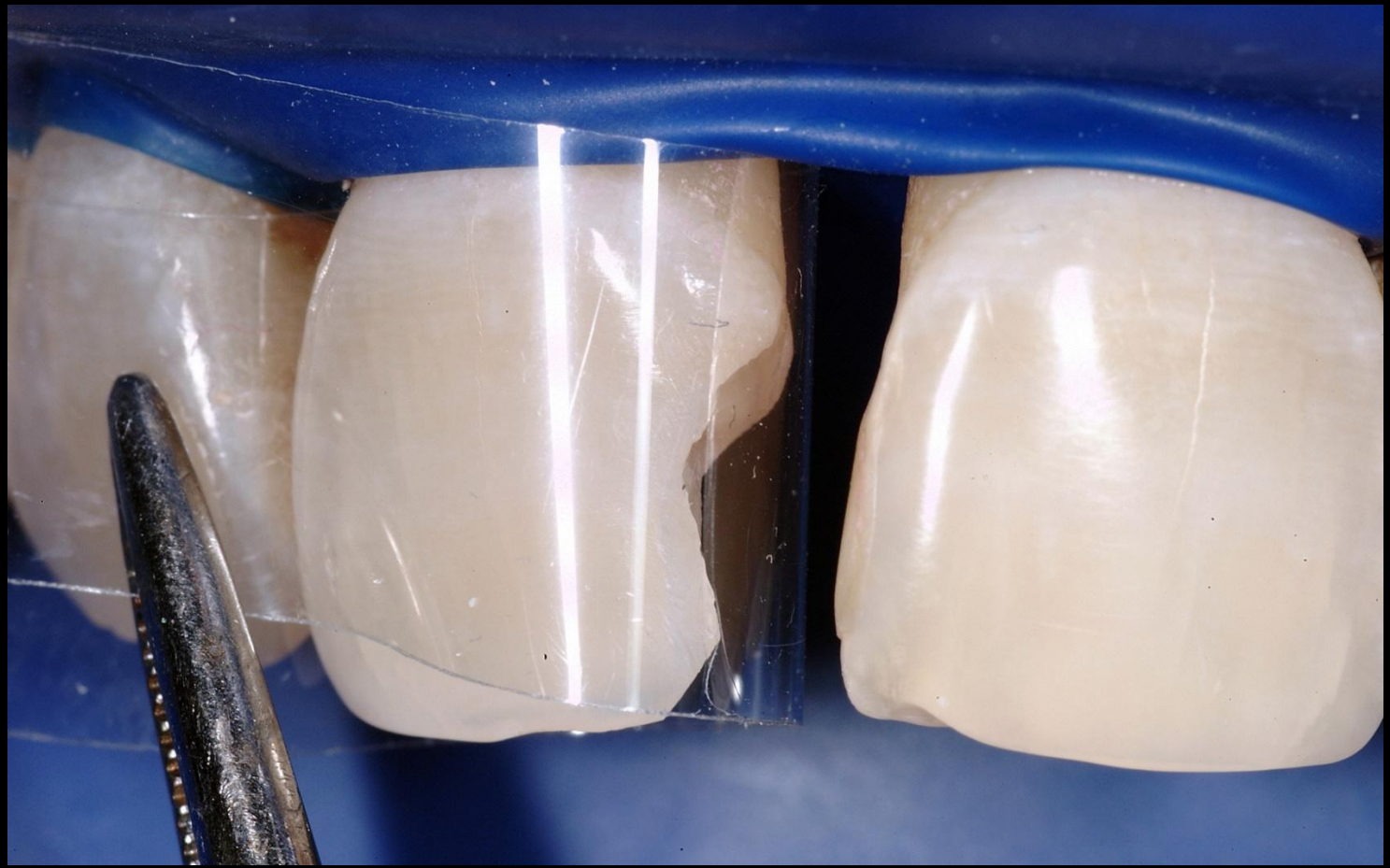
14% of dentists survey stated they use some type of device to warm their composite prior to placement.

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

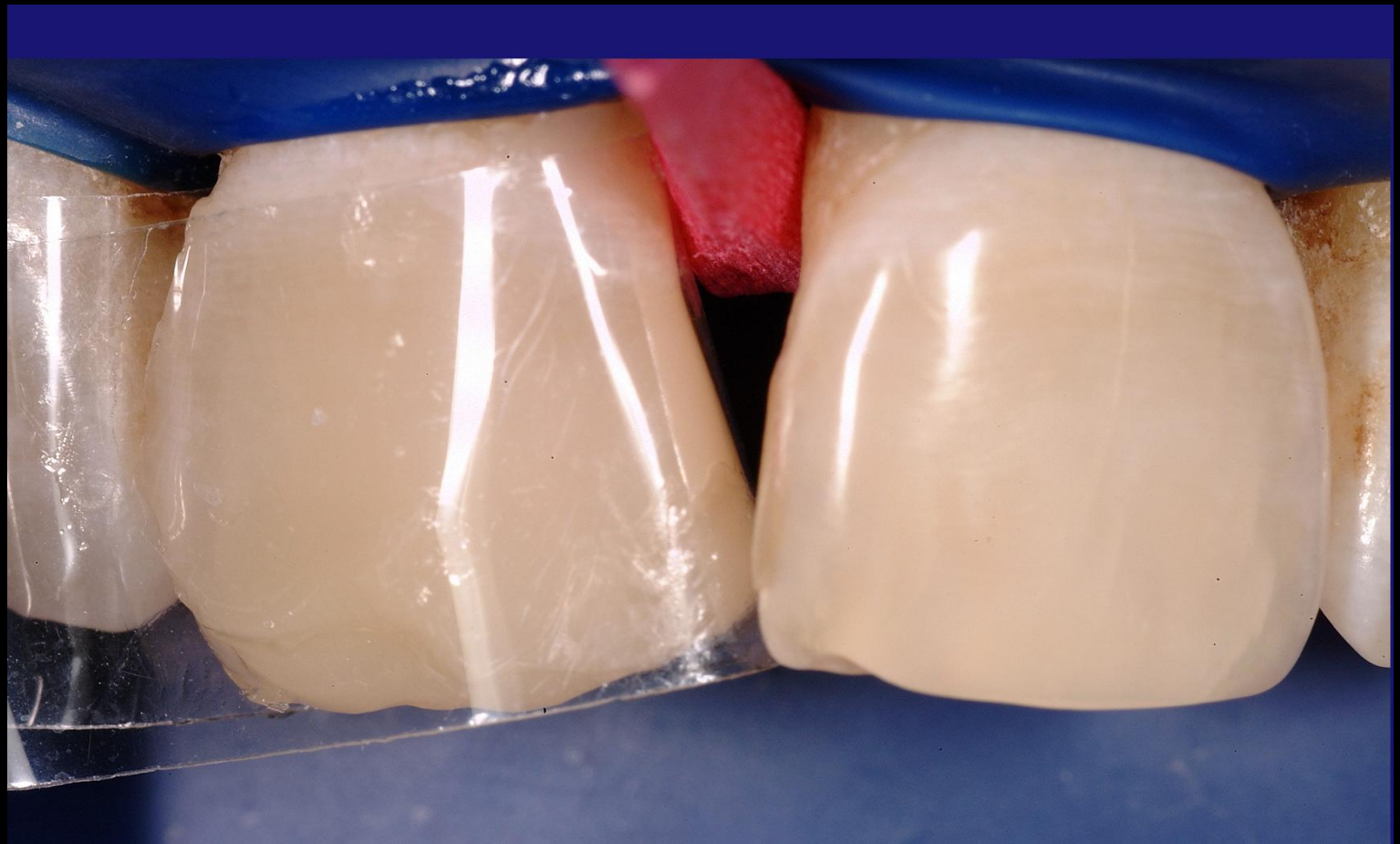
Traditional composite technique



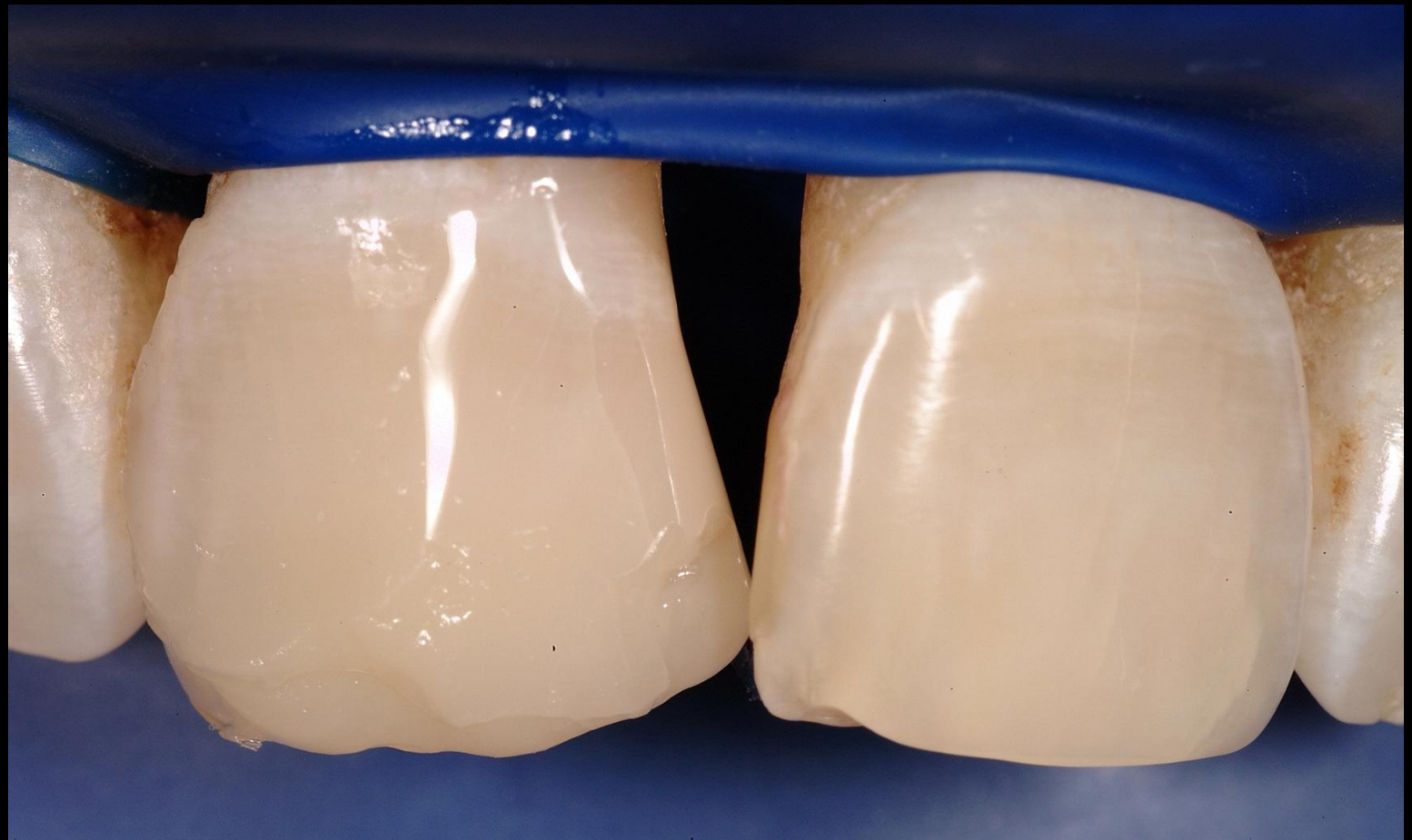
Traditional composite technique



Traditional composite technique



Traditional composite technique



Traditional composite technique





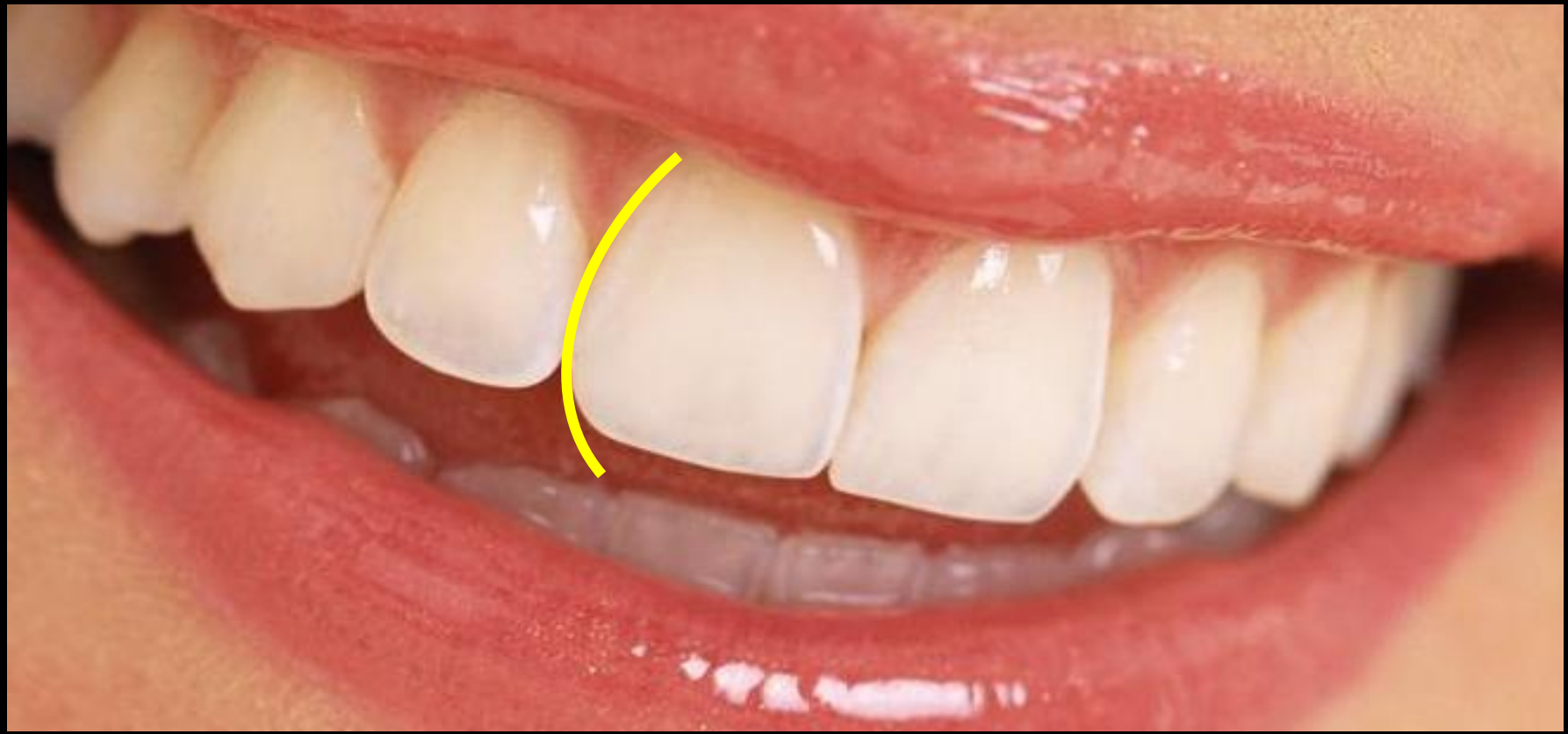


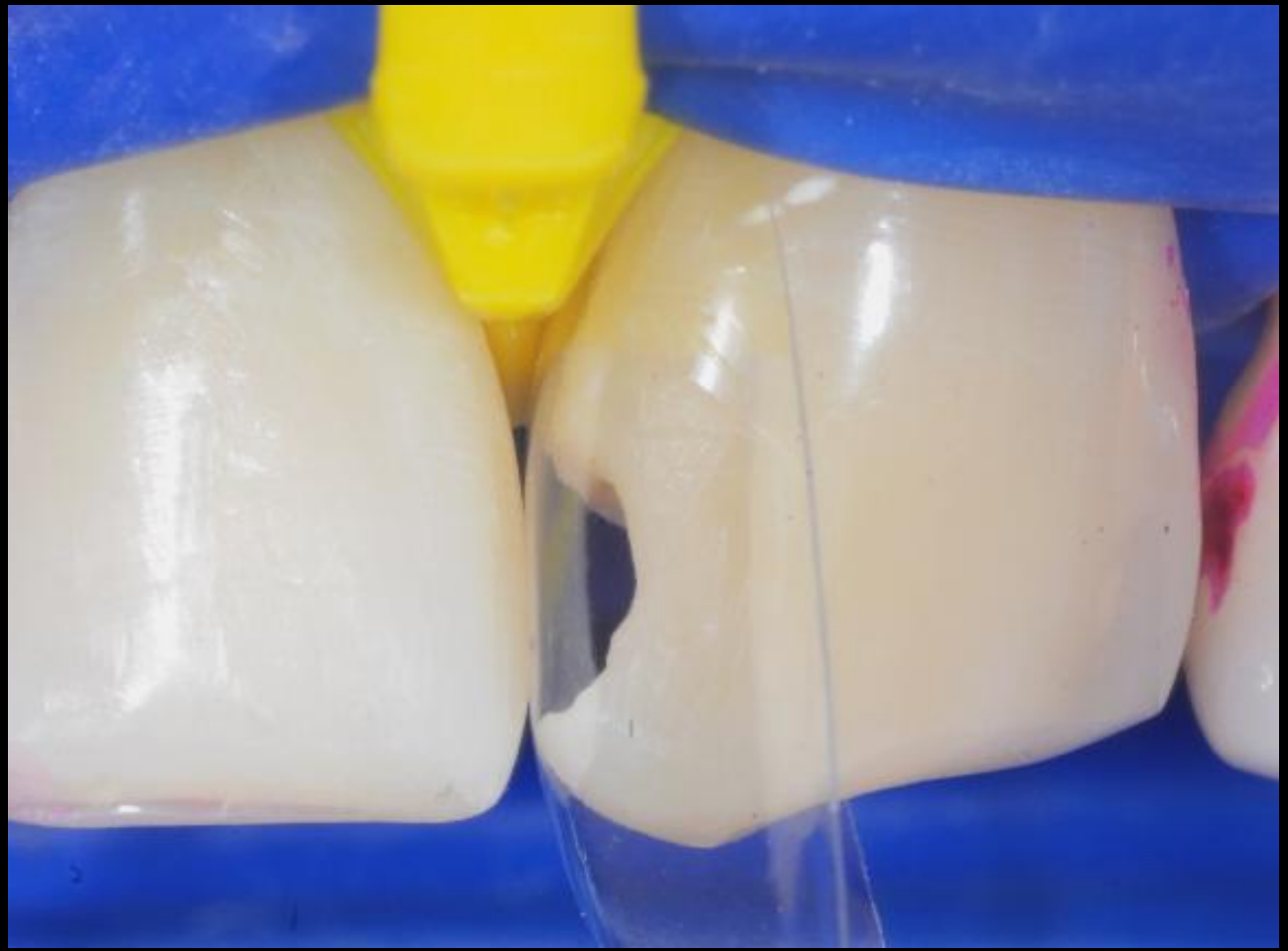
flat matrix + flat wedge = flat tooth

It is 2026. Why are we still using flat Mylar and flat wedges?

Teeth are not flat

Teeth are not flat!





Anatomic
Bioclear Anterior
Matrix plus
Bioclear
Diamond Wedge
(yellow-large)

“Around” versus “On”

UPDATE!!

Filtek Supreme Ultra (their anterior composite) turns yellow.

Stop using it today!

