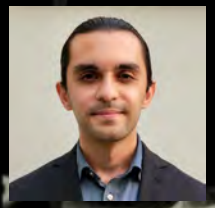
Aesthetic & Functional Oral Rehabilitation

A Multi-Disciplinary Case involving Periodontics, Orthodontics, Implants, Veneers, and Crowns



Siavash Ghadiri Zahrani

DDS Candidate, Class of 2024

University of the Pacific, Arthur A. Dugoni School of Dentistry

Patient Overview

46 years old, male (ASA I)

CC	• Waiting on implants since he first presented to the clinic in 2016 • Unhappy with ortho outcomes, wants aesthetic improvements
MHx	• In good health, no medications, NKDA
DH	• Moderately restored • Recently completed orthodontic treatment at an outside clinic
SH	• -TOB, -MJ, -EtOH

When Dealing with the *"Dominant Patient"*:

- Be brief
- Be direct
- Be prepared

Dominant patient

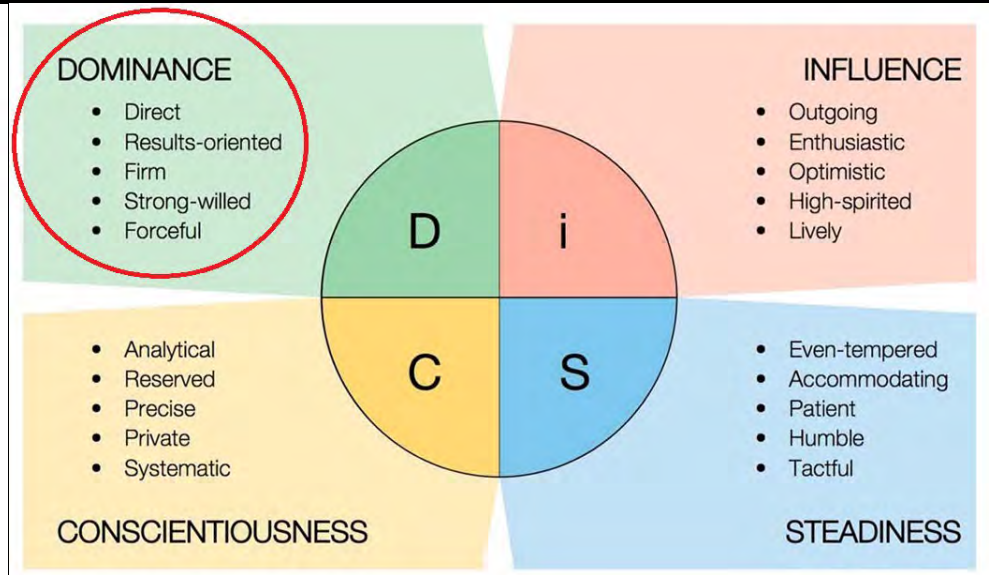
When motivating a dominant patient, dental professionals need to be brief and to the point. The typical dominant patient is likely to be impatient and wishes to make decisions quickly, so an inordinate amount of socializing with him or her may be detrimental to treatment acceptance. Dental team members who have an influencing style and who value getting to know patients may need to monitor their tendency to socialize too much when interacting with dominant patients.

Although dominant people may be disorganized themselves, they dislike disorganization in others and resent having their time wasted. Thus, case presentations should be well-organized, and preparation is essential. Dentists and dental team members should provide patients with a focused and direct case presentation, centered around three major points:

- This is what you need.
- This is why you need it.
- This is what will happen if we do not proceed.[23]

Dominant patients may become impatient and overwhelmed by too many details. Dental team members who have a cautious behavioral style, focusing on the details as their standard approach to case presentation, may need to limit the amount of detail they provide, unless the patient specifically asks for more information.

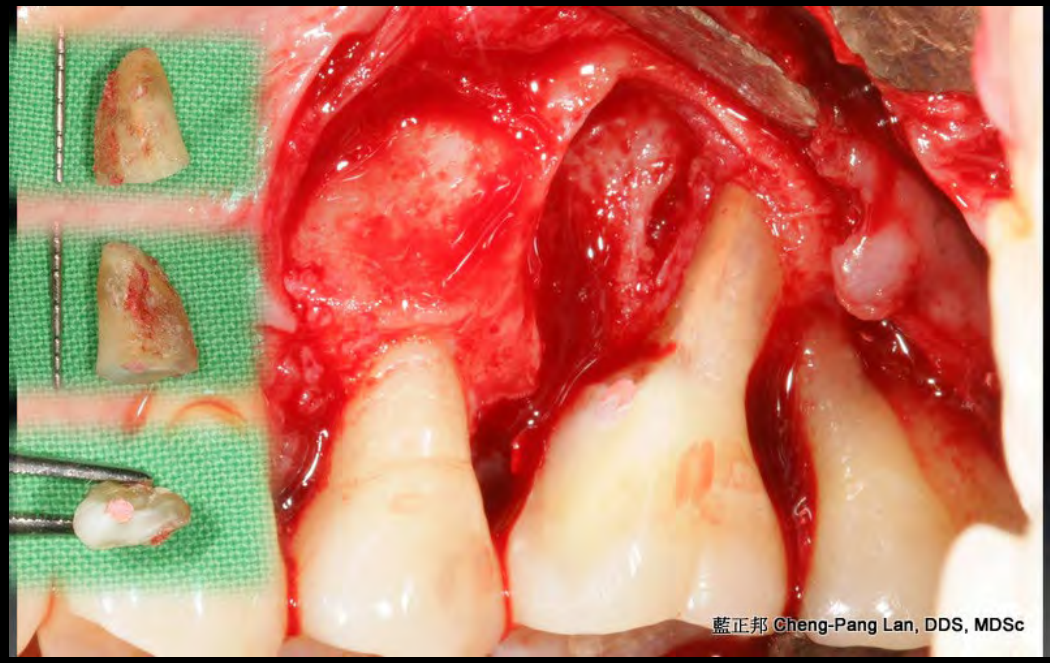
Dominant patients may be intimidating, especially to team members with a steady or cautious behavioral style. On the plus side, dominant people like innovation, so they may be especially receptive to new treatment modalities or products.



Mark Scarbecz, Using DISC system to motivate patients, Journal of American Dental Association, March 2007, Revised 2020, 138(3): 381-5.

Treatment History

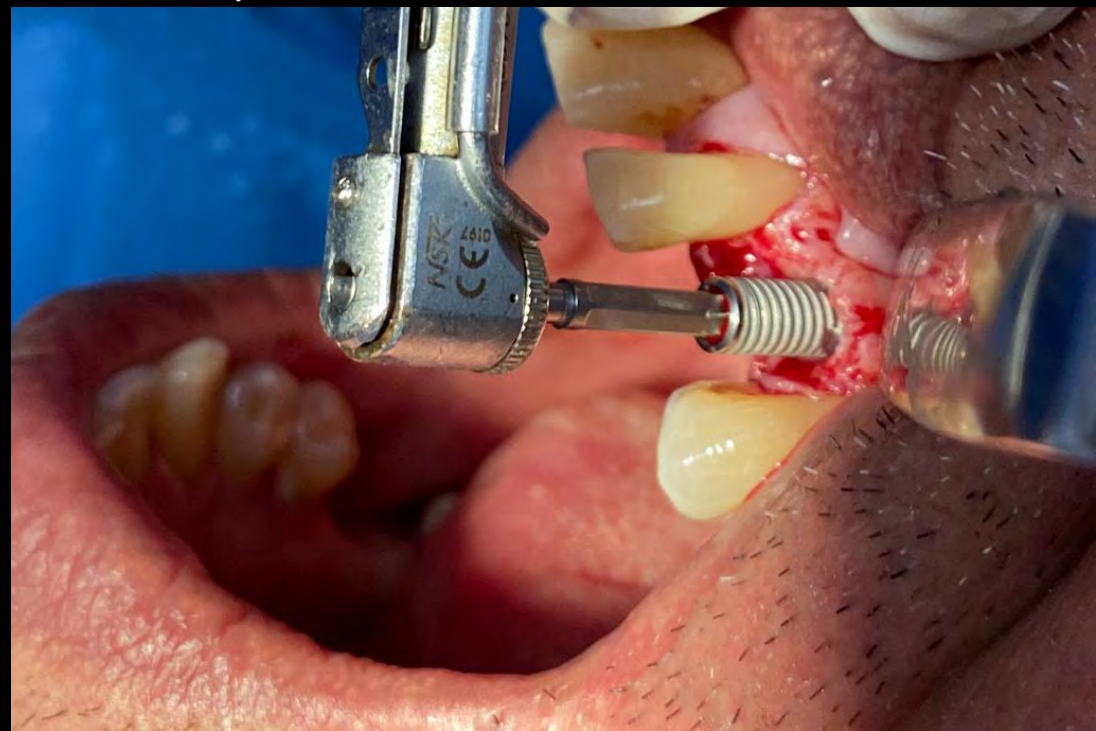
Orthodontics!