Stop using Filtek Supreme Ultra

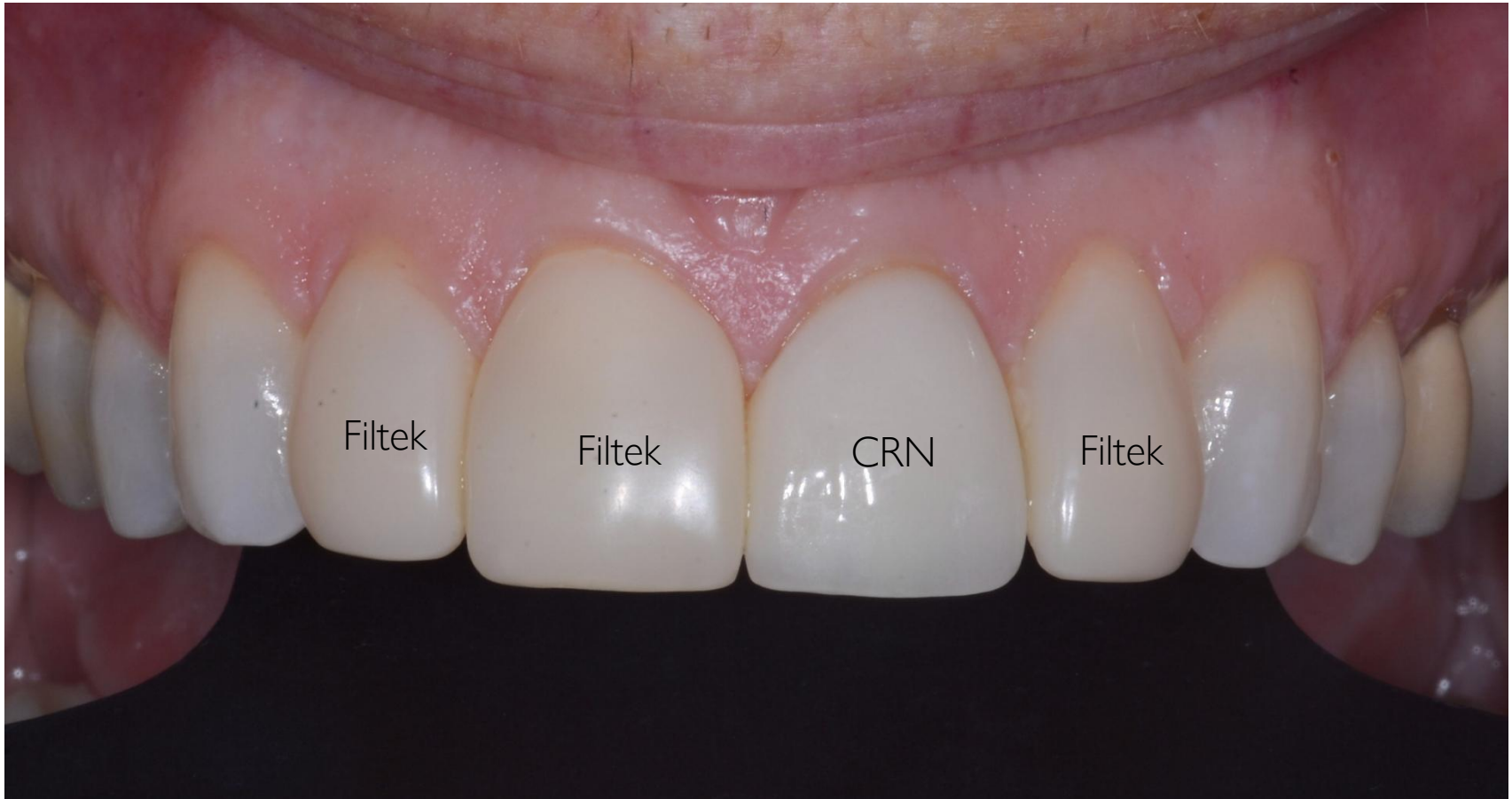
If you use A-1, B-1, W, or XW it matters… a lot

If you are using A-2 or darker, you don’t see the change

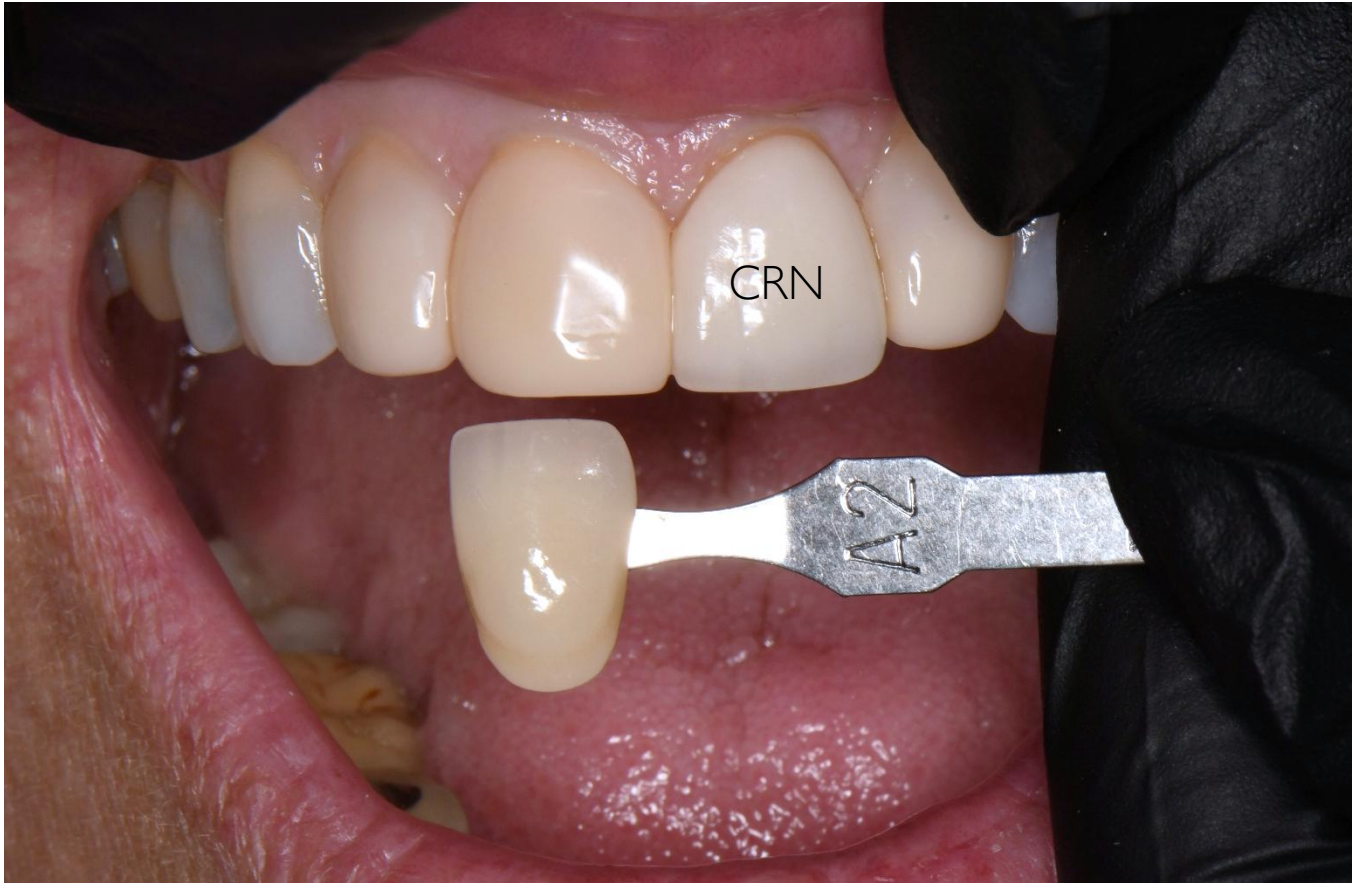
Immediate post-op with Filtek B-1



2-year post-op, there is noticeable yellowing



Filtek 9-year post-op, there is catastrophic yellowing



Filtek™ B1
Body 2016

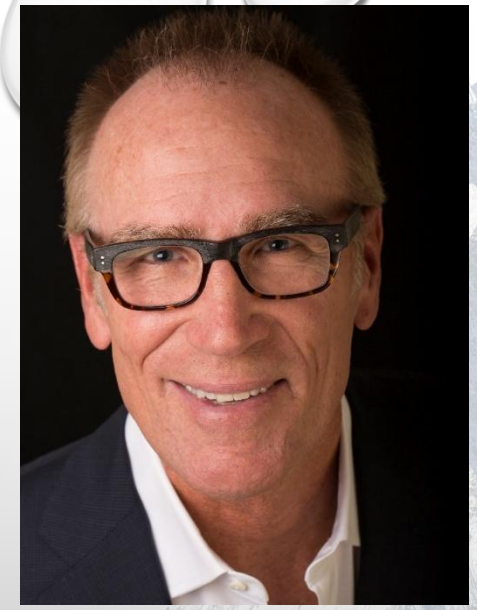


Filtek™ B-1
Body 2018



Filtek™ B-1
Body 2025





Dr. Richard Young

Bioclear Cases 4 Year Post-ops

Untouched-NO refresh on either case

Majesty ES Flow ONLY

@dr.young.esthetics


@dr.young.esthetics




@dr.young.esthetics


@dr.young.esthetics


@dr.young.esthetics


@dr.young.esthetics


@dr.young.esthetics




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Kuraray Majesty ES Classic Flow ONLY

CLEARFIL™

Recommended for Bioclear Injection Molded Composites



DENTAL BONDING AGENTS
CLEARFIL™ Universal Bond Quick 2



DENTAL LIGHT-CURED RESTORATIVE COMPOSITE
CLEARFIL MAJESTY™ ES Flow



DENTAL LIGHT-CURED RESTORATIVE COMPOSITE
CLEARFIL MAJESTY™ ES-2
Classic
(Body Shades)

Traditional Bonding (on)



Bioclear Method (around)



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:

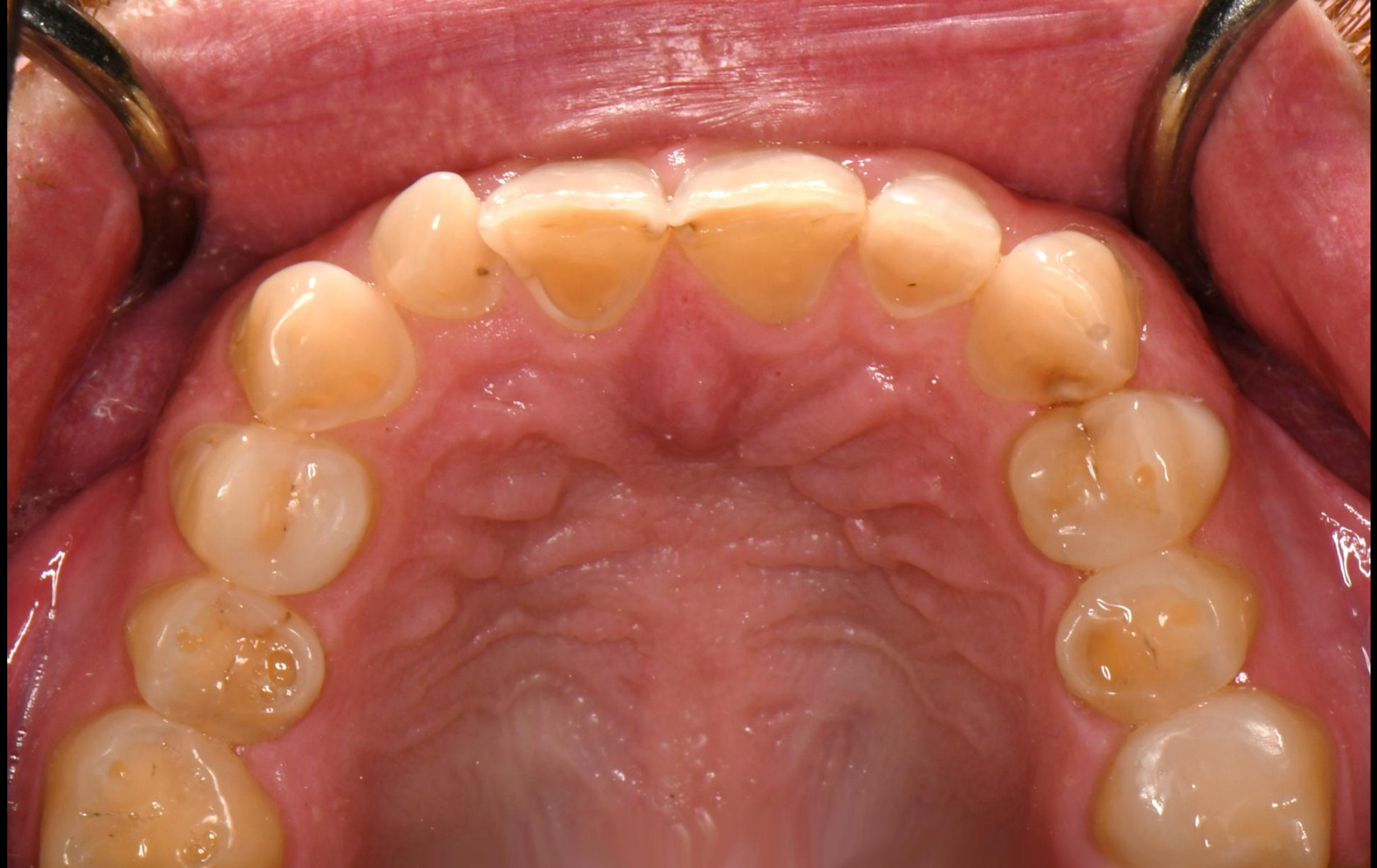
Treatment was finished in a single 4-hour session. (Less experienced clinicians should plan to give one hour per tooth). Bioclear TSS Matrices were utilized on all the teeth except tooth #10. #10 required the Bioclear BT matrix system to create “instant ortho” and because a diastema was present there. 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?







Source: Google Images

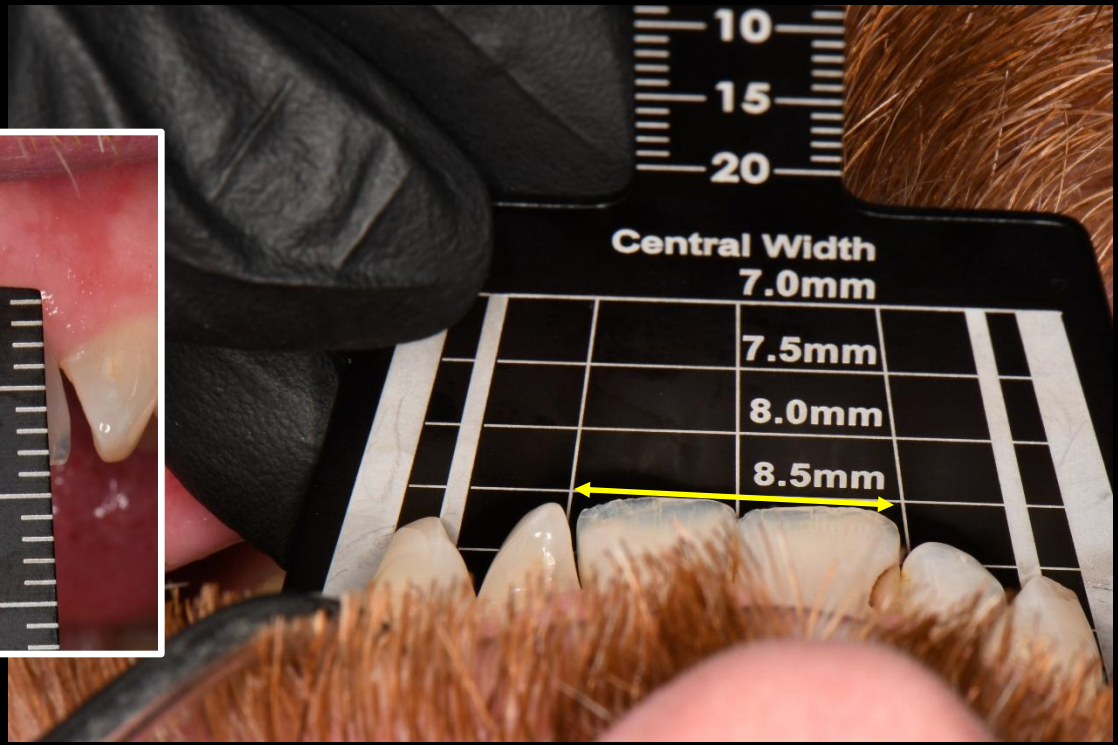

Wouldn’t it be nice to preserve nearly all the healthy tooth structure
and at the same time completely rejuvenate this guy’s smile?

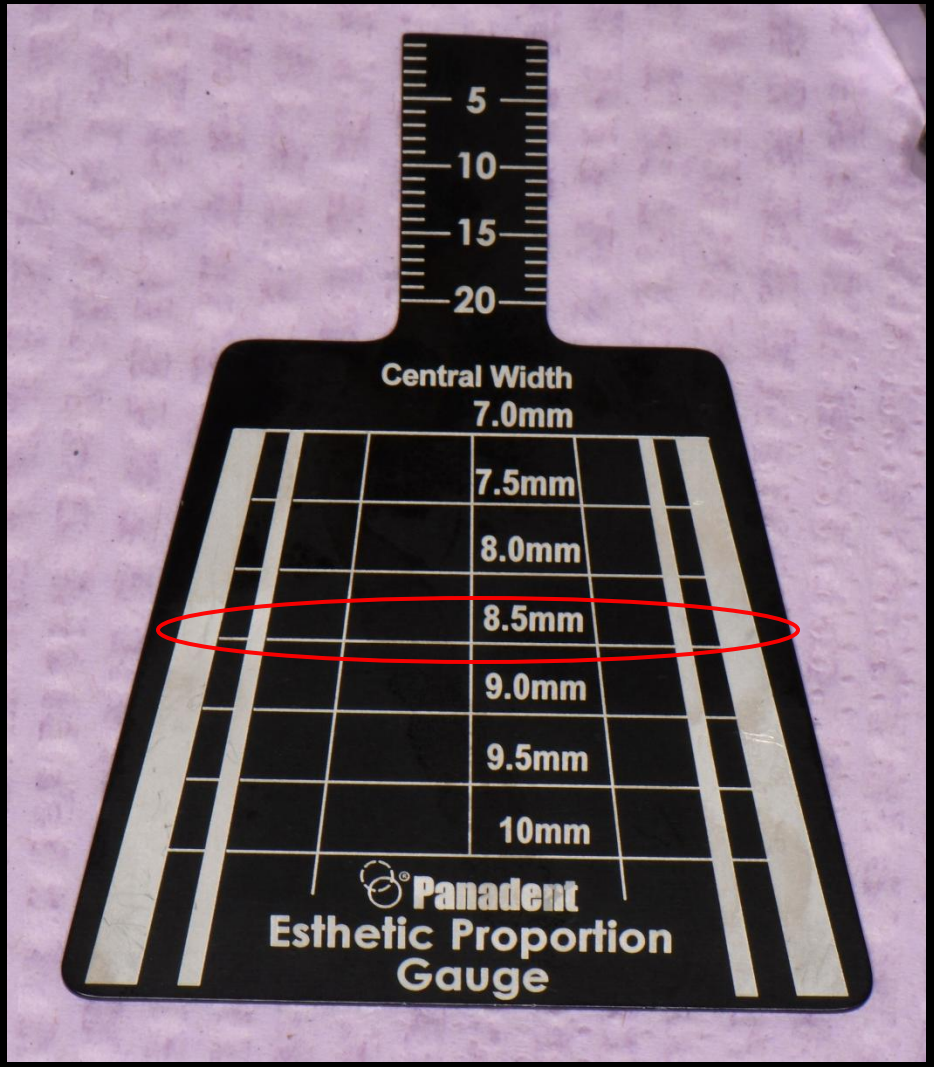

Simplified Smile Design!

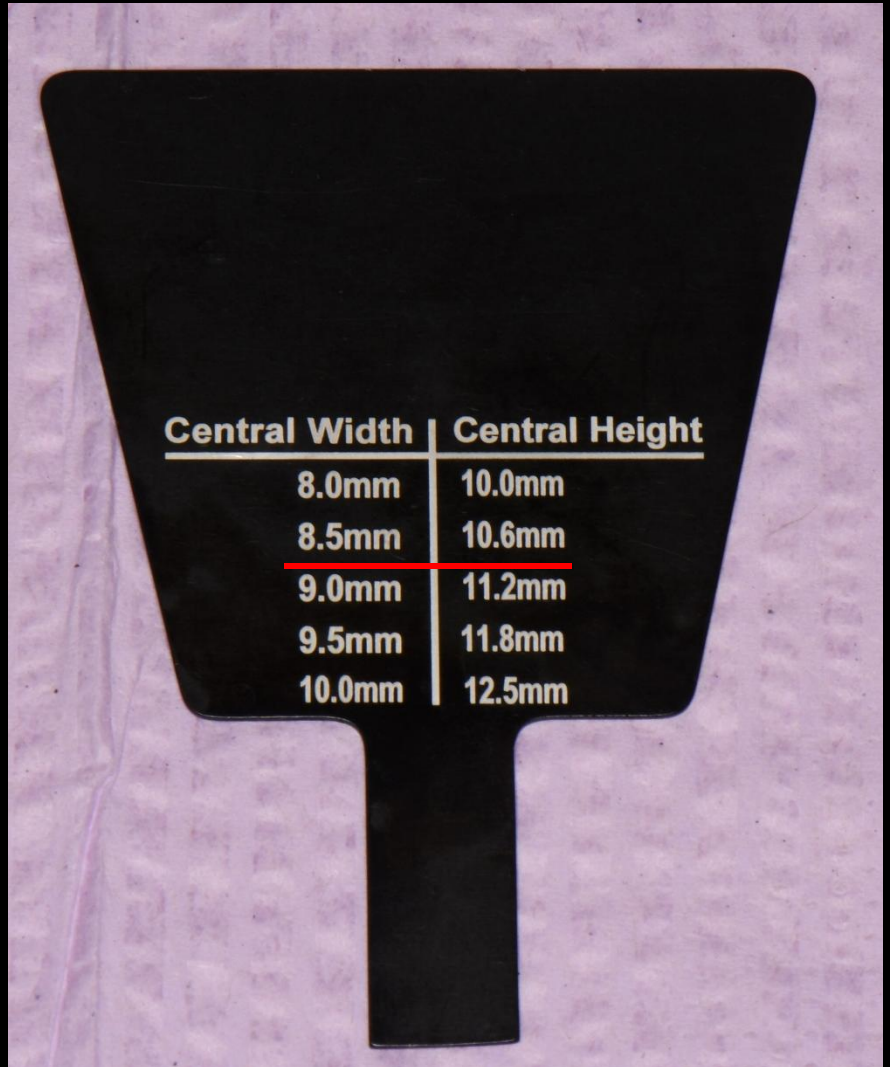
How long are his centrals currently? 8.5 mm



How wide are his centrals? 8.5 mm




5
10
15
20
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
The next generation of anterior matrices:
We're taking the guesswork out of to matrix selection
160 Anterior Matrices
75 Wedges
Contact your Bioclear Sales Rep to Pre-Order
WWW.BIOCLEARMATRIX.COM
1.855.712.5327


TSS
TOOTH & SURFACE SPECIFIC
MATRIX SYSTEM
BY BIOCLEAR
The next generation of anterior matrices:
We're taking the guesswork out of to matrix selection