Root amputation!

Crowns & Veneers!

Implants!



Head & Neck Evaluation

IOE

Tongue, floor of mouth, palate, mucosa, and all else non-remarkable

TMJ

Non-remarkable

No pain, clicking, popping, or deviation

EOE

No lymphadenopathy

No trismus

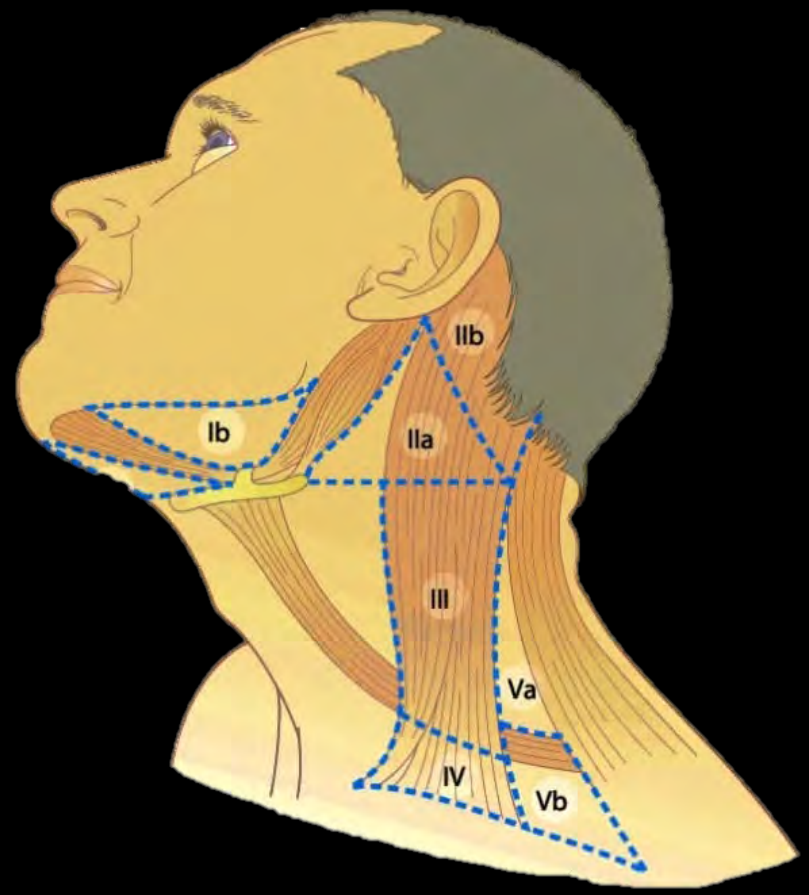
No soft tissue swelling

All else non-remarkable

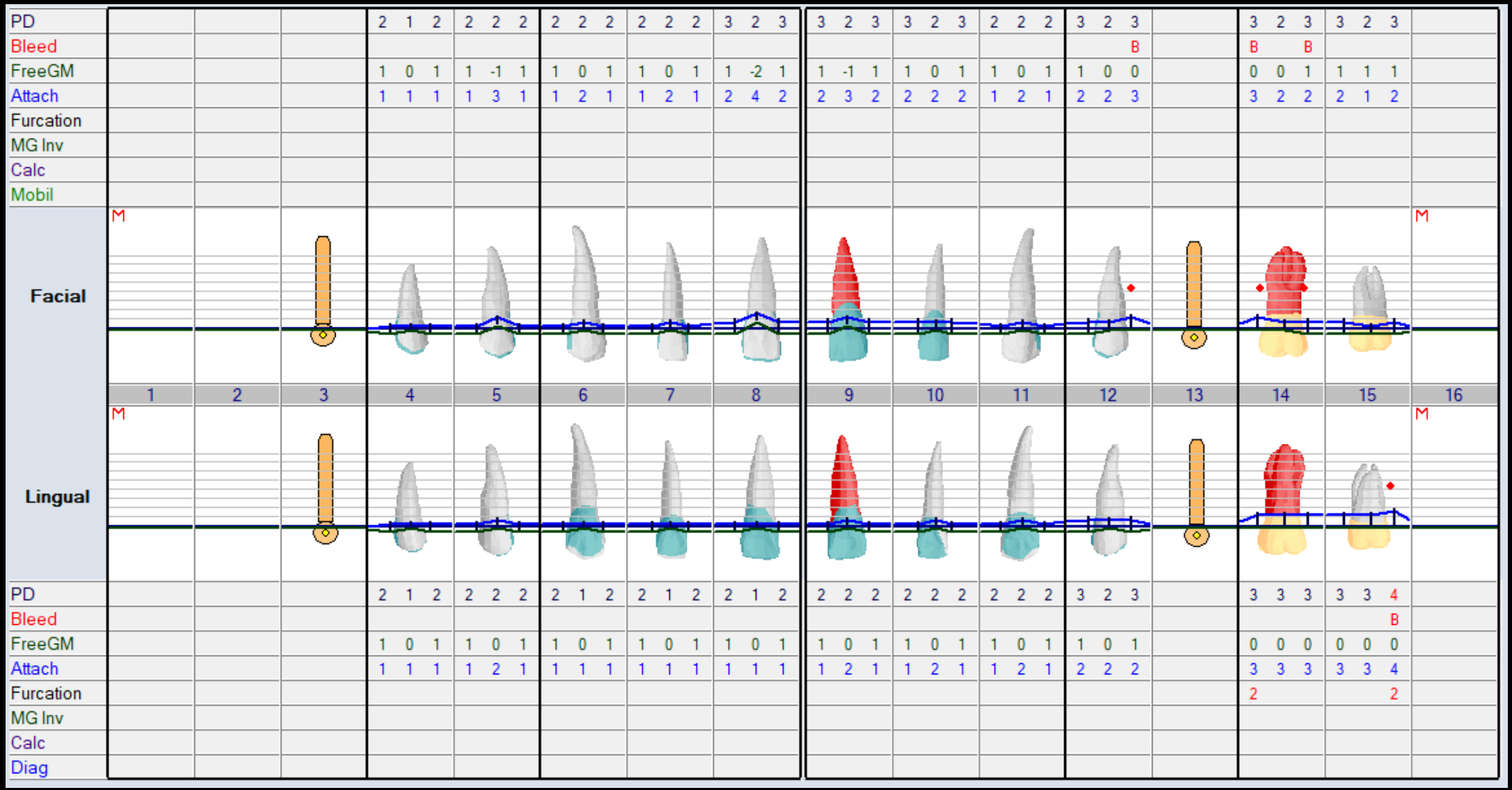
GINGIVA

Generally healthy, pink, rolled margins

Slightly erythematous around 14, 21, 32 with BOP



Periodontal Evaluation