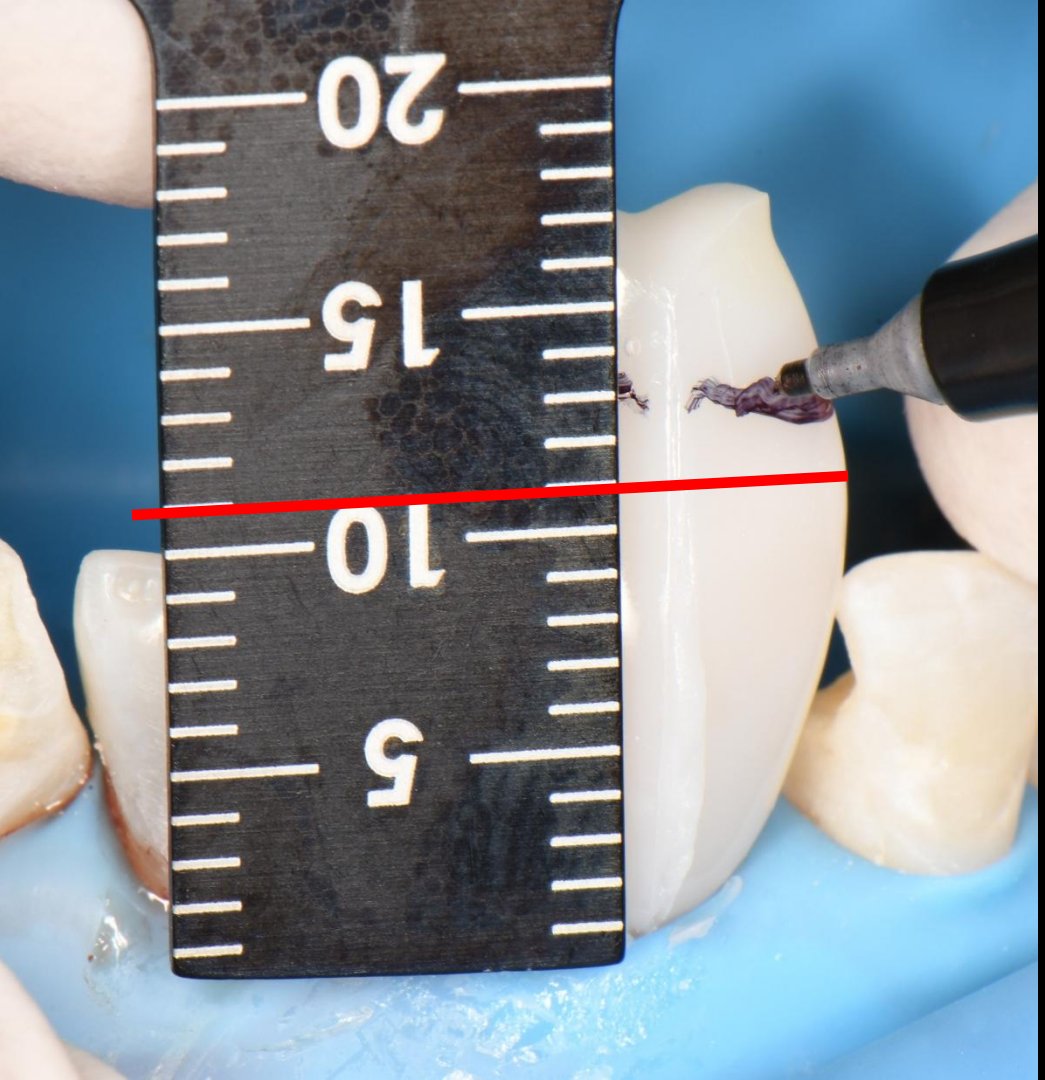

8M
8D
7M


8M
8D
TSS
TOOTH & SURFACE SPECIFIC
MATRIX SYSTEM
BY BIOCLEAR
The next generation of anterior matrices:
We're taking the guesswork out of to matrix selection


X 8D


TSS
TOOTH & SURFACE SPECIFIC
MATRIX SYSTEM
BY BIOCLEAR
The next generation of anterior matrices:
We're taking the guesswork out of to matrix selection


X 8D


20
15
10
5












5
10
15
20


DM
2D



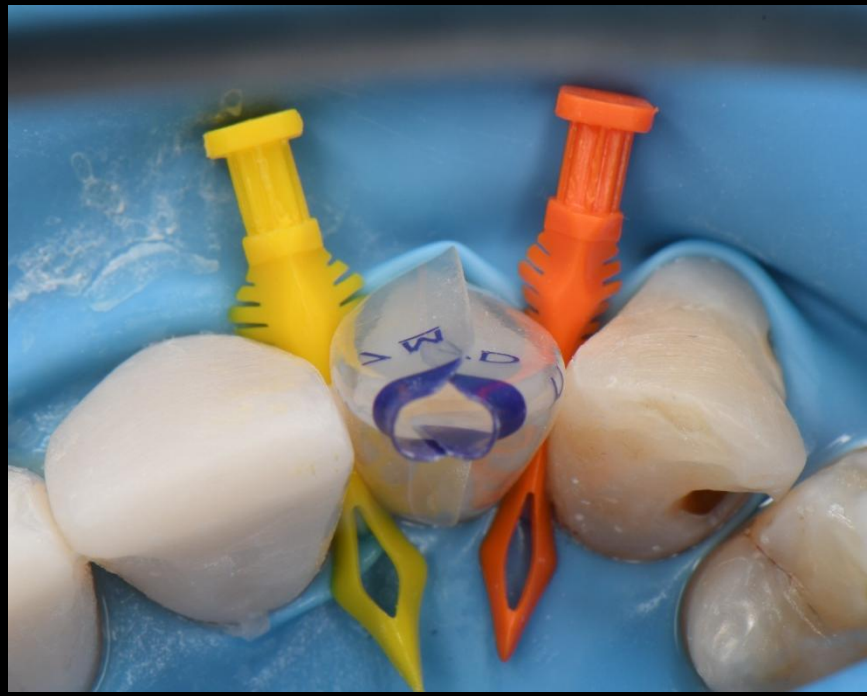









7M7D

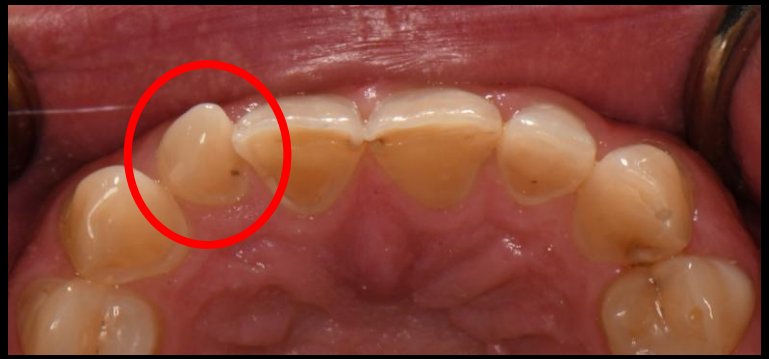



7M
7D






∂M
δD










11D X 11



Pre-operative



Immediate Post-Operative



One Week Post-Operative

















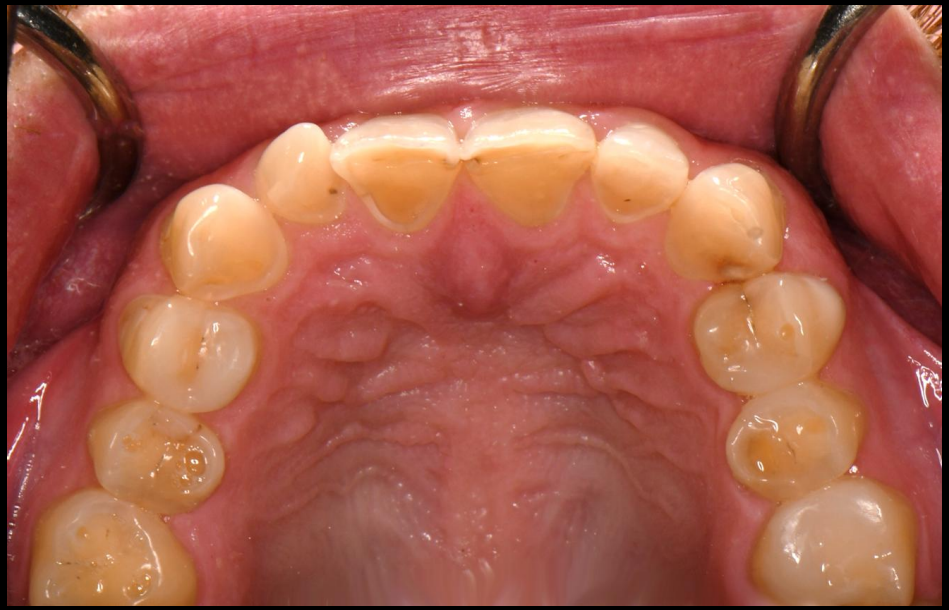
Monolithic Kuraray Majesty ES Paste & Flow: Shade EW (extra white) with Bioclear TSS Matrix













Day of treatment:
About 4 hours



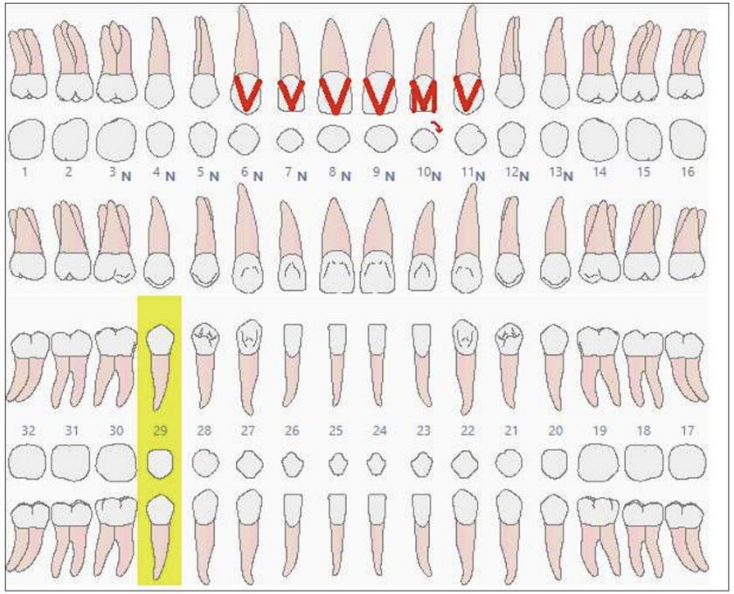




1-week
post-op

Patient Chart

Patient Name
Patient ID



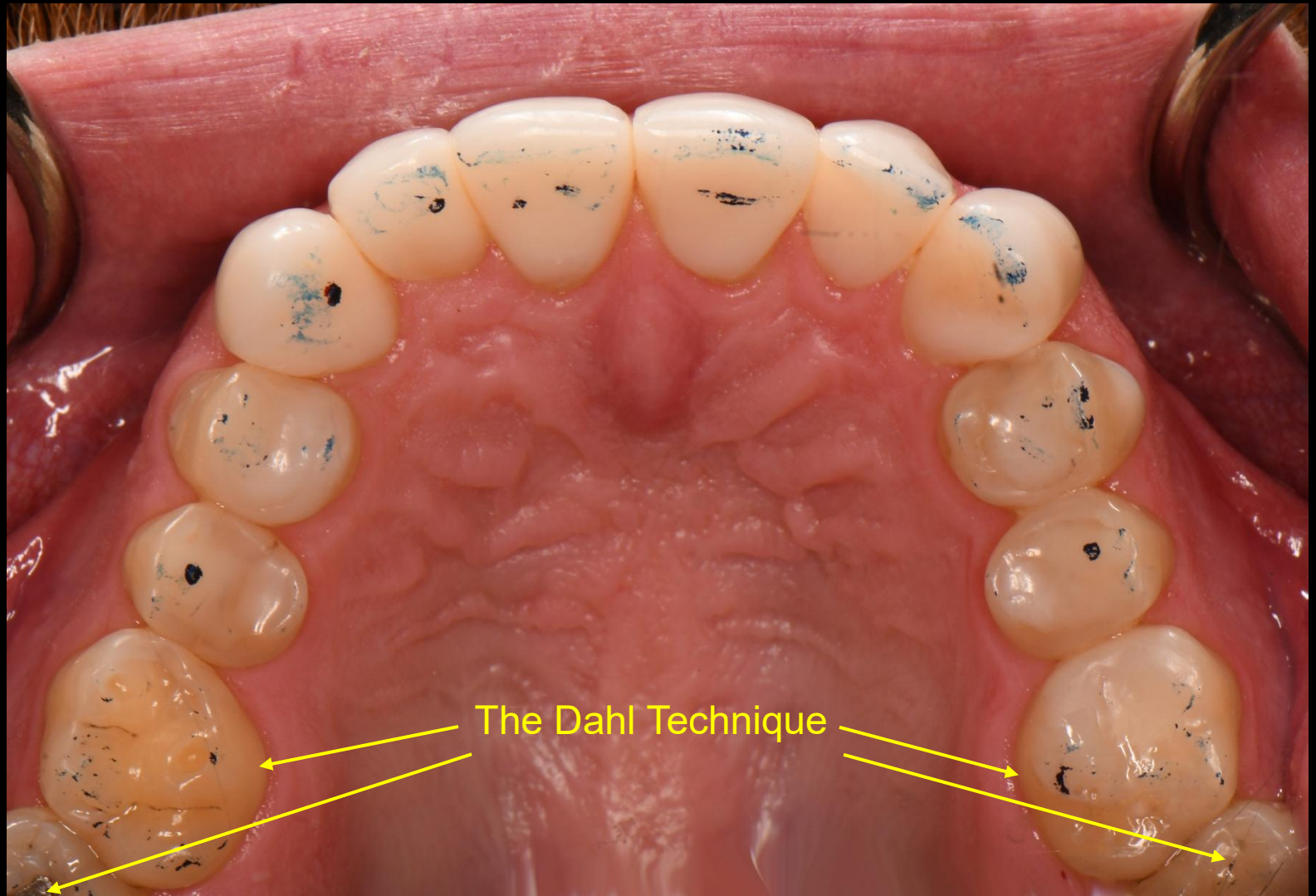
Date	Description	Provider	Tth	Surf	Status	Fee
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	6		Proposed	$1,840.00
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	7		Proposed	$1,840.00
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	8		Proposed	$1,840.00
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	9		Proposed	$1,840.00
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	10		Proposed	$1,840.00
1/15/2026	2993A - BIOCLEAR 360 REJUVENATION COMPLEX	David J. Clark, D.D.S.	11		Proposed	$1,840.00
1/15/2026	199.2 - BIOCLEAR ORTHO CORRECTION PER TOOTH	David J. Clark, D.D.S.	10		Proposed	$306.00
1/15/2026	299.5 - BIOCLEAR DIASTEMA CLOSURE	David J. Clark, D.D.S.	10	MD	Proposed	$285.00

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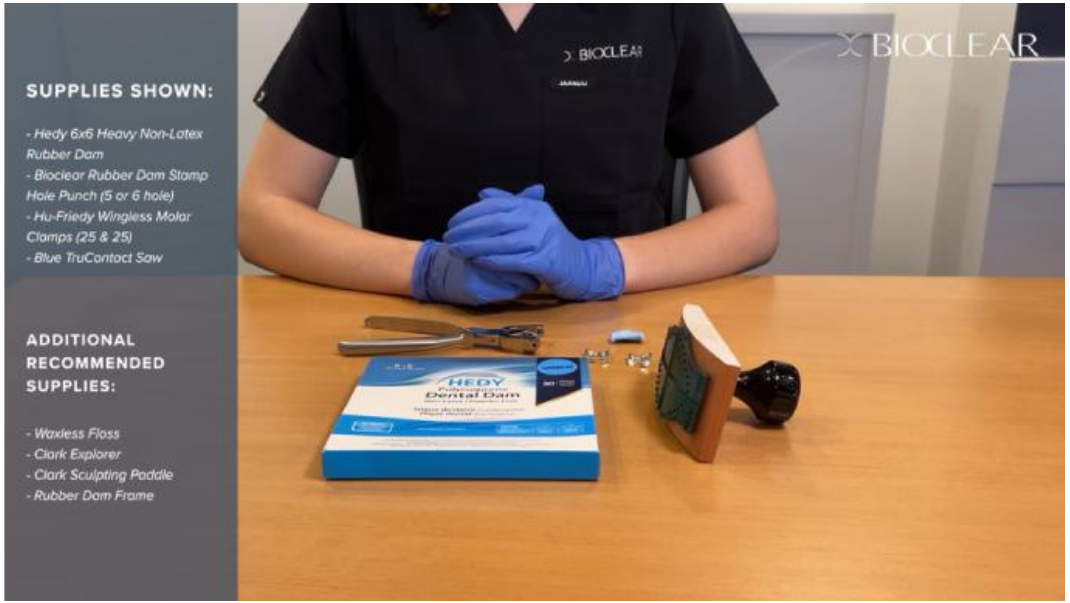


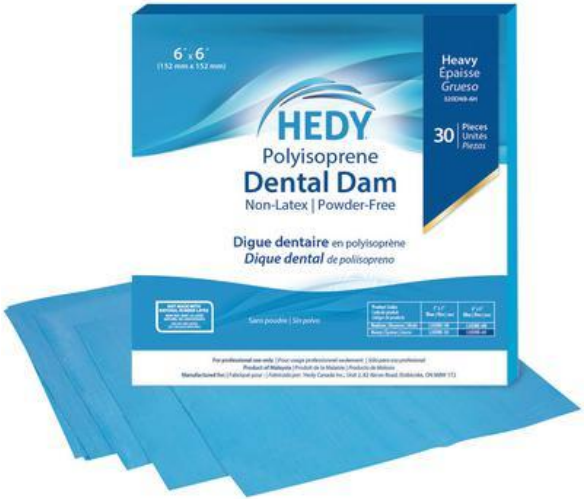
Total Bioclear Case Fee?

$11,631


The Dahl Technique

Rubber Dam Supplies and Tutorial





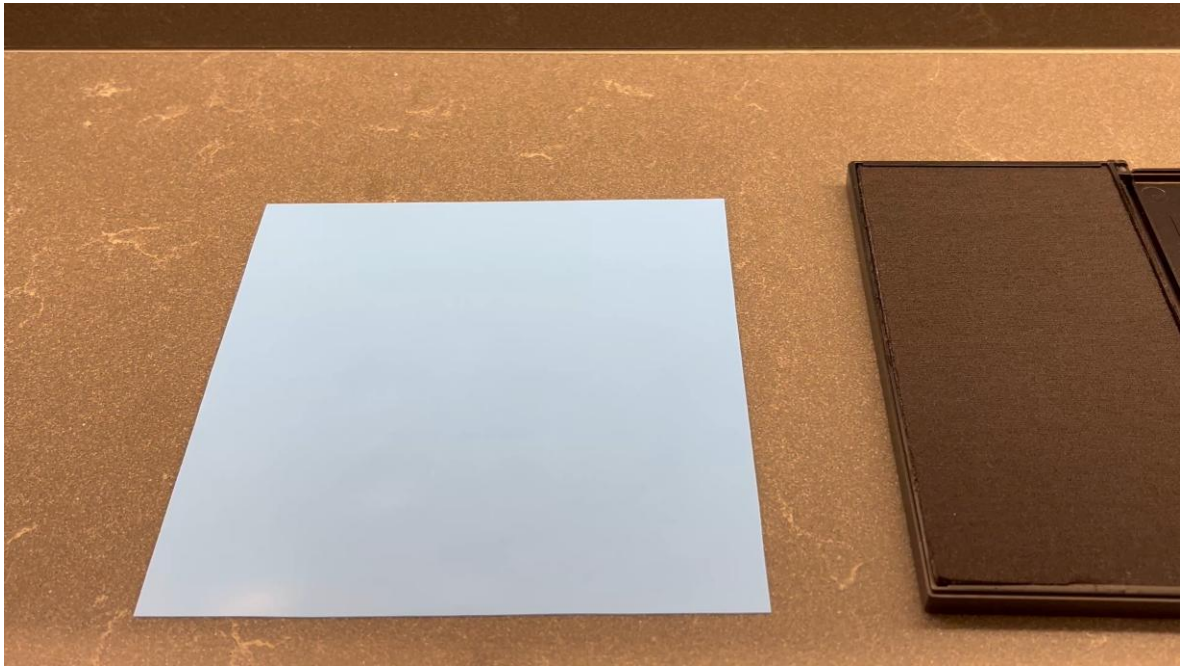






NEW Bioclear Rubber Dam Stamp Available for Purchase





2026 Certification Courses

BIOCLEAR LEARNING CENTER

- Core Anterior + Core Posterior
- Complex Cases & Problem Solving
- Smile Design & Comprehensive Anterior Rejuvenation
- Bioclear Alumni Summit

January

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
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February

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March

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May

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June

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July

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August

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30	31					

September

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27	28	29	30			

October

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November

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29	30					

December

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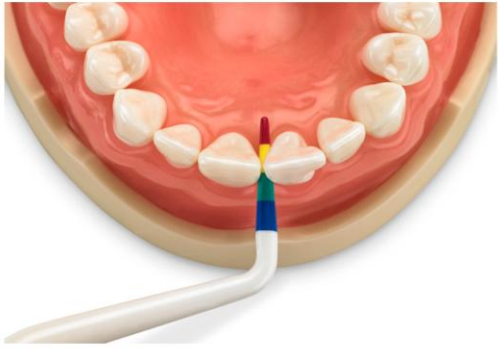
Treat yourself to a weekend with BIOCLEAR

BLACK TRIANGLE

CERTIFICATION COURSE

18 CE CREDITS

This three-part live hands-on certification course will teach you how to treat black triangles, gingival recession, root abrasions, and perform confident restorations. In becoming a certified Bioclear black triangle doctor, you'll increase your overall skill and knowledge of Bioclear and learn to market your new skills to patients.

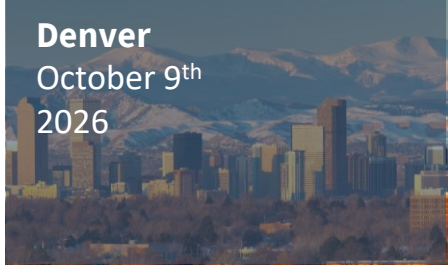




Upcoming Dates:







Classics
A101

BIOCLEAR

Recommended Bioclear Matrices by Indication

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



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



360 Veneer

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

Final Polish
Bioclear Protocol for Final Finish & Polish



1
SS White Coarse Flame Diamond Bur

2
3M™ Sof-Lex XT Disc



2382C - 1/2” Coarse Disc



2381C - 3/8” Coarse Disc

3
Bioclear Magic Mix + Prophy Cup





Apply with light pressure with the tooth dry

4
Bioclear RS Polisher



Instructions:

- Apply light pressure dry followed by heavy pressure wet

BIOCLEAR

1 SS White Coarse Flame Diamond Bur

Photo Courtesy of
Dr. Richard Young



2 3M Sof-Lex XT Disc

COARSE

Gross contouring and shaping



2382C - 1/2” Coarse Disc



2381C - 3/8” Coarse Disc



Photo Courtesy of Nate Lawson, DMD PhD
Photo Courtesy of Dr. Richard Young



3 Bioclear Magic Mix & Prophy Cup

- Apply with light pressure and the tooth dry





4 Bioclear RS Polisher

Instructions:

- Apply light pressure dry followed by heavy pressure wet



4 Bioclear RS Polisher



Instructions:

- Apply light pressure dry followed by heavy pressure wet

Photo Courtesy of Dr. Richard Young



The Bioclear Direct Contact Strut

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











SAVE THE DATE:
Bioclear Summit

April 10-12, 2025

Held at The Scott Resort & Spa in Scottsdale, Arizona. Details to come!

BIOCLEAR

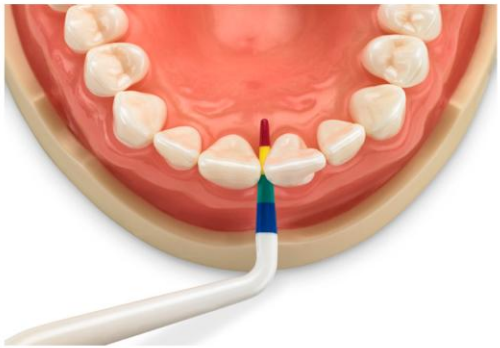
Treat yourself to a weekend with BIOCLEAR

BLACK TRIANGLE

CERTIFICATION COURSE

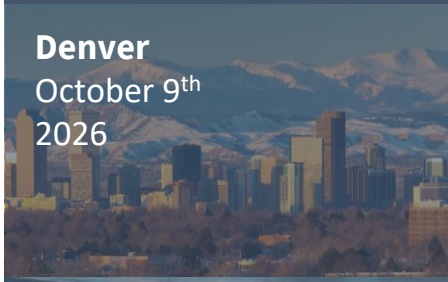
18 CE CREDITS

This three-part live hands-on certification course will teach you how to treat black triangles, gingival recession, root abrasions, and perform confident restorations. In becoming a certified Bioclear black triangle doctor, you'll increase your overall skill and knowledge of Bioclear and learn to market your new skills to patients.





Upcoming Dates:





Limited spots available!

Scan to learn more & sign up for your local BT Course!



BEFORE



AFTER



BEFORE



AFTER



BIOCLEAR LEARNING CENTER

The Bioclear Learning Center aims to improve restorative outcomes and raise patient expectations of modern composite dental care by providing dentists with continuing education and certification in the practice of the Bioclear Method.

- The Learning Center is equipped with exclusive, patented Bioclear tools, equipment, and your own operatory setup
- Small class sizes with hands-on, interactive curriculum modules
- Online class options available at the convenience of your practice
- Operate a Tell, Show, Do education model
- Learn and understand the Five Pillars of the Bioclear Method

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4-DAY CORE ANTERIOR & POSTERIOR COURSE

36 CE CREDITS

This course builds a strong foundation in the Bioclear Method and an understanding of Bioclear products. The focus of the course is indirect methods on adult dentitions as an alternative procedure to porcelain crowns and veneers.

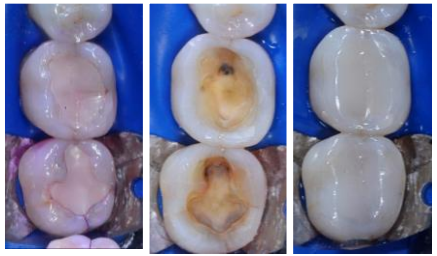
Students will learn the foundation of posterior and anterior restorations and are introduced to the engineering principles involved in the design of the new non-retentive compression-based preps. Students collaboratively practice all applications of the Bioclear Method during intensive, hands-on exercises that simulate posterior and anterior restorations.





LEARN MORE





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BIOCLEAR
LEARNING CENTER


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LEARNING CENTER
EXIT


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Last week's attendees at the certification course





2026 Certification Courses

BIOCLEAR LEARNING CENTER

- Core Anterior + Core Posterior
- Complex Cases & Problem Solving
- Smile Design & Comprehensive Anterior Rejuvenation
- Bioclear Alumni Summit

January

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February

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March

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June

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November

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2027 Certification Courses

BIOCLEAR LEARNING CENTER

- Core Anterior + Core Posterior
- Complex Cases & Problem Solving
- Smile Design & Comprehensive Anterior Rejuvenation

JANUARY

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FEBRUARY

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JULY

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SEPTEMBER

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OCTOBER

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NOVEMBER

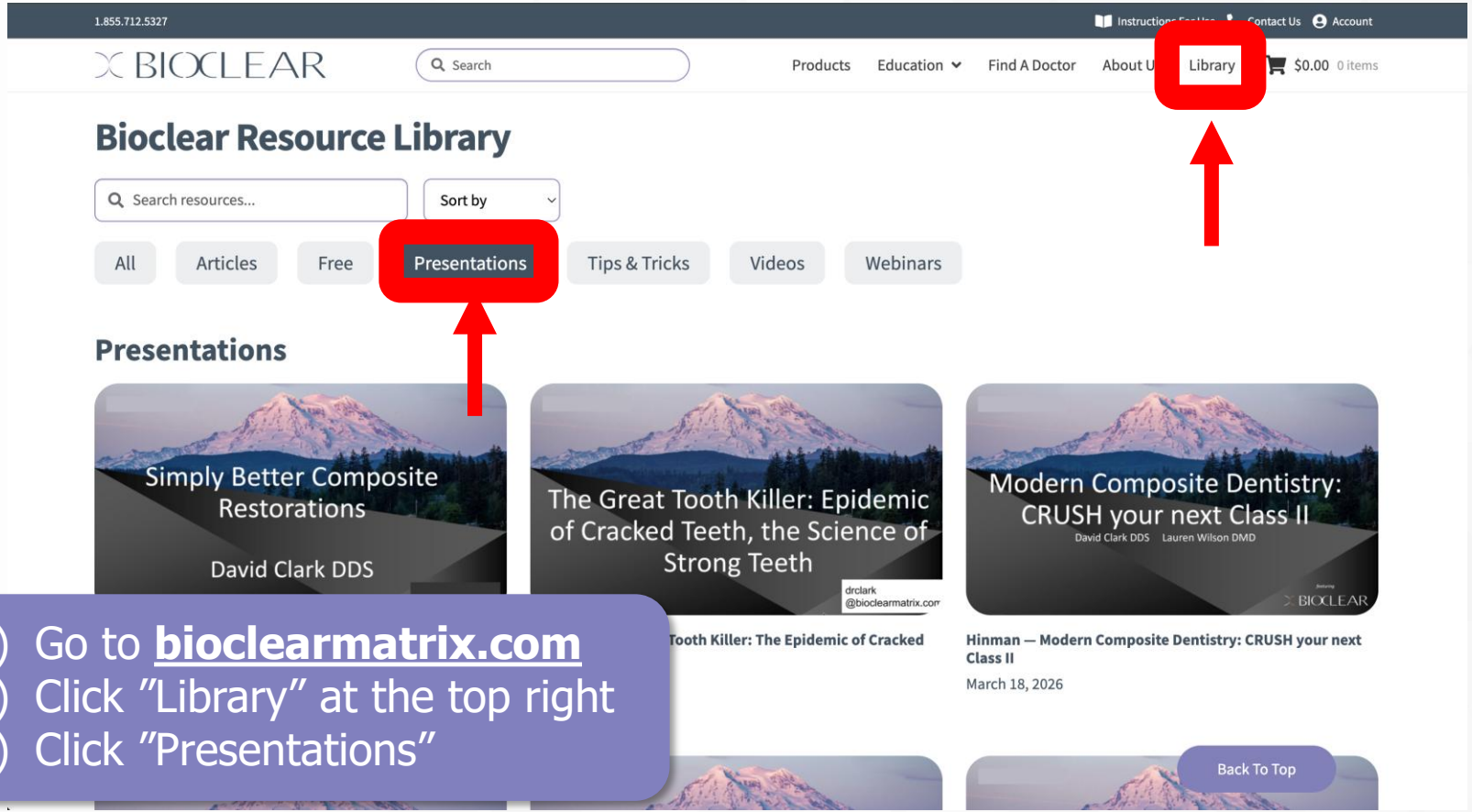
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DECEMBER

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For a copy of today’s presentations, you have two choices:

Resource Library — Desktop



1) Go to **bioclearmatrix.com**
2) Click ”Library” at the top right
3) Click ”Presentations”

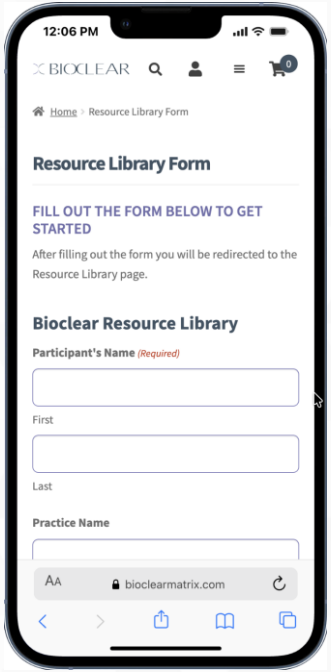
Resource Library — Mobile

BIOCLEAR

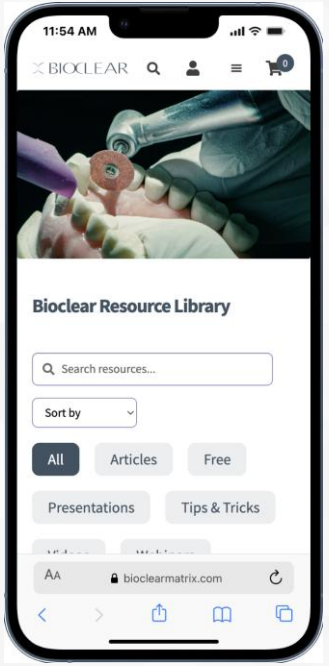
1) Scan the QR code

OR type in
bioclearmatrix.com/resources/

2) Fill out the form



3) Automatically redirects to Resource Library



Bioclear Method for anterior composite restorations and rejuvenation

Bioclear Matrices

- Anterior & Posterior Matrices designed to mimic nature



Preparation Design

- Designed for composite
- Minimizes stress concentration
- Maximizes enamel involvement



Injection Mold Composite

- Injection mold warmed Kuraray restorative materials focusing on Majesty Super-Flowable
- Industry leading polish, esthetics, color stability, strength, & wear resistance



Biofilm Removal

- Remove biofilm before bonding
- Allows bonding to uncut enamel
- Allows infinity edge margins



Systematic restorative protocol for esthetic long-term clinical outcomes

Final Polish

- Bioclear **x-coarse discs for reduction**
- **"Rock Star" polish with Bioclear Magic Mix & RS Polisher**



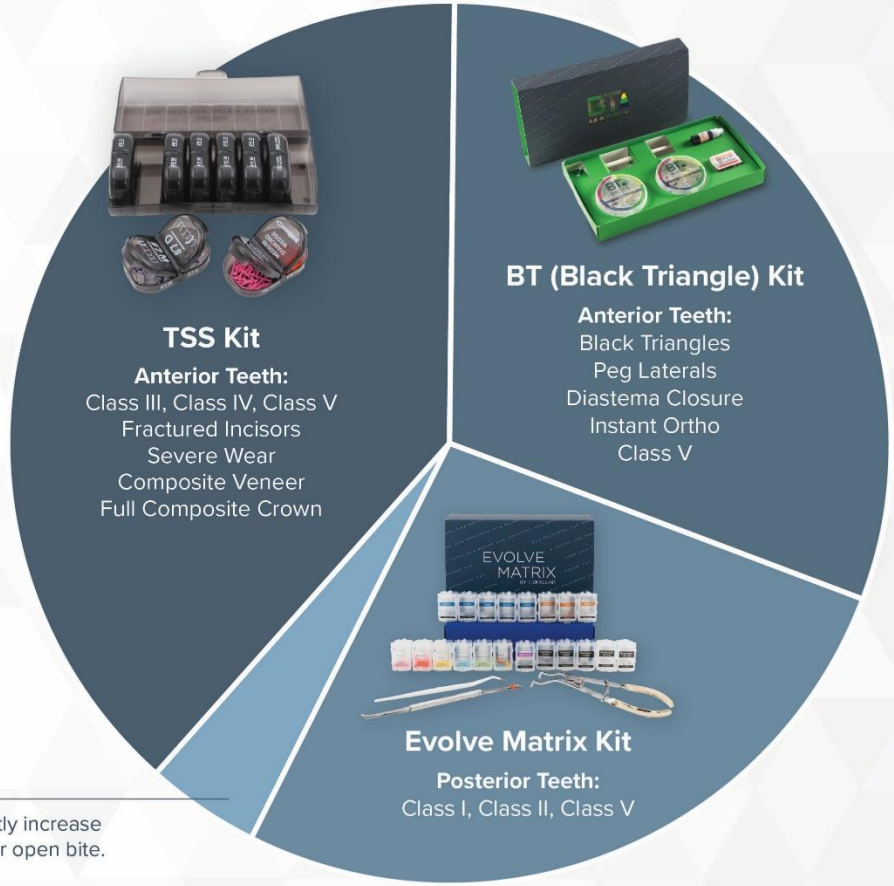
Let’s quickly review several types of anterior cases and best matrix system for the case:

TSS (Tooth and Surface Specific) *or* BT (Black Triangle/Diastema Closure)

BIOCLEAR

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.


BIOCLEAR
Tooth & Surface Specific
TSS ANTERIOR MATRIX SYSTEM













The monolithic restoration can create adequate non-layered poly-chromaticity with **Body** shade



17 year old male. Had emotional Issues and had ortho brackets on for many years without returning to complete orthodontic care. Left with rampant decay. Injection molded A2 BODY composite

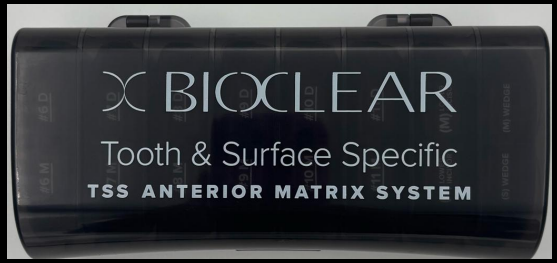


LARRY SAYLOR

Which Matrix Type?



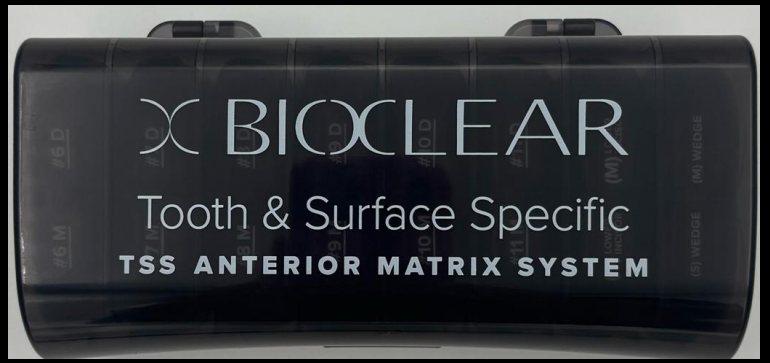








Which Bioclear kit?







- If you think you will lose your contacts, you need to prep and then take each to 80% shape before you move to the next tooth.
- Bioclear method benefits from leverage and landmarks
- Creation of 3 facial planes is key
- Monolithic composite in the body shade is generally beautiful to the patient. Why?

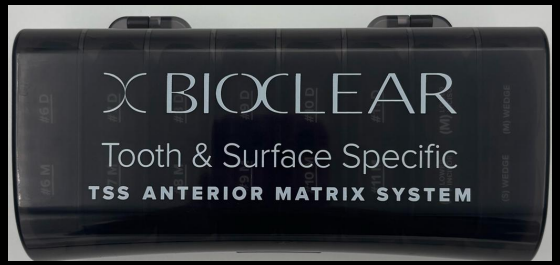


Case by recent attendee of Learning Center 4-day Certification Course



Which Bioclear Kit?









Which Bioclear Kit?









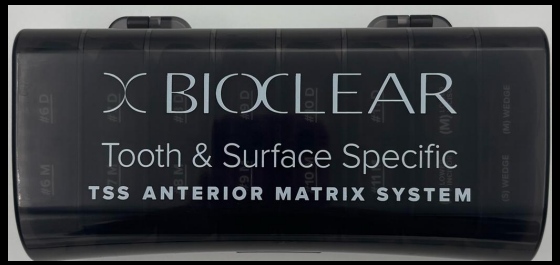


Courtesy Dr.
Les Miller



Which Bioclear kit or kits?