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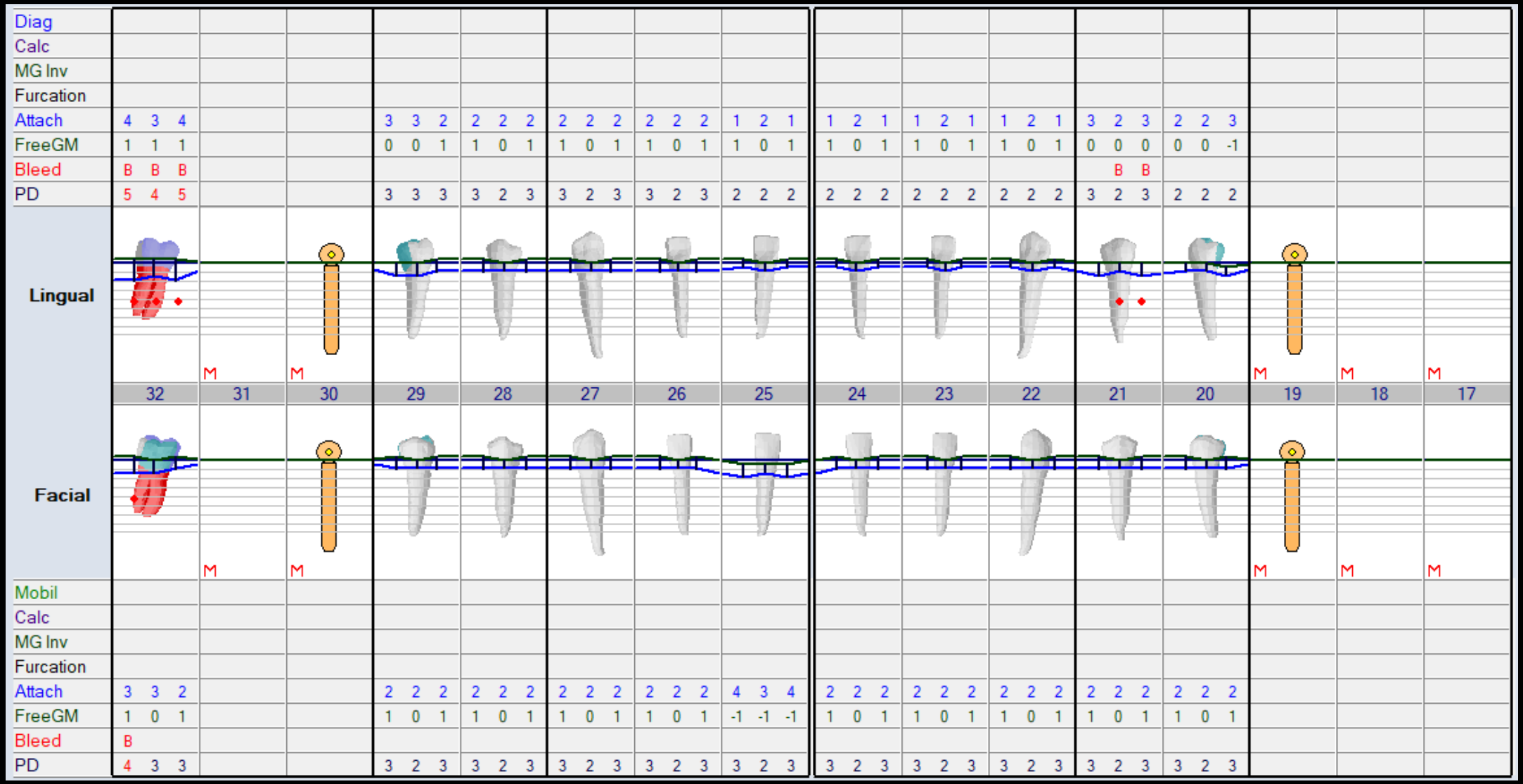
Periodontal Evaluation



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Periodontal Evaluation

Overview

- ***Dx:*** Generalized healthy periodontium with **localized moderate chronic periodontitis**
- Probing depths **generally 1-3mm** with 4mm on DL of #15, and 4-5mm on #32
- **Class II furcation** mesial #14, distal #15
- Plaque Index of **1** (fair)
- No mobility

Prognosis

- **Good overall** with proper home care and adherence to recalls

Etiology

- Bacteria / plaque
- Previously inadequate home care

Staging & Grading

- Localized Stage II Grade A

Stippled, pink, healthy gingiva with rolled margins

Caries Risk Evaluation

Etiology

- **Small proximal lesions** diagnosed during maxillary preparation
- High carb diet

Diagnosis

- **Moderate-High overall caries risk**
- High due to EXT #2, #3 in 2022

Prognosis

- **Good overall** with adherence to recalls and proper home care

ADA American Dental Association®
America's leading advocate for oral health

Caries Risk Assessment Form (Age >6)