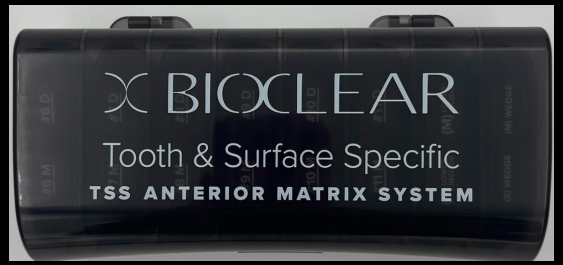




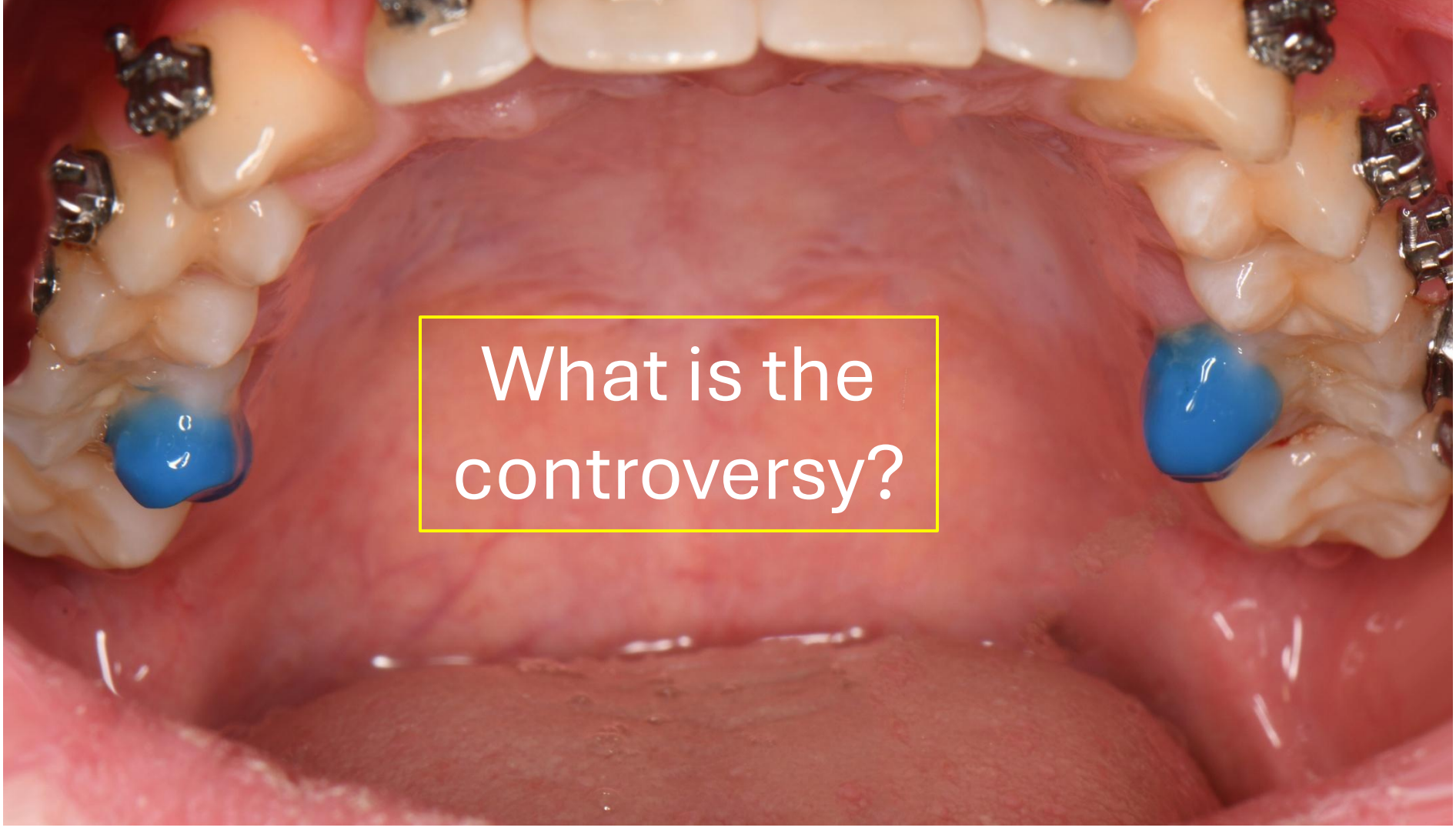


Both


BT
MATRIX
BY BIOCLEAR

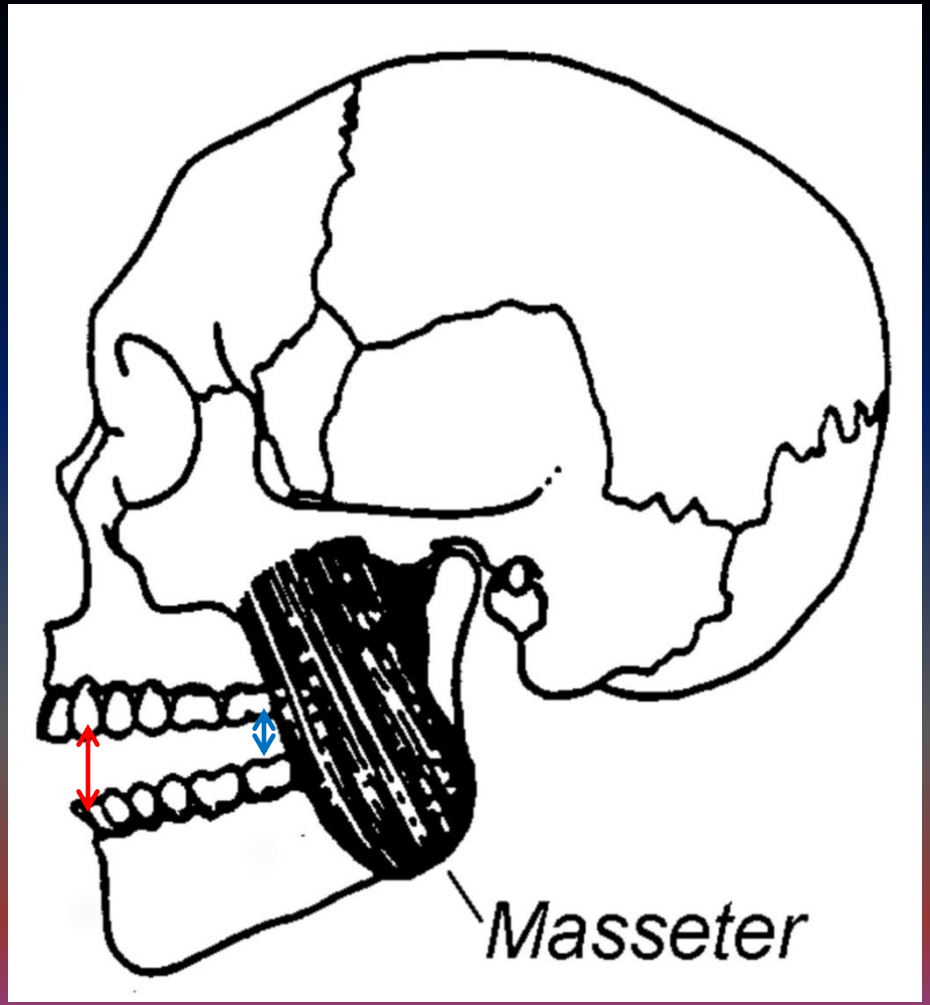

BIOCLEAR
Tooth & Surface Specific
TSS ANTERIOR MATRIX SYSTEM

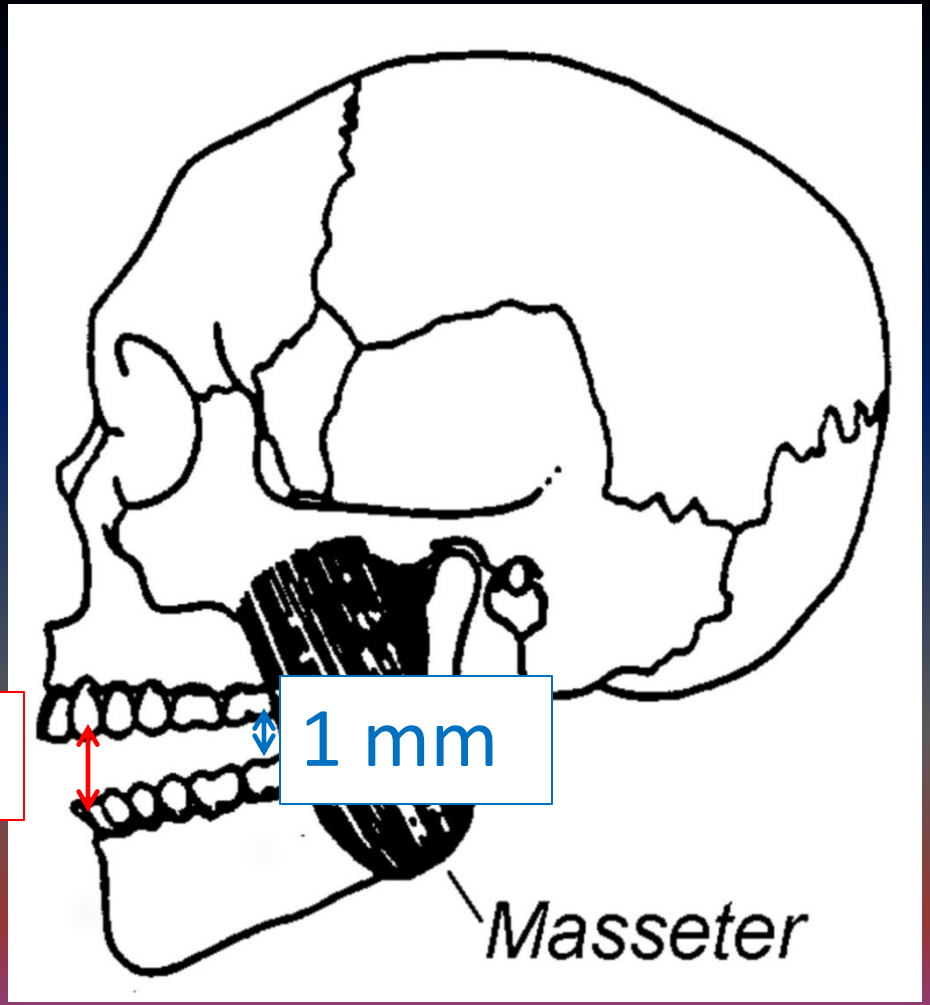



What is the
controversy?

How and why are we able to alter the VDO?

- TMJ is a Hinge
- Arc Closure of Mandible


Masseter


3 mm
1 mm
Masseter

Is this an 80/20 % or 20/80 % of patients that can benefit??

Majority of patients can tolerate an increase in VDO!!

Dahl Technique



The Dahl appliance was described nearly 30 years ago. This removable metal bite platform was used to create inter-occlusal space, in a localised part of the mouth, to facilitate the placement of restorations on worn anterior teeth. The Dahl concept is traditionally associated with the management of worn teeth. However, the same principles can be successfully and safely applied to a variety of clinical situations. This has simplified the management of historically complex problems. The advantages are the preservation of tooth tissue and the long-term benefits that brings. This paper reviews the literature related to the Dahl concept and how the concept has developed. There is a discussion regarding possible future applications and research.



The Dahl concept can be successfully applied to a variety of clinical situations other than the management of tooth surface loss.

Direct composite resin is an ideal material to use as an intermediate Dahl appliance as it is inexpensive, bondable, robust and can be modified with ease.

The success of the Dahl Concept

The literature reports that the objectives of the Dahl concept are achieved in the majority of cases (94%-100%), and that this space creation occurs irrespective of age and sex. These objectives are to either create sufficient inter-occlusal space for the placement of restorations or the re-establishment of occlusal contacts following the placement of restorations that have intentionally been placed in supra-occlusion.

The main reason for the failure of space creation is poor patient compliance associated with removable appliances.

The success of the Dahl Concept

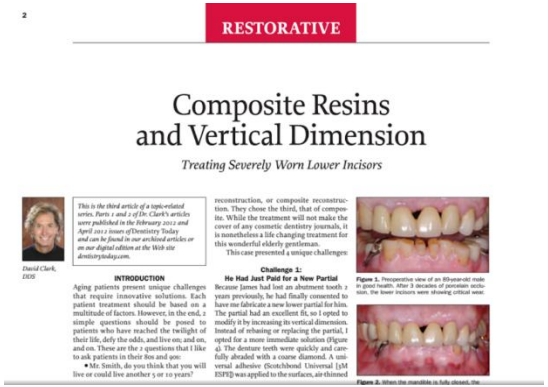
It is our opinion that a conservative technique using adhesive principles will ensure that sufficient tooth structure with favourable pulpal health will remain for subsequent restorations and therefore more options should be available on failure. The modern emphasis should be of 'tooth damage limitation' as patients embark on the 'restorative failure cycle'.

The success of the Dahl Concept

How long does it take?

The occlusion tends to re-establish after about six months on average but it can take up to a period of 18-24 months

Dahl and Krogstad's further publications of an implant-cephalometric study, using fixed tantalum implants placed in the basal bone of the maxilla and mandible, concluded that the inter-occlusal space was created by axial movement of the teeth rather than a change in their inclination. There was some relapse in the vertical dimension of occlusion during the first six months but this remained static after this period. The inter-occlusal **space was obtained by a combination of intrusion of the anterior teeth in contact with the cobalt-chromium appliance and eruption of the separated posterior teeth.**



2

RESTORATIVE

Composite Resins and Vertical Dimension

Treating Severely Worn Lower Incisors

David Clark, DDS

This is the third article of a topic-related series. Parts 1 and 2 of Dr. Clark's articles were published in the February 2012 and April 2012 issues of Dentistry Today *and can be found in our archived articles or on our digital edition at the Web site dentistrytoday.com.*

INTRODUCTION

Aging patients present unique challenges that require innovative solutions. Each patient treatment should be based on a multitude of factors. However, in the end, 2 simple questions should be posed to patients who have reached the twilight of their life, defy the odds, and live on; and on, and on. These are the 2 questions that I like to ask patients in their 80s and 90s:

• Mr. Smith, do you think that you will live or could live another 5 or 10 years?

reconstruction, or composite reconstruction. They chose the third, that of composite. While the treatment will not make the cover of any cosmetic dentistry journals, it is nonetheless a life changing treatment for this wonderful elderly gentleman.

This case presented 4 unique challenges:

Challenge 1:

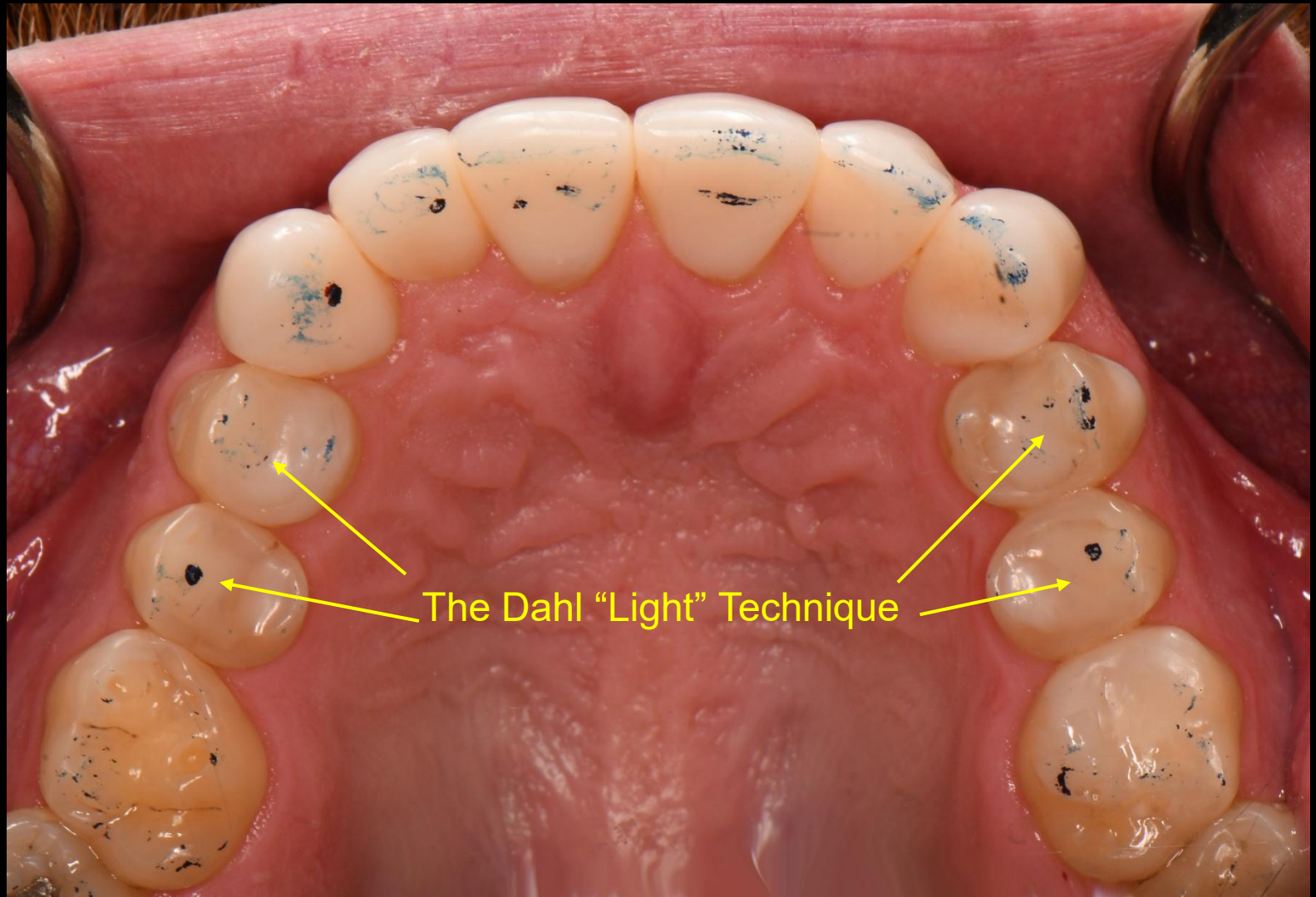
He Had Just Paid for a New Partial

Because James had lost an abutment tooth 2 years previously, he had finally consented to have me fabricate a new lower partial for him. The partial had an excellent fit, so I opted to modify it by increasing its vertical dimension. Instead of rebasing or replacing the partial, I opted for a more immediate solution (Figure 4). The denture teeth were quickly and carefully abraded with a coarse diamond. A universal adhesive (Scotchbond Universal [3M ESPE]) was applied to the surfaces, air-thinned

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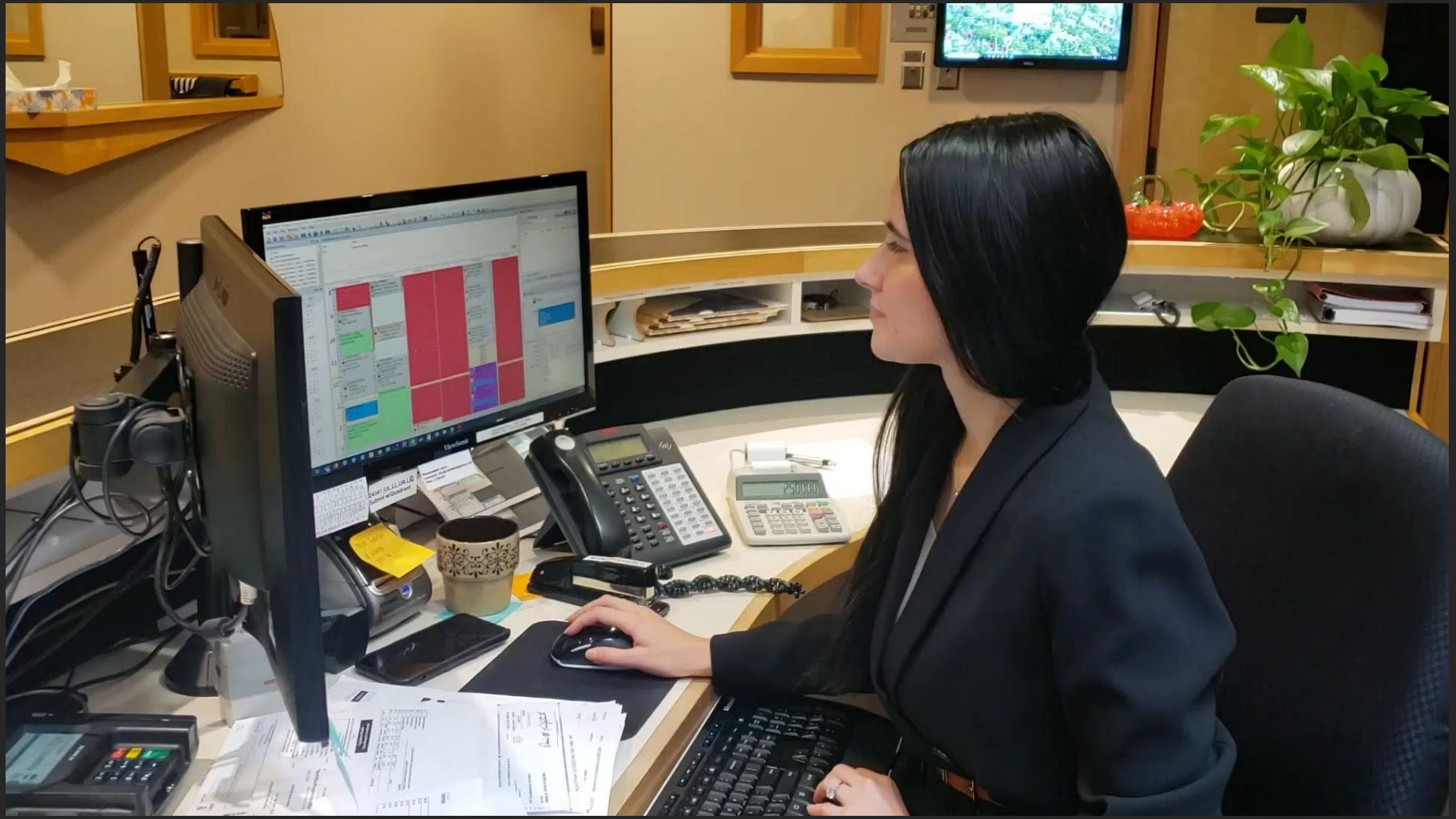
“The Dahl Light Technique”


The Dahl “Light” Technique





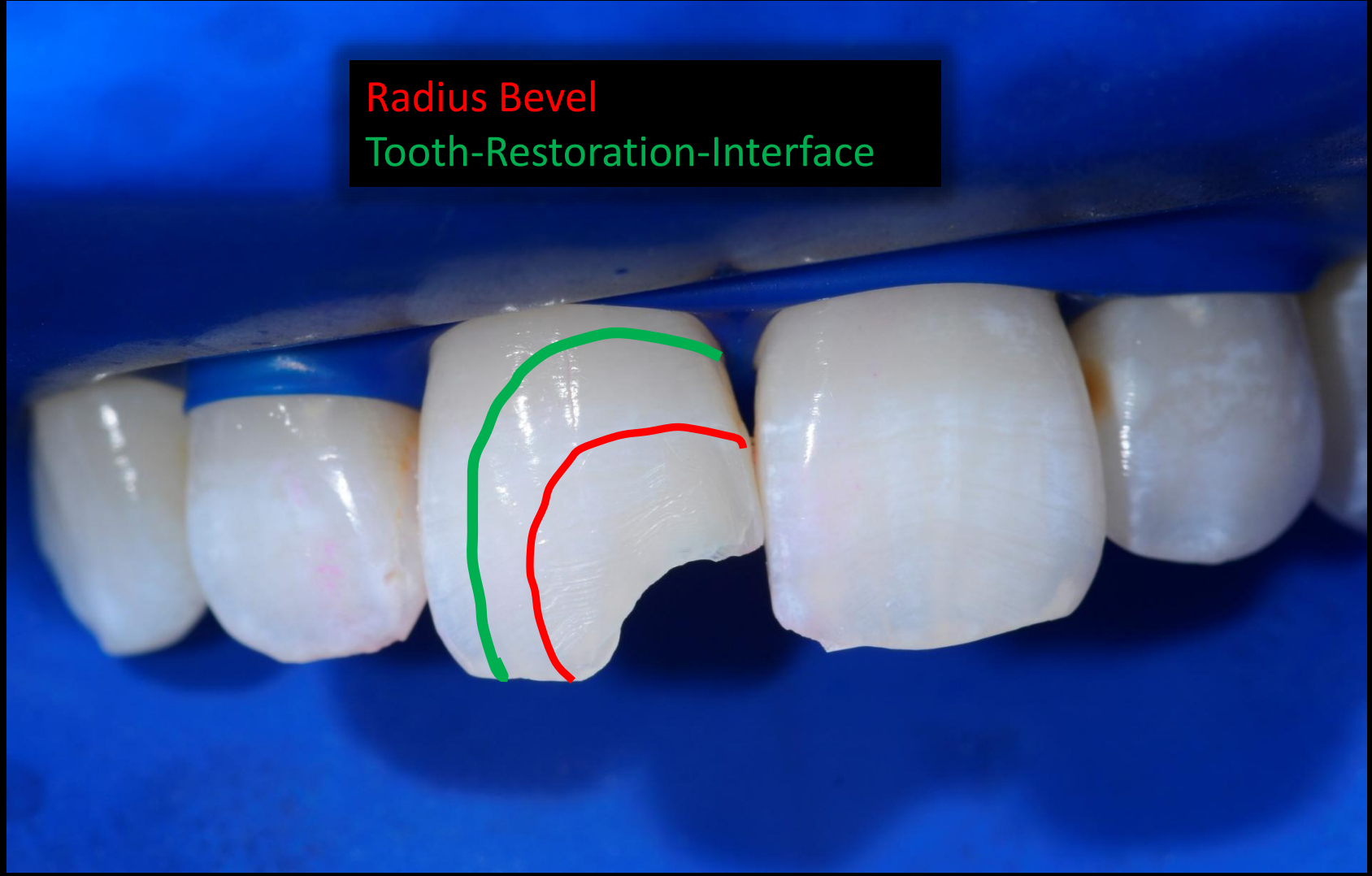
What is Liana’s biggest fear?





What is Liana’s biggest fear?