		Low Risk	Moderate Risk	High Risk
Contributing Conditions		Check or Circle the conditions that apply		
I.	**Fluoride Exposure** (through drinking water, supplements, professional applications, toothpaste)	☑ Yes	☐ No	
II.	**Sugary Foods or Drinks** (including juice, carbonated or non-carbonated soft drinks, energy drinks, medicinal syrups)	Primarily at mealtimes ☑		Frequent or prolonged between meal exposures/day ☐
III.	**Caries Experience of Mother, Caregiver and/or other Siblings** (for patients ages 6-14)	No carious lesions in last 24 months ☐	Carious lesions in last 7-23 months ☑	Carious lesions in last 6 months ☐
IV.	**Dental Home**: established patient of record, receiving regular dental care in a dental office	☑ Yes	☐ No	
General Health Conditions		Check or Circle the conditions that apply		
I.	**Special Health Care Needs** (developmental, physical, medical or mental disabilities that prevent or limit performance of adequate oral health care by themselves or caregivers)	☑ No	Yes (over age 14) ☐	Yes (ages 6-14) ☐
II.	**Chemo/Radiation Therapy**	☑ No		☐ Yes
III.	**Eating Disorders**	☑ No	☐ Yes	
IV.	**Medications that Reduce Salivary Flow**	☑ No	☐ Yes	
V.	**Drug/Alcohol Abuse**	☑ No	☐ Yes	
Clinical Conditions		Check or Circle the conditions that apply		
I.	**Cavitated or Non-Cavitated** (incipient) **Carious Lesions or Restorations** (visually or radiographically evident)	No new carious lesions or restorations in last 36 months ☐	1 or 2 new carious lesions or restorations in last 36 months ☑	3 or more carious lesions or restorations in last 36 months ☐
II.	**Teeth Missing Due to Caries in past 36 months**	☐ No		☑ Yes
III.	**Visible Plaque**	☑ No	☐ Yes	
IV.	**Unusual Tooth Morphology** that compromises oral hygiene	☑ No	☐ Yes	
V.	**Interproximal Restorations - 1 or more**	☐ No	☑ Yes	
VI.	**Exposed Root Surfaces** Present	☐ No	☑ Yes	
VII.	**Restorations with Overhangs** and/or **Open Margins**; **Open Contacts** with Food Impaction	☑ No	☐ Yes	
VIII.	**Dental/Orthodontic Appliances** (fixed or removable)	☐ No	☑ Yes	
IX.	**Severe Dry Mouth (Xerostomia)**	☑ No		☐ Yes
Overall assessment of dental caries risk:		☐ Low	☐ Moderate	■ High

Caries Risk Evaluation

Disease Indicators

- Proximal lesions found during prep

Risk Factors

- High ATP reading (2950)
- Deep pits/fissures
- Exposed roots

Protective Factors

- Fluoride toothpaste 2x daily
- Flossing nightly
- Adequate saliva flow

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Caries Risk Assessment Form (Age >6)

		Low Risk	Moderate Risk	High Risk
Contributing Conditions		Check or Circle the conditions that apply		
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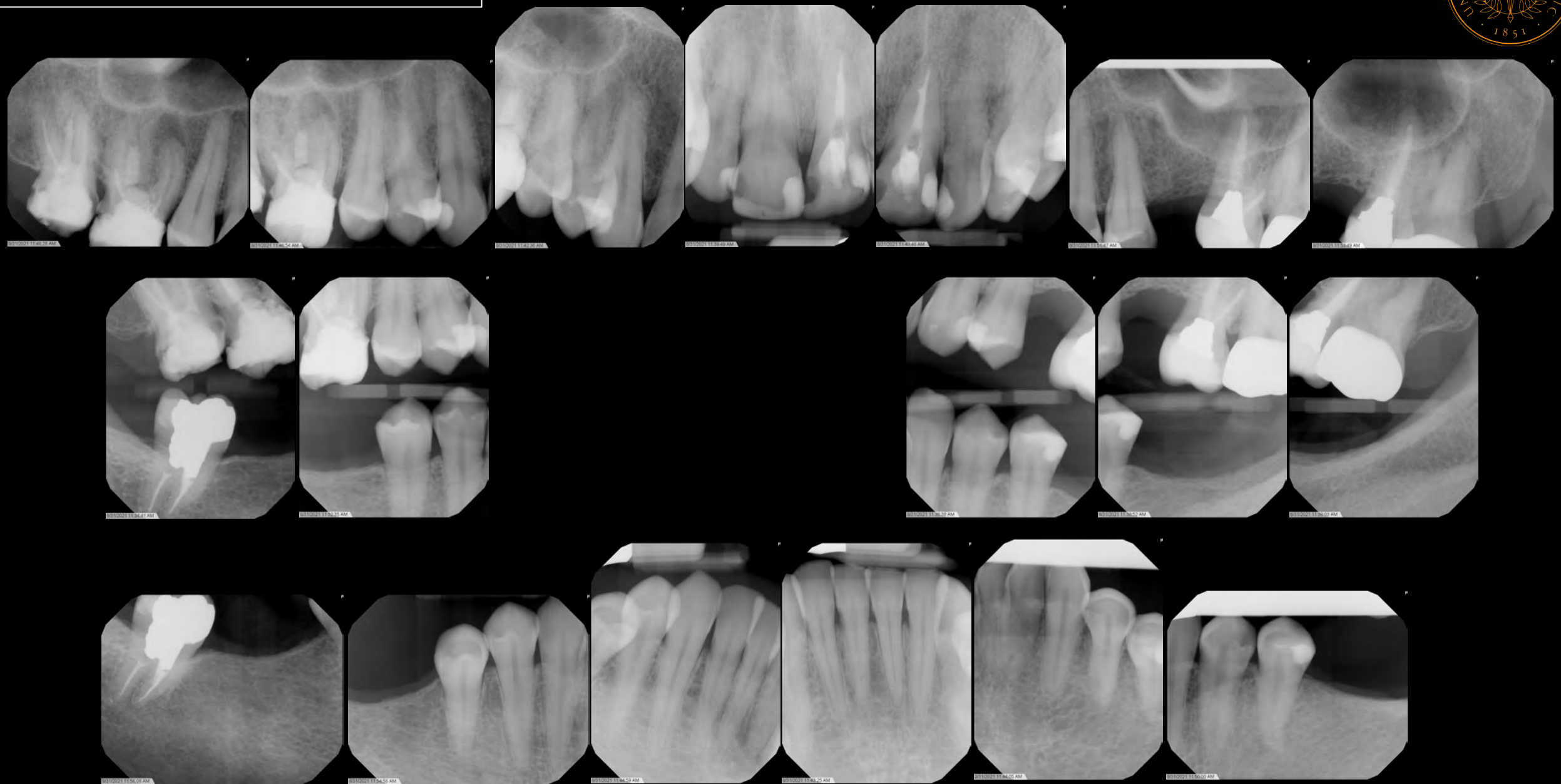
FMX 8/31/2021