Radius Bevel
Tooth-Restoration-Interface












BIOCLEAR
Tooth & Surface Specific
TSS ANTERIOR MATRIX SYSTEM

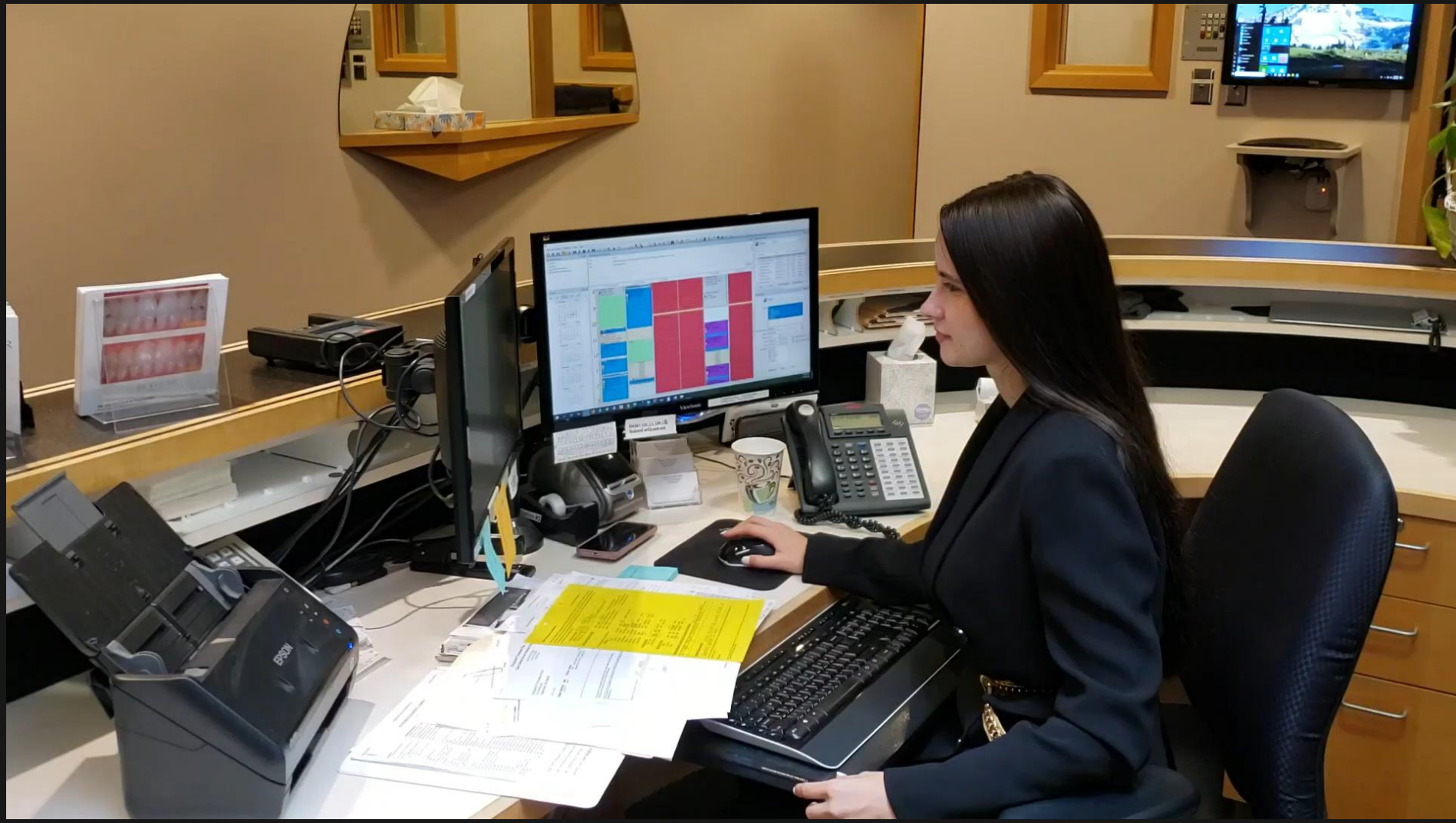








The Bioclear Restoration creates adequate non-layered poly-chromaticity with Majesty ES **Body** shade (Classic)

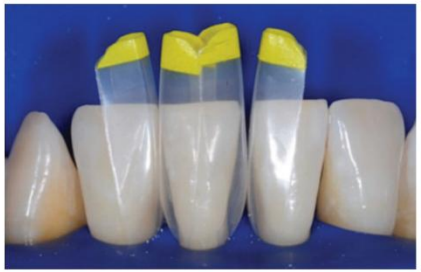

EPSON



Getting paid to be conservative

BIOCLEAR VS. CROWNS AND VENEERS

Bioclear is an alternative to traditional dental methods for enhancing a smile. Rather than grinding down a tooth to prepare for a crown or veneer, the Bioclear Method of ensconcing the natural tooth structure retains the natural tooth enamel and tooth durability.



BIOCLEAR PREPARATION
Bioclear allows dentists to **conserve** healthy tooth structure



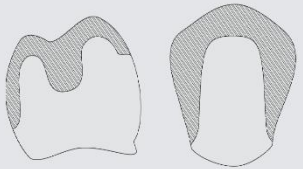
CROWN PREPARATION
Crowns require dentists to **remove an average of 76%** of the tooth structure prior to the procedure



VENEER PREPARATION
Veneers require dentists to **remove an average of 47%** of the tooth structure prior to the procedure

AN HONEST LOOK AT CROWN PREPARATIONS

As illustrated below, crowns, veneers, and onlays require the removal of a significant amount of healthy tooth structure. Bioclear dentists can leave most or all of the tooth structure. Bioclear is a very attractive option to patients.



~3/4 Crown
47% of tooth removed

Full Crown
76% of tooth removed

Tooth removed
Remaining tooth

Rejuvenate your smile with the better-looking, longer-lasting, less-invasive approach to dental restorations

The Bioclear Method is an approach to cosmetic and restorative dentistry that is used in lieu of traditional fillings, bonding, or veneers. Bioclear lasts longer than traditional composites, porcelain, or amalgams. It looks better too, with a more natural and consistent finish.

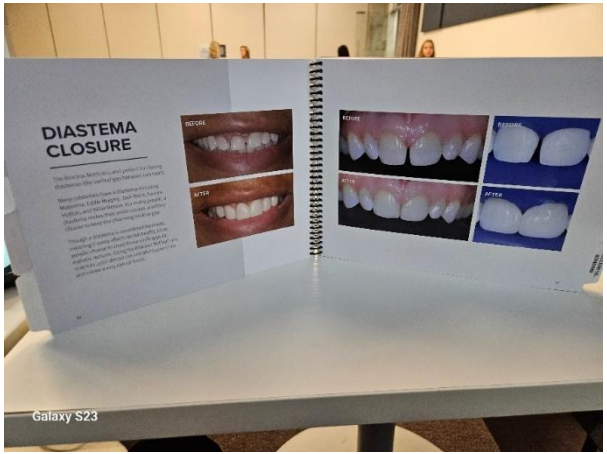
Brigette

Full Bioclear rejuvenation including black triangle elimination, instant ortho correction, replaced biting edge with a smooth flowing arc. Same day results pictured.



REQUEST AN APPOINTMENT →




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BEFORE
AFTER
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REJUVENATE.
CONSERVE.
PROTECT.
The Bioclear Method—expanding
the possibilities of dentistry
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Tacoma WA 98409
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REJUVENATE.
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PROTECT.
BIOCLEAR
Galaxy S23

The Matrix and Method Matter



Bioclear Method



Counterfeit Bioclear

Bioclear Method versus “Bonding”





BIOCLEAR

Recommended Bioclear Matrices by Indication

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



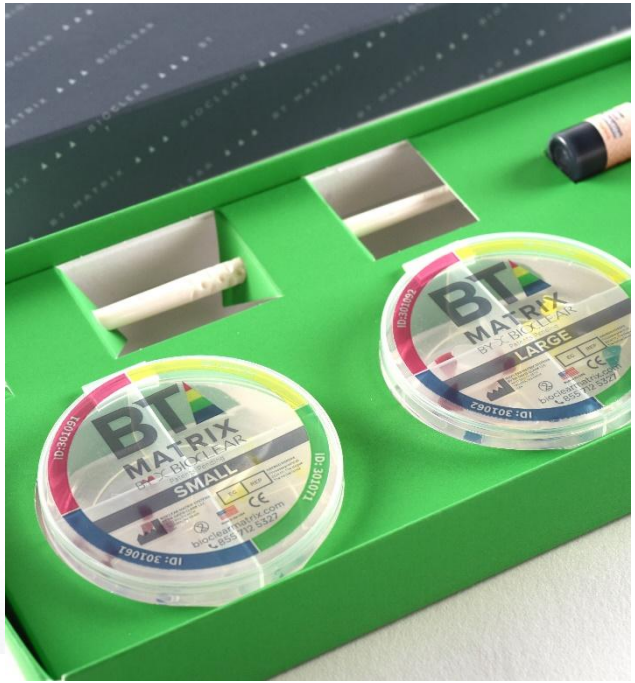


360 Veneer

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

BT MATRIX BY BIOCLEAR













What are Erica’s chief complaints?



- Injection Overmolding can fix almost everything if you follow the method



- Take photos from a lateral view. The patient doesn't see this (but everyone else in the room does)














- Gauge the triangle space ***before*** the rubber dam














- “Aquarium” matrices and “Shield” matrices








Acid etch like
an Invisalign
button

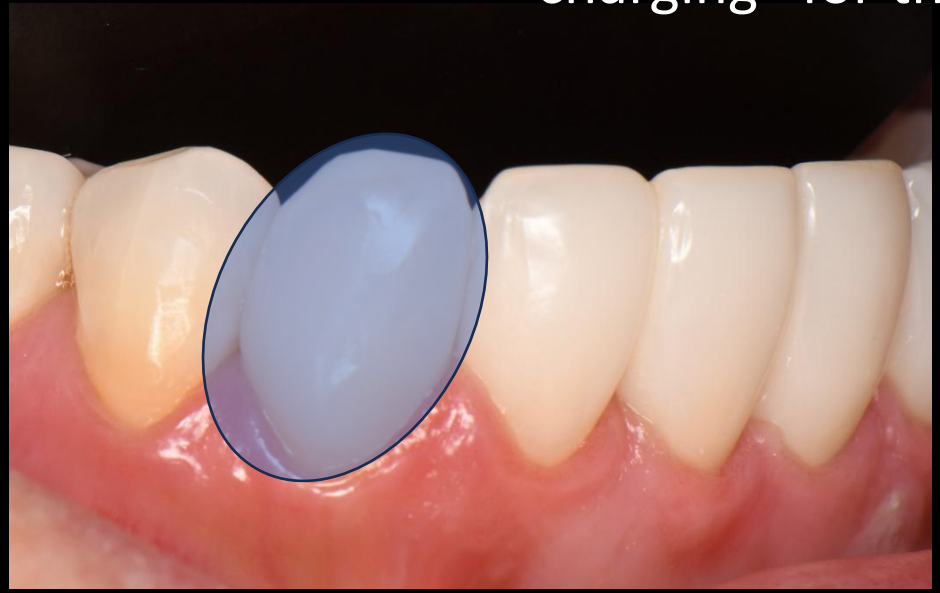

The temporary
“flowable
clamp”

If you are doing more than one BT, consider overmolding the entire tooth, even when we are not “charging” for that triangle area





If you are doing more than one BT, consider overmolding the entire tooth, even when we are not “charging” for that triangle area





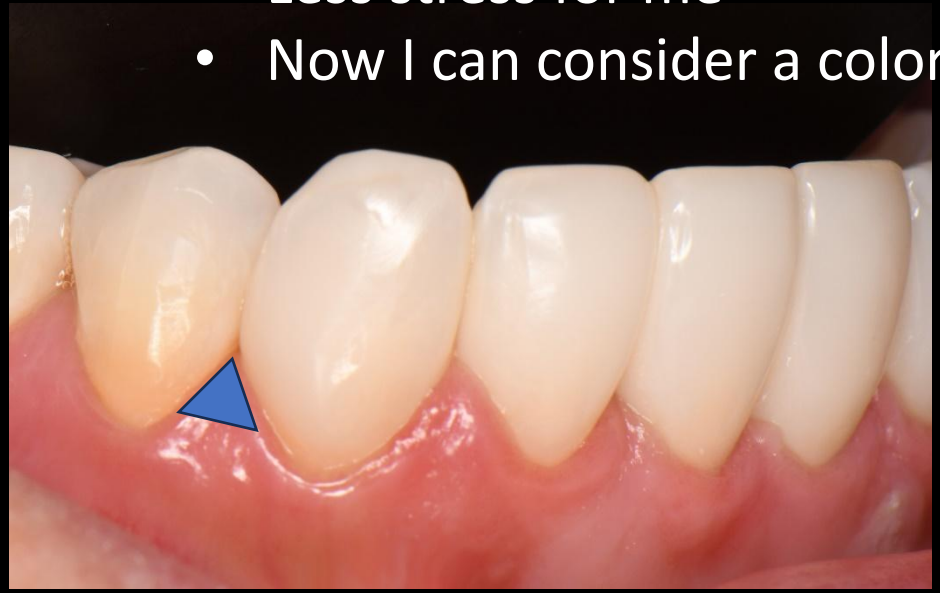
If you are doing more than one BT, consider overmolding the entire tooth, even when we are not “charging” for that triangle area





Why cover the WST (Whole Stinking Tooth)

- Easier than marginating
- Less stress for me
- Now I can consider a color upgrade





CLINIC

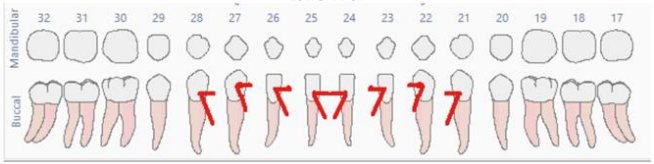
3402 South 38th Street, Tacoma, WA 98409
O: 253-474-7635 E: Patient@BioclearClinic.com

Date: 03-08-2021

Patient Name: Erica [redacted]
Consultation Date: 03-08-2021
Treating Doctor: David Clark



Lower Arch



Appointment time required to complete treatment One Day: 7am to 4pm with 10 day follow appointment.

- **Lunch and Breaks:** We provide a protein liquid drink for lunch. Be sure to eat breakfast prior to appointment. You will receive breaks to rest your jaw and use restroom.
- **Night Guard:** To protect your Bioclear restorations. Requirement for 5 yr. warranty of restoration. REFERRED: Night guard to be fabricated by your local dental provider.
- **Whitening Tray Options**: 1 Kit: (Kit include: custom upper and lower trays and bleach) Following Bioclear restoration placement for take home maintenance. Cost: **$250**

Tooth #	Description	Fee
Comprehensive Evaluation: complete oral evaluation, color, size determination, photos.		
•	**Bioclear Comprehensive Evaluation**	**$289**

Bioclear Black Triangle:  To close negative space between teeth and rejuvenate tooth to youthful appearance. **Tooth # 21/22, 22/23, 23/24, 24/25, 25/26, 26/27 Bioclear Black Triangle Closure Multiple $1,200 per Bioclear Black Triangle Closure.**

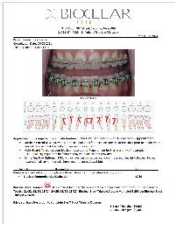
Erica, you have the option to complete 5 or 7 Black Triangle Closures.

- **Lunch and Breaks:** We provide a protein liquid drink for lunch. Be sure to eat breakfast prior to appointment. You will receive breaks to rest your jaw and use restroom.
- **Night Guard:** To protect your Bioclear restorations. Requirement for 5 yr. warranty of restoration. REFERRED: Night guard to be fabricated by your local dental provider.
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Erica, you have the option to complete 5 or 7 Black Triangle Closures.



5 Black Triangles @ $1,450 each = $7,250
7 Black Triangles @ $1,450 each = $10,150







Pre-Operative



1-Year Post-Operative



Pre-Operative



1-Year Post-Operative



Pre-Operative



1-Year Post-Operative



Key Takeaways from Erica's case:

- Use a shield matrix or shield matrices when possible
- What's a shield matrix?
- What are aquarium matrices?
- Doing the whole tooth is easier than half a tooth
- The "flowable clamp" for anterior rubber dams
- Use very small hole punch on your rubber dam





Pre-Operative



1-Year Post-Operative



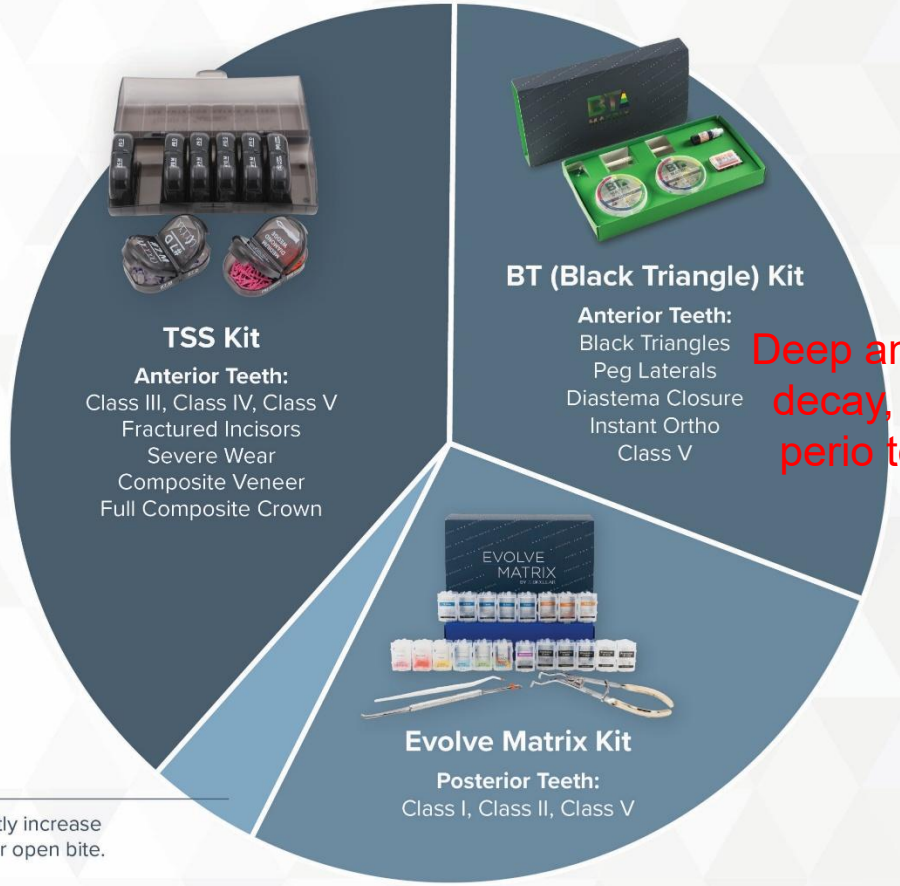
BIOCLEAR

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Bioclear Matrix Systems

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Deep anterior decay, long perio teeth

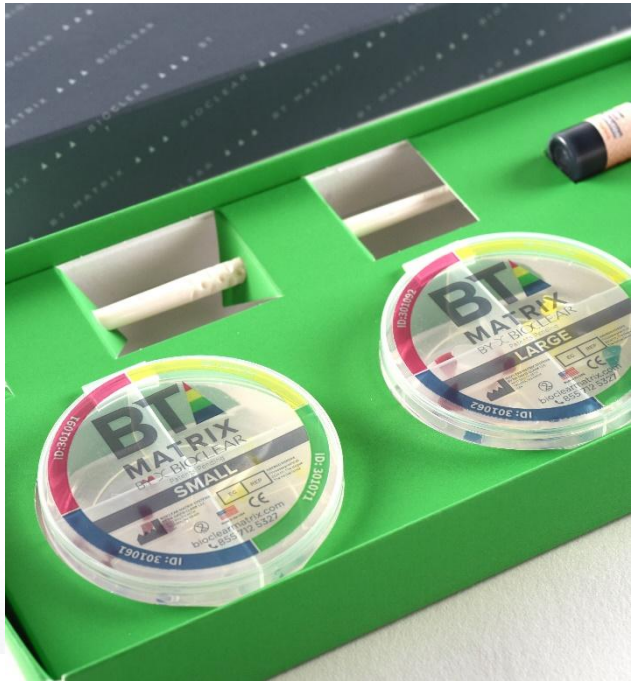


360 Veneer

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

BT MATRIX BY BIOCLEAR











CLEARFIL™

Recommended for Bioclear Injection Molded Composites



DENTAL BONDING AGENTS
CLEARFIL™ Universal Bond Quick 2



DENTAL LIGHT-CURED RESTORATIVE COMPOSITE
CLEARFIL MAJESTY™ ES Flow



DENTAL LIGHT-CURED RESTORATIVE COMPOSITE
CLEARFIL MAJESTY™ ES-2
Classic
(Body Shades)

RESEARCH ARTICLE

Color stability and surface roughness of novel single-shade universal composite resins exposed to staining solutions: an in vitro study

Malin Janson[1] · Anja Liebermann[1] · Christoph Matthias Schoppmeier[2]

Received: 26 March 2025 / Accepted: 29 June 2025 / Published online: 15 July 2025
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Abstract

This study investigated the color stability and surface roughness of three novel single-shade universal composites after exposure to common staining solutions. A total of 120 specimens (n = 40 per composite) were fabricated from Transcend Universal Composite (TRA), Ecosite One (ECO), and Clearfil Majesty ES-2 Universal (CLA). Specimens were stored at 37 °C in four different staining solutions (artificial saliva, coffee, red wine, matcha tea). Color changes (ΔE_{00}) were assessed at five time points using the eLAB system, and surface roughness (Sa, Sz) was analyzed via 3D laser scanning microscopy. Statistical analysis was performed using a linear mixed model and post-hoc test (Tukey) ($p < 0.05$). Composite type, staining solution, and exposure duration significantly affected discoloration ($p < 0.001$). Red wine induced the most pronounced color change (ECO: $\Delta E_{00} = 38.9 \pm 1.56$), while coffee and matcha tea caused similar discoloration ($p = 0.164$). TRA showed the greatest surface roughness increase; no correlation with color change was observed. The color stability of single-shade composites is influenced by resin matrix composition and staining agent exposure. Tri-modal or nanohybrid composites showed greater color stability than the micro hybrid composite. Surface roughness did not impact discoloration susceptibility.

Keywords Single-shade universal composites · Color stability · eLAB system · Staining solutions · Surface roughness

1 Introduction

The long-term color stability of restorative materials is a critical factor in esthetic reconstructive dentistry, as it significantly impacts both the durability and visual longevity of restorations (Paravina et al. 2015). Among the various restorative materials, resin-based composites must withstand continuous exposure to chromogenic substances found in foods, beverages, and saliva, which can compromise their optical and mechanical integrity over time (Checchi et al. 2024; Catelan et al. 2011; Kochman et al. 2020). Multi-shade composites traditionally achieve esthetic outcomes through stratified layering and customized pigmentation techniques (Chen et al. 2024; Ersöz et al. 2022). While effective, these procedures are time-consuming, technique-sensitive, and require a wide inventory of materials. Single-shade universal composites have been developed to overcome these limitations, offering simplified color selection while maintaining essential aesthetic and functional properties such as strength, durability, and adaptability (Leal et al. 2024). The primary advantage of these materials lies in their dynamic color adjustment. The chameleon effect enables a harmonious integration into the tooth structure by scattering and

Clinical significance The susceptibility of single-shade universal composites to discoloration varies with material composition and staining exposure, emphasizing the need for careful selection in esthetic restorations. Clinicians should consider material-dependent color stability, particularly in patients who frequently consume highly pigmented beverages.