Panoramic

8/22/16

2/23/24

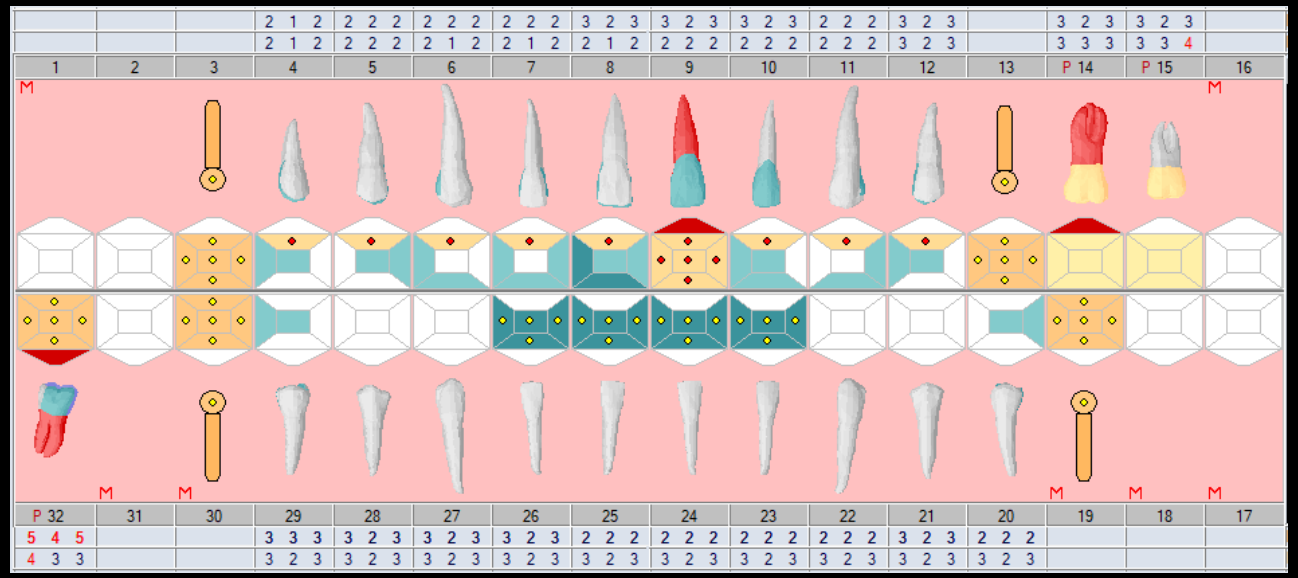
Extractions

(2016) **#13** due to gumline fracture, lack of ferrule

(2022) **#2** due to large carious lesion

(2022) **#3** due to large carious lesion, VRF

Hard Tissue Evaluation



#1 missing
#2 missing
#3 missing
#4 DOc
#5 MOc
#6 DLc
#7 MIDFLc
#8 MIDFLc
#9 MIDFLc, RCT
#10 MIFLc, distal decalcification
#11 DLc
#12 MOc, mesial and distal decalcification
#13 missing
#14 MO Photo-Core BU, RCT, MB root amputation
#15 Crown
#16 Missing