✉ Malin Janson
malin.janson@uk-koeln.de
Anja Liebermann
anja.liebermann@uk-koeln.de
Christoph Matthias Schoppmeier
christoph.schoppmeier@uk-koeln.de

[1] Department of Prosthetic Dentistry, University of Cologne, Faculty of Medicine and University Hospital Cologne, Kerpener Str. 32, 50931 Cologne, Germany

[2] Polyclinic for Operative Dentistry and Periodontology, University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany

v;49(4):e33
2024.49.e33

Restorative Dentistry & Endodontics RDE

Effects of different curing methods on the color stability of composite resins

Massimo Pisano, Alfredo Iandolo, Dina Abdellatif, Andrea Chiacchio, Marzio Galdi, Stefano Martina

Department of Medicine, Surgery and Dentistry 'Scuola Medica Salernitana', University of Salerno, Baronissi, Italy

ABSTRACT

Objectives: The aim of this study was to compare the effects of different polymerization strategies and the effectiveness of finishing and polishing procedures of composite resins on color stability.

Materials and Methods: The samples were divided into 4 main groups according to the polymerization strategy, and all groups except the control group received surface treatment. Each group was subsequently divided into 3 subgroups respectively: Kuraray Clearfil Majesty ES-2 Classic, Premium and Universal. Approximately 24 hours after preparation of the samples, they were immersed for 7 days in a coffee solution. A first color measurement was performed after the preparation of the samples, the second measurement was performed after 7 days in the coffee solution. All measurements were carried out using a dental spectrophotometer to assess the CIE L^* a^* b^* color parameters.

Results: There was a statistically significant difference between ΔE values for different procedures ($p = 0.003$); in particular, the differences were found only between the groups that received surface treatment and the control group. In addition, a statistically significant difference was observed between the values of ΔE for different composites in the different procedure groups.

Conclusions: Spectrophotometric analysis showed that the additional photopolymerization and oxygen inhibition procedures did not yield better results in relation to color stability. In addition, finishing and polishing provided better color stability compared to not performing these procedures.

Keywords: Coffee; Color stability; Dental materials; Photopolymerization; Pigment drink; Restorative dentistry

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Original article

Discoloration of flowable and universal resin composites immersed in black tea for 30 days

Ayaka Hori-Ishikawa, Yuka Ogawa, Ayako Okada, Nana Sakaeda, Daichi Aizawa, Masao Hanabusa, Kaoru Ohmori, Takatsugu Yamamoto

Department of Operative Dentistry, Tsurumi University School of Dental Medicine, Yokohama, Japan

Abstract

Purpose: This study evaluated the discoloration of current flowable and universal resin composites by immersing in black tea over 30 days.

Materials and Methods: Three flowable resin composites and three universal resin composites were evaluated. The composites were inserted into a disk-shaped stainless steel mold and properly cured. The surfaces of the composite disks were wet-ground and ultrasonically cleaned. Colors – L^*, a^*, and b^* were measured at the center of disks on a gray background using a spectrophotometer. The disks were immersed in black tea at 37°C for 30 days, and the colors were repeatedly measured at 1, 3, 5, and 30 days of immersion. Color differences ΔE^*ab were calculated from the L^*, a^*, and b^* values. Water sorption and solubility of the composites were also measured as per ISO 4049. The results were statistically analyzed, and regression analyses were done between ΔE^*ab and ΔL^*, Δa^*, Δb^* or sorption/solubility.

Results: All the composites showed observable increases of ΔE^*ab within the first 5 days of immersion. Values of ΔE^*ab ranged from 0.64 to 4.97, and three composites exhibited values above the clinically acceptable value, 3.3. ΔL^* and Δb^* revealed strong correlations with ΔE^*ab. Both water sorption and solubility had positive correlations with ΔE^*ab at 30 days.

Conclusion: Tea immersion induced discoloration of the current resin composites. This discoloration was affected most by the change in brightness and difference in its blue-yellow chromaticity, and the level of discoloration was material dependent.

(Asian Pac J Dent 2020; 20: 9-15.)

Key Words: discoloration, flowable composite, solubility, tea, universal composite, water sorption

Introduction

Adhesive restoration is a conventional technique for the reconstruction of tooth structure lost to dental caries/fracture. Among the adhesive restorative materials, resin composites have wide ranges of clinical applications including direct restorations, core build-ups, and luting of indirect restoratives. Light-cured resin composites, in particular, are essential for direct restorations for of their adhesiveness, mechanical and esthetic properties [1]. Resin composites first began to be supplied in the form of pastes (hereinafter referred to as universal resin composite). Subsequent compositional alterations have produced less viscous resin composites, known as flowable resin composites since 1996 [2]. Flowable composites are dispensed by a syringe through a needle tip, achieving easy handling for filling relatively small cavities or cavities with large undercuts [3,4].

Initially, flowable composites contained hybrid-type fillers that were considerably larger than the current fillers [2]. The filler content was low with approximately 25 wt% to attain sufficient flowability of the composites, making their mechanical properties inferior to those of universal resin composites. Hence, flowable composites were mainly used for small cavities or as cavity liners [2,5]. Subsequent developments in filler technology; i.e., surface treatments and the dispersion techniques produced much smaller fillers [6], which improved the mechanical properties of composites. In addition, viscosity of composites became controllable due to filler/monomer technology. The flowable composites became applicable in occlusal load bearing areas and allowed for contouring the anatomical forms under the direct syringe application. With such improvements, clinical usage of flowable composites have increased in present day [7].

As described earlier, low viscosity is an advantage of the flowable composites. Flowability is controlled by the compounding base resins. The major monomer is bisphenol A-glycidyl methacrylate (Bis-GMA) for current composites due to its mechanical strengths. However, as Bis-GMA is too viscous to use alone in composite in terms of manipulation, other monomers such as urethane dimethacrylate (UDMA) and triethylene glycol dimethacrylate (TEGDMA), and certain diluents are compounded to adjust the viscosity [6,8]. Different base resins are frequently utilized in flowable and universal grades have investigated discoloration of resin composites [7,9-11].

The Effects of Fresh Detox Juices on Color Stability and Roughness of Resin-Based Composites

İhsan Yikilgan, DDS, PhD,[1] Sinem Akgul, DDS, PhD,[1] Ahmet Hazar, DDS, PhD,[2] Cemile Kedıcı Alp, DDS, PhD,[1] Serdar Baglar, DDS, PhD,[3] & Oya Bala, DDS, PhD[1]

[1]Department of Restorative Dentistry, Faculty of Dentistry, Gazi University, Ankara, Turkey
[2]Department of Restorative Dentistry, Faculty of Dentistry, Bulent Ecevit University, Zonguldak, Turkey
[3]Department of Restorative Dentistry, Faculty of Dentistry, Kırıkkale University, Kırıkkale, Turkey

Keywords
Color stability; fresh detox juices; resin-based composites; surface roughness.

Correspondence
İhsan Yikilgan, Faculty of Dentistry, Department of Restorative Dentistry, Gazi University, 06510 Emek, Ankara, Turkey.
E-mail: ihsanyikilgan@gazi.edu.tr

The authors declare no conflict of interest related to this study.

Accepted November 18, 2017

doi: 10.1111/jopr.12759

Abstract

Purpose: To evaluate the effects of three fresh detox juices, including an orange, green, and red beverage, on the color stability and surface roughness of three anterior esthetic resin-based composites (RBCs).

Materials and Methods: Disk-shaped specimens were prepared with three different esthetic RBCs (Amaris, G-aenial Anterior, Clearfil Majesty ES-2) according to the manufacturers' instructions. Forty specimens were prepared for each RBC, and all specimens were stored in artificial saliva at 37°C for 24 hours. The initial color values and surface roughness measurements of the specimens were taken using a spectrophotometer and a profilometer. The specimens were then divided into 4 subgroups (n = 10). All specimens except the control specimens were immersed in their designated fresh detox juices (green, red, or orange) for 10 minutes twice a day. Color and surface roughness measurements were taken on day 15 and day 30, and the results were analyzed by one-way ANOVA and Tukey HSD test. The association between color change and surface roughness was evaluated by Spearman's Rank Correlation analysis.

Results: Color changes and surface roughness increased upon exposure to fresh detox juices for 15 and 30 days for all of the RBCs. All of the G-aenial and Amaris groups displayed color changes above the threshold of acceptability, whereas Clearfil Majesty ES-2 displayed a color change above the threshold of acceptability only after exposure to the red beverage for 30 days ($\Delta E > 3.7$). With regard to surface roughness, Clearfil Majesty ES-2 outperformed the other RBCs ($p < 0.001$). According to Spearman's Rank Correlation analysis, there was no correlation between color change and surface roughness ($p > 0.001$).

Conclusions: Exposure to the fresh detox juices used in this study led to similar color changes in the RBCs used in this study.

Resin-based composites (RBC) are highly popular in restorative dentistry, but, as for the use of any restorative material, clinical failures are unavoidable. It has been reported that the reasons for replacing composite restorations include secondary/recurrent caries, marginal discoloration, bulk discoloration, marginal/bulk fracture of the restoration, fracture of tooth, and pain or sensitivity.[1] Unacceptable color change is the primary reason for replacing RBC restorations in anterior teeth.[2,3] Color change certainly occurs in restorative materials, but it is the degree of the color change that is important. Because small color changes in restorative materials are largely undetectable by the human eye, restoration replacement is not required for materials that display small color changes, but, for anterior teeth, when the color harmony between the restoration and the dental tissues deteriorates, replacement of the restoration is inevitable.

Different factors affect discoloration of RBCs by three basic mechanisms: intrinsic discoloration, surface/subsurface degradation, and extrinsic discoloration. Intrinsic discoloration is defined as the discoloration of materials independent of external factors. The chemical structure of the material, including the type of monomer, the filler size, and the distribution, as well as the degree of conversion and the physicochemical reactions of the material in the body affect intrinsic discoloration.[1,4] Surface/subsurface degradation occurs when staining agents react with superficial composite layers. A rough restoration surface, bad oral hygiene, and surface staining by consuming colored foods and beverage may cause extrinsic discoloration.[5-12]









Color Stability Results for **Flowables:**

Original article

Discoloration of flowable and universal resin composites immersed in black tea for 30 days

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(Asian Pac J Dent 2020; 20: 9-15.)

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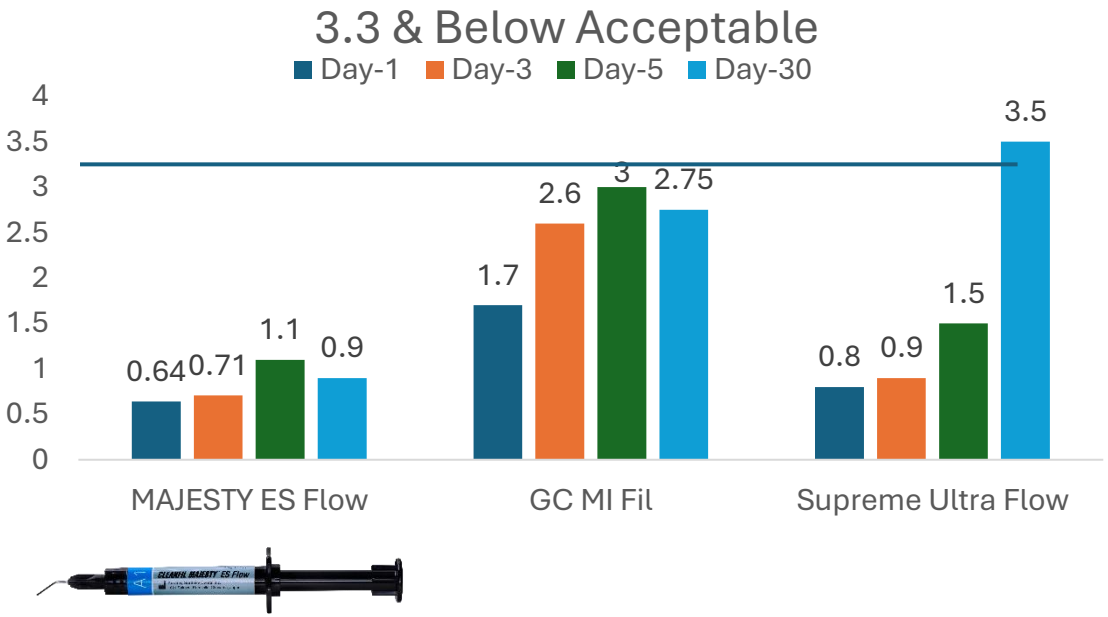
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ΔE ab (Value & Chroma Changes)



Re: Discoloration: **"CLEARFIL MAJESTY ES Flow showed the lowest means at every interval of measurement"**

Color Stability Results for **Packable Universal Shades**:

Original article

Discoloration of flowable and universal resin composites immersed in black tea for 30 days

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Conclusion: Tea immersion induced discoloration of the current resin composites. This discoloration was affected most by the change in brightness and difference in its blue-yellow chromaticity, and the level of discoloration was material dependent.

(Asian Pac J Dent 2020; 20: 9-15.)

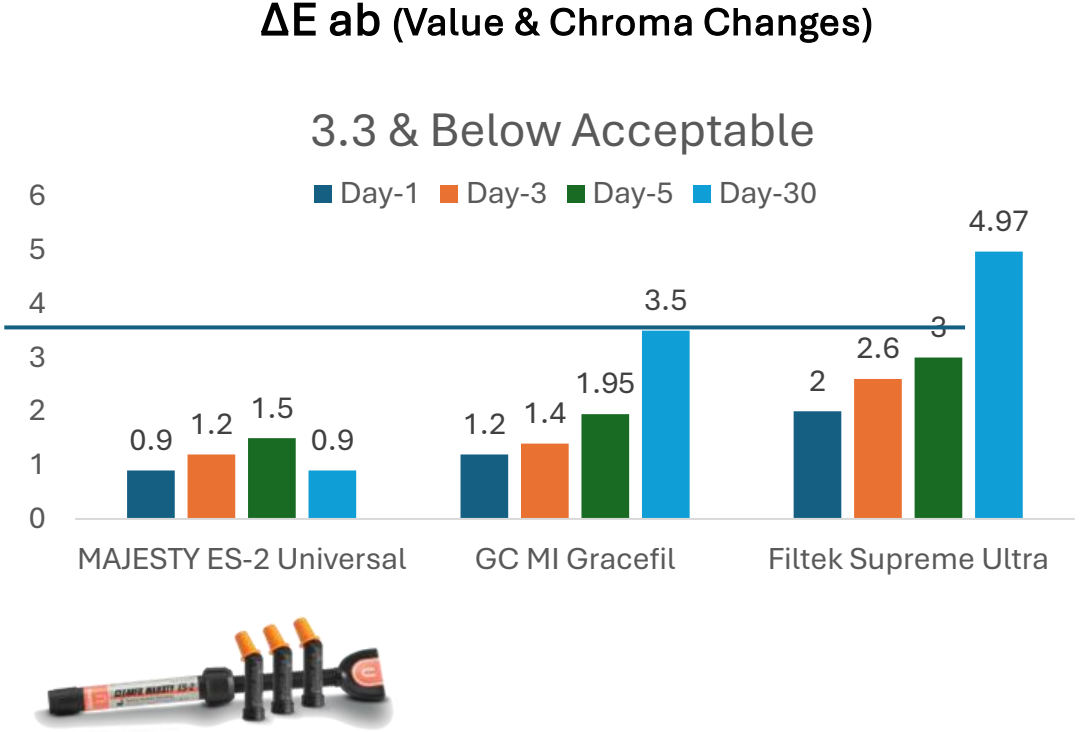
Key Words: discoloration, flowable composite, solubility, tea, universal composite, water sorption

Introduction

Adhesive restoration is a conventional technique for the reconstruction of tooth structure lost to dental caries/fracture. Among the adhesive restorative materials, resin composites have wide ranges of clinical applications including direct restorations, core build-ups, and luting of indirect restoratives. Light-cured resin composites, in particular, are essential for direct restorations for of their adhesiveness, mechanical and esthetic properties [1]. Resin composites first began to be supplied in the form of pastes (hereinafter referred to as universal resin composite). Subsequent compositional alterations have produced less viscous resin composites, known as flowable resin composites since 1996 [2]. Flowable composites are dispensed by a syringe through a needle tip, achieving easy handling for filling relatively small cavities or cavities with large undercuts [3,4].

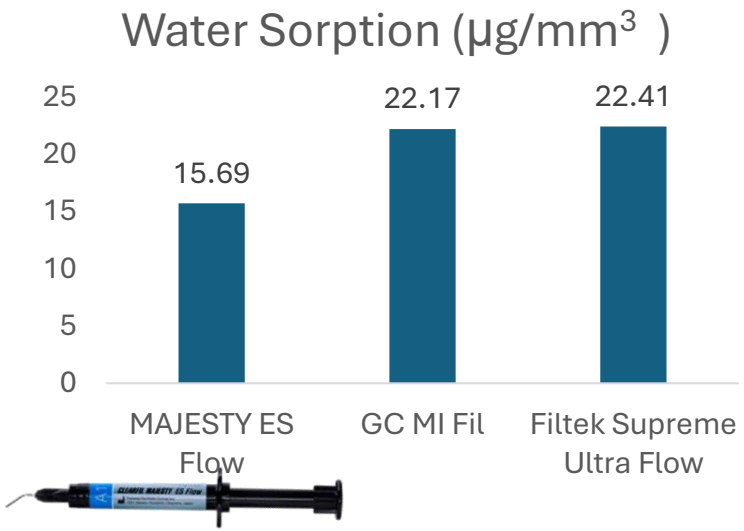
Initially, flowable composites contained hybrid-type fillers that were considerably larger than the current fillers [2]. The filler content was low with approximately 25 wt% to attain sufficient flowability of the composites, making their mechanical properties inferior to those of universal resin composites. Hence, flowable composites were mainly used for small cavities or as cavity liners [2,5]. Subsequent developments in filler technology, i.e., surface treatments and the dispersion techniques produced much smaller fillers [6], which improved the mechanical properties of composites. In addition, viscosity of composites became controllable due to filler/monomer technology. The flowable composites became applicable in occlusal load bearing areas and allowed for contouring the anatomical forms under the direct syringe application. With such improvements, clinical usage of flowable composites have increased in present day [7].

As described earlier, low viscosity is an advantage of the flowable composites. Flowability is controlled by the compounding base resins. The major monomer is bisphenol A-glycidyl methacrylate (Bis-GMA) for current composites due to its mechanical strengths. However, as Bis-GMA is too viscous to use alone in composite in terms of manipulation, other monomers such as urethane dimethacrylate (UDMA) and triethylene glycol dimethacrylate (TEGDMA), and certain [illegible] are compounded to adjust the viscosity [6,8]. Different base resins are frequently utilized in flowable and [illegible] Several studies have investigated discoloration of resin composites [7,9-[illegible]] [10-13].

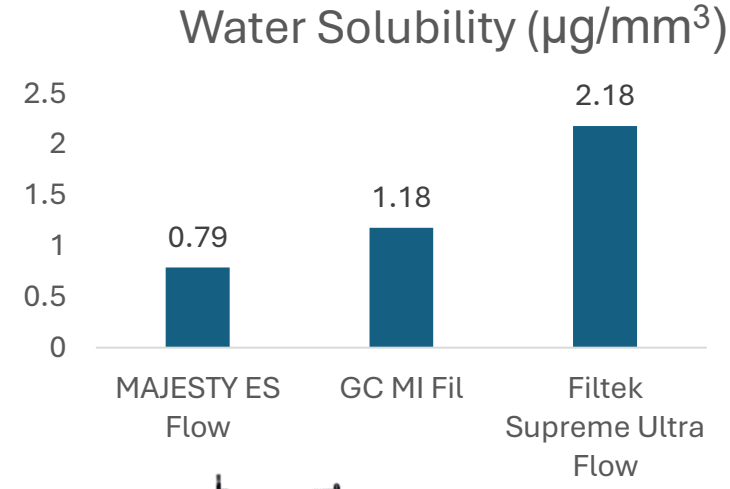


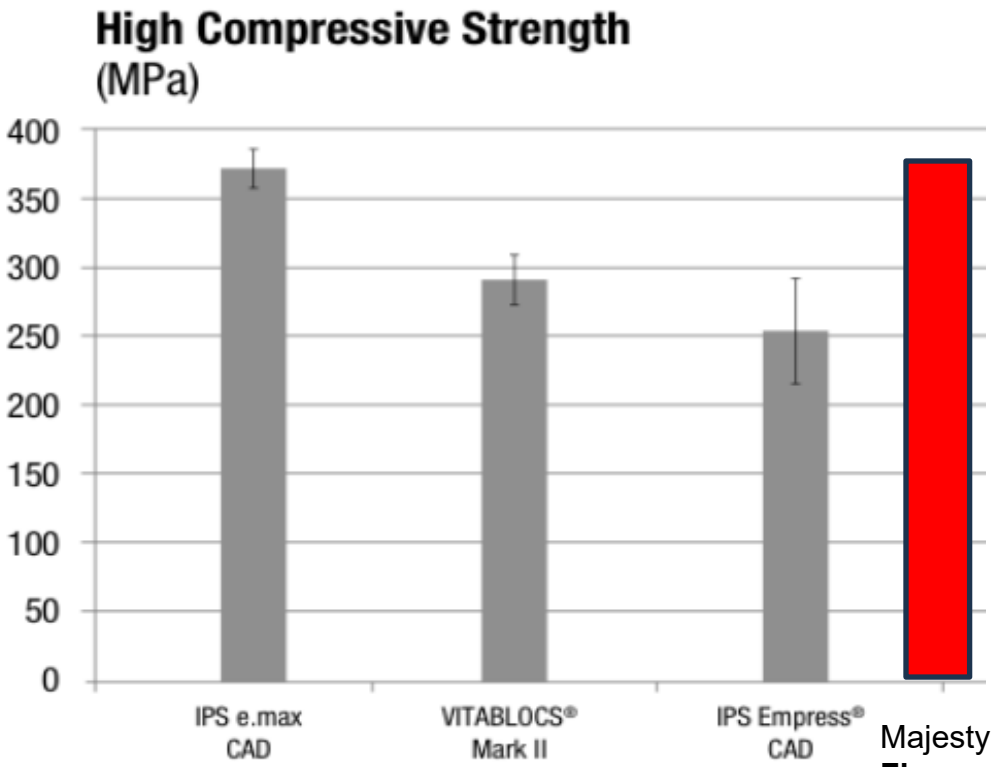
Water Sorption & Solubility:

Water Sorption W_{sp} (Flowables)

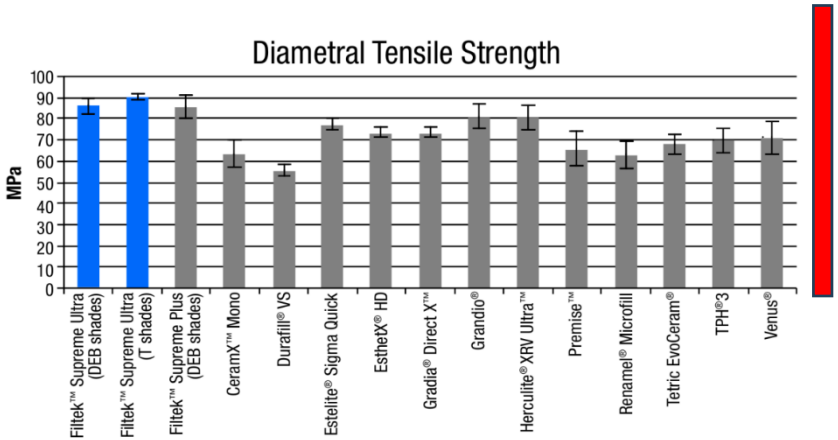


Water Solubility W_{sl} (Flowables)

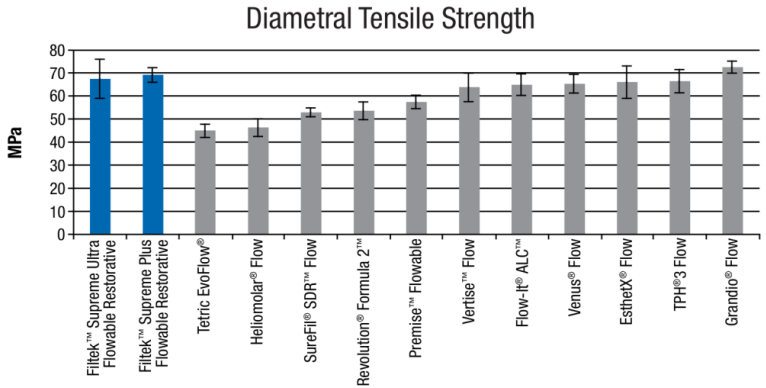



High Compressive Strength
(MPa)
400
350
300
250
200
150
100
50
0
IPS e.max CAD
VITABLOCS® Mark II
IPS Empress® CAD
Majesty ES
Flow
(373mp)

Composites



Flowables



Majesty
ES Flow
(148mp)

As I see it: The race is on!

We will see porcelain performance from composite (color and polish retention)

As I see it: The race is on!

We are moving away from hand manipulated paste composite and color unstable composite (Filtek Supreme Ultra) toward color-stable and injectable "Super Flowables" (Kuraray)

Doing amazing Anterior Injection Molded restorations using injection molding of heated multi-viscosity composite is significantly easier than old fashioned “bonding”

But it still requires:

- Discipline
- Time
- Magnification
- Ideal rubber dam
- No shortcuts…follow the recipe

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Bioclear Matrix Systems

1-855-712-5327



360 Veneer

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

TSS

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

75 Wedges
25 Small Wedges
50 Medium Wedges

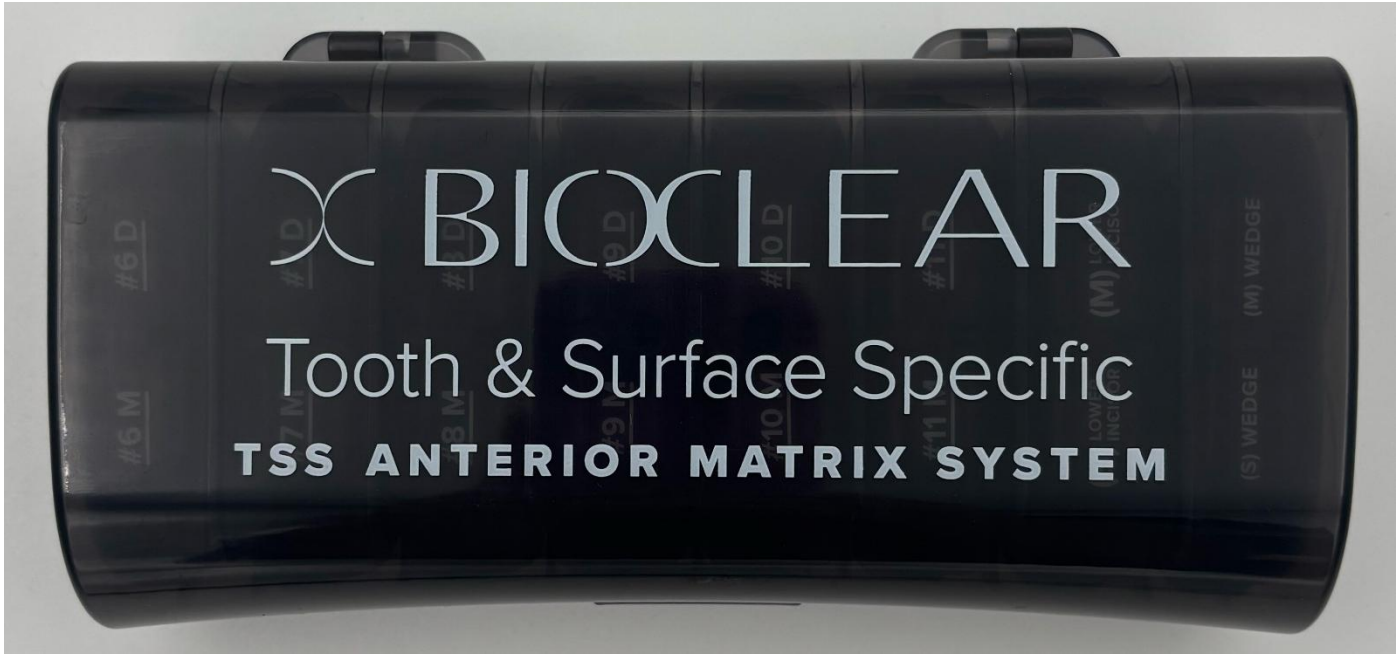
The next generation of anterior matrices:
We're taking the guesswork out of to matrix selection



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The TSS system is for small and large anterior restorations, broken teeth and anterior esthetic veneering when you DO NOT have a black triangle or diastema



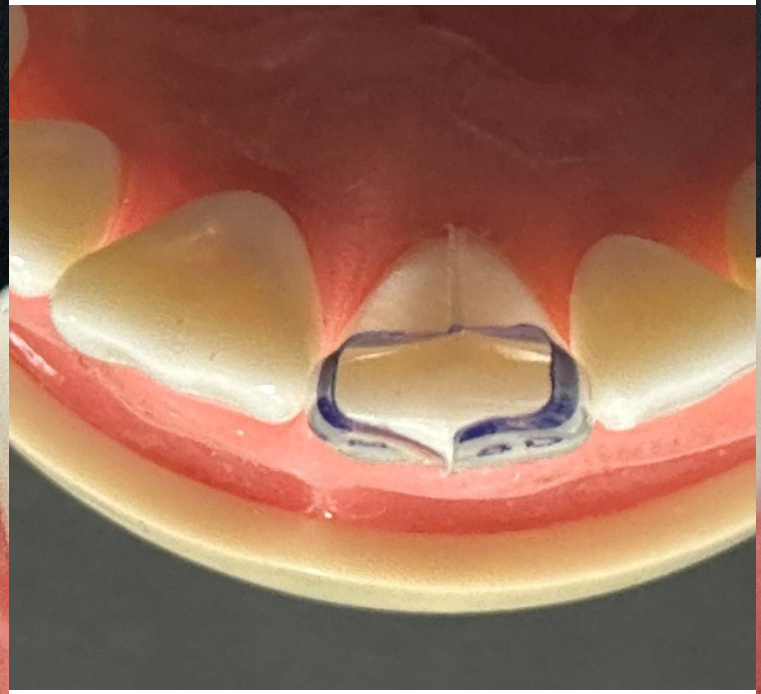

#6 M
#6 D
#7 M
#7 D
#8 M
#8 D
#9 M
#9 D
#10 M
#10 D
#11 M
#11 D
(S) LOWER INCISOR
(M) LOWER INCISOR
(S) WEDGE
(M) WEDGE
BIOCLEAR
Tooth & Surface Specific
TSS ANTERIOR MATRIX SYSTEM

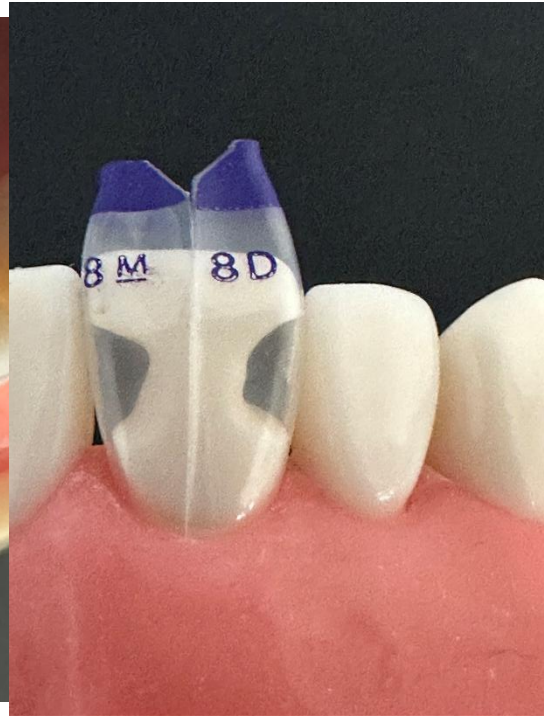

#6 M
#6 D
#7 M
#7 D
#9 M
#9 D
#10 M
#10 D
#11 M
#11 D
#8 D


#8 M
#8 D


#8 M
#8 D
SMALL DIAMOND WEDGE
(S) WEDGE
(M) WEDGE


M 8D




8 M 8D






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





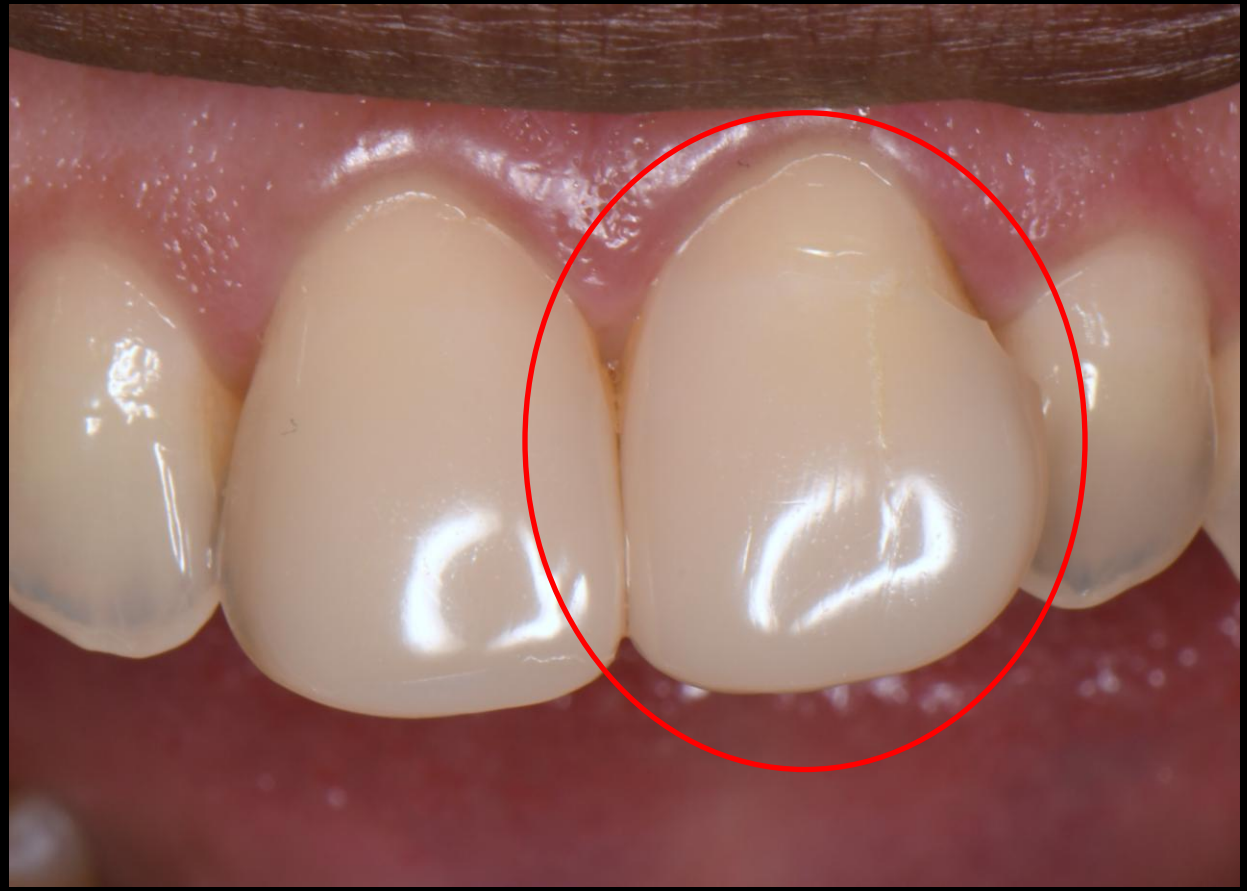



Khairul's regular dentist restored the tooth, but the patient was unhappy with the outcome. Khairul had two major complaints and one major concern:

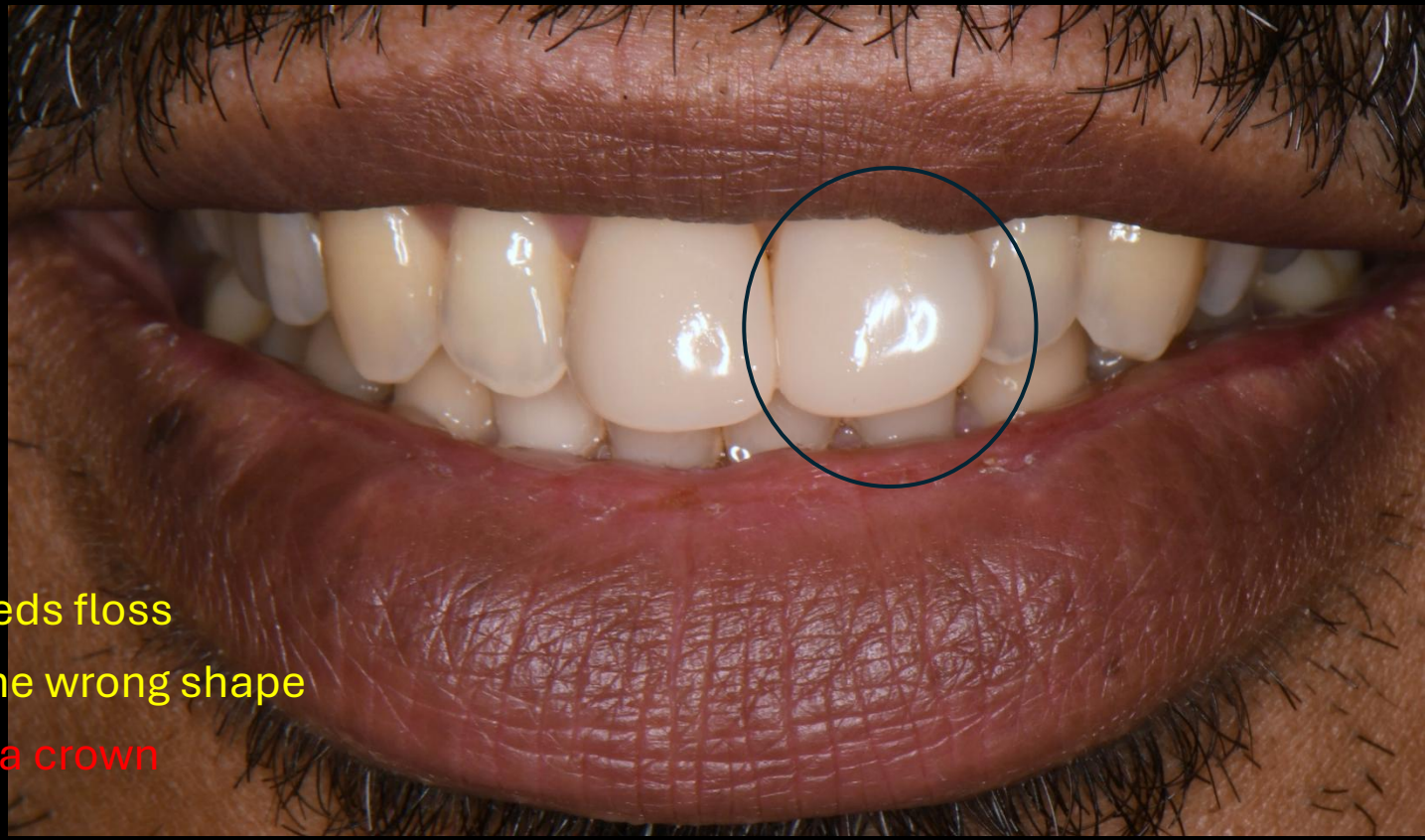
- The restoration shreds floss
- The restoration is the wrong shape
- He does NOT want a crown



Pre-Operative View







- The restoration shreds floss
- The restoration is the wrong shape
- He does NOT want a crown

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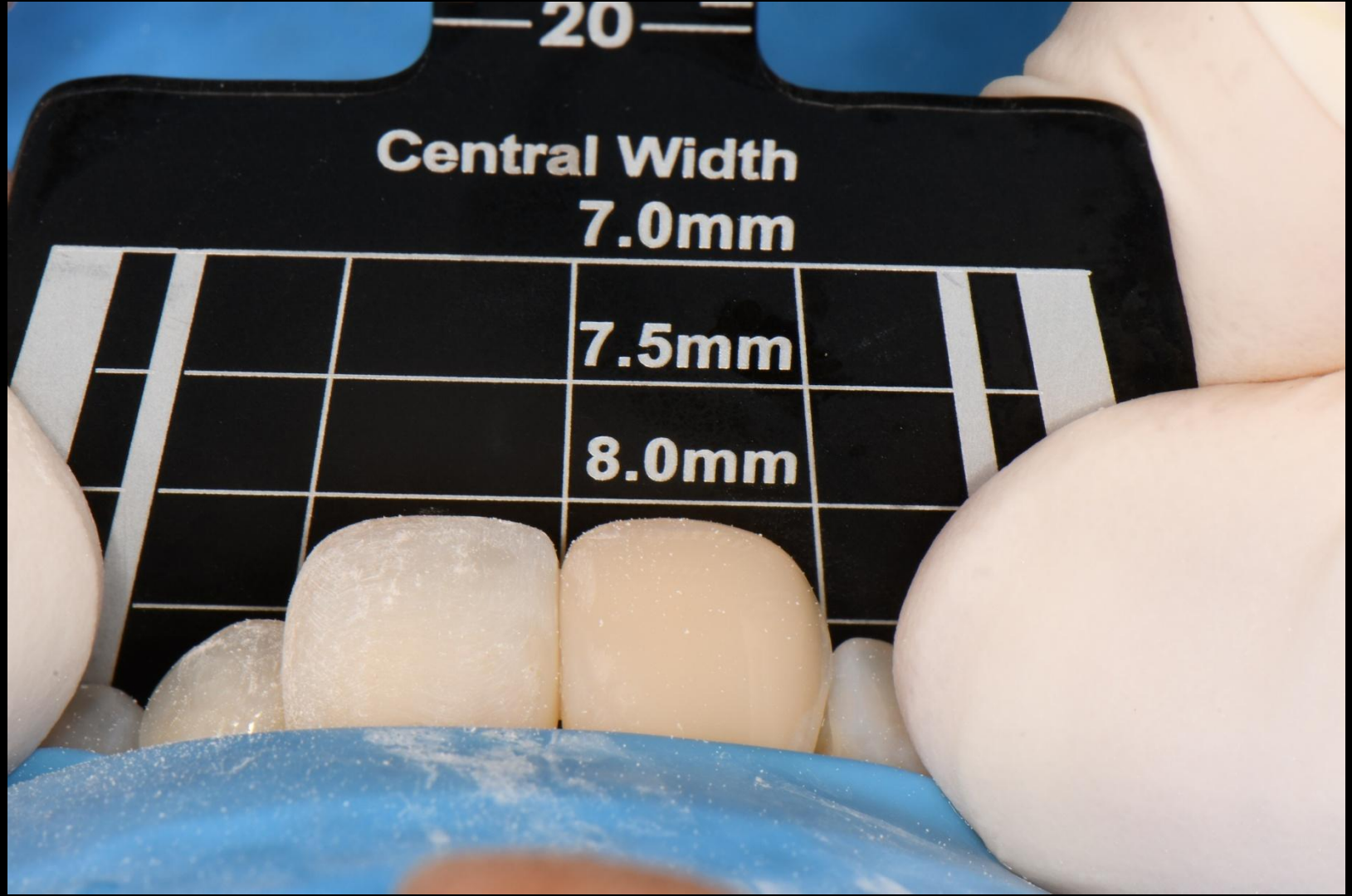
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2D
M




20
Central Width
7.0mm
7.5mm
8.0mm



- Before we started the procedure, I let Khairul know that the composite on the 11 had turned a bit yellow.
- I also let him know that it is impossible to get a perfect match to neighboring aged composite or natural teeth.
- I always ask the patient, “Do you want me to err on the light side or the dark side with shade? We can always bleach the natural teeth later and replace older yellowing composite on other teeth with a more color stable composite”.
- He chose to err on the light side in terms of shade selection.

Pre-Operative View



Immediate post-op. He asked for floss. It flossed perfectly. The patient loved it, hugged me and later posted marvelous reviews on Google





Kuraray Majesty ES: B1 flowable and paste



pre-op view





post-op view