#17 missing
#18 missing
#19 missing
#20 DOc, distal decalcification
#21 mesial decalcification
#22 – 28 incisal wear/enamel cracks
#29 Oc, mesial decalcification, distal caries
#30 missing
#31 missing
#32 Large amalgam, RCT

Photographs

2016, prior to orthodontic treatment

2023, after orthodontic treatment

High dental IQ = High expectations

Patient unhappy with:

- Buccal corridors
- Mandibular midline discrepancy
- Mandibular black triangles
- #12 appearing flared outward

Photographs

2016, prior to orthodontic treatment

2023, after orthodontic treatment

Photographs

2016, prior to orthodontic treatment
Deep, U-shaped palate

2023, after orthodontic treatment
Slight expansion of U-shaped palate

Photographs

2016, prior to orthodontic treatment

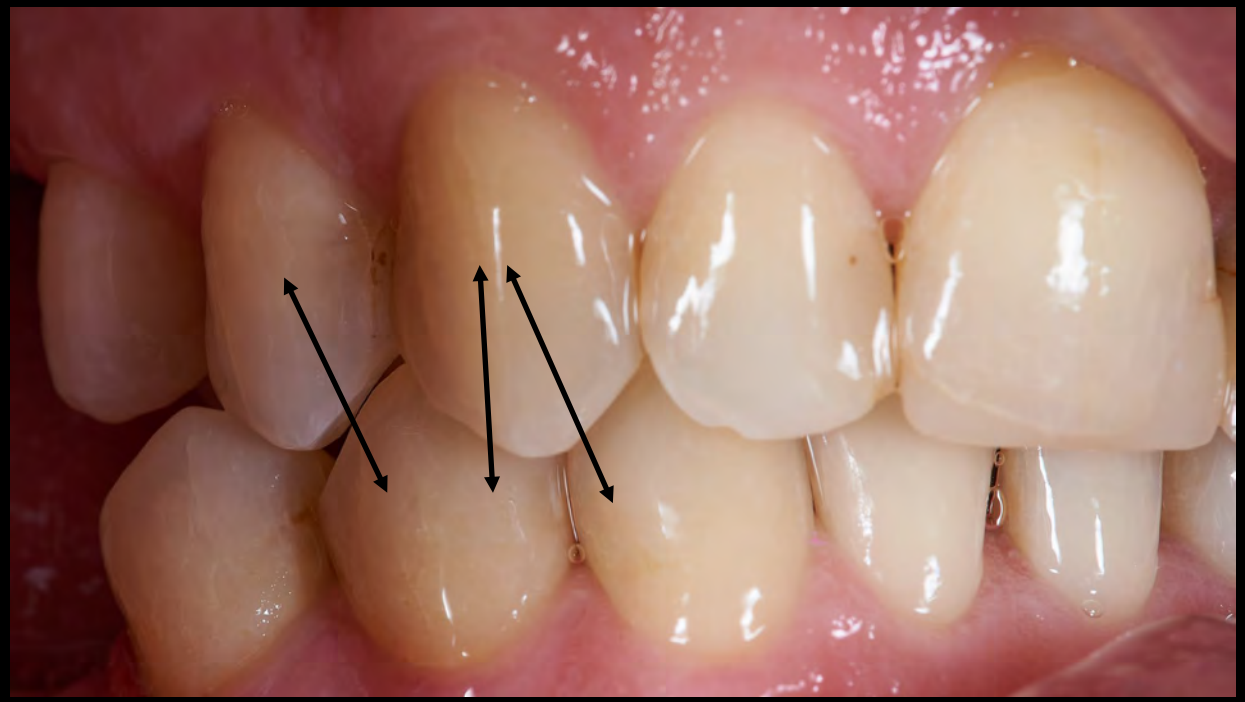
2023, after orthodontic treatment

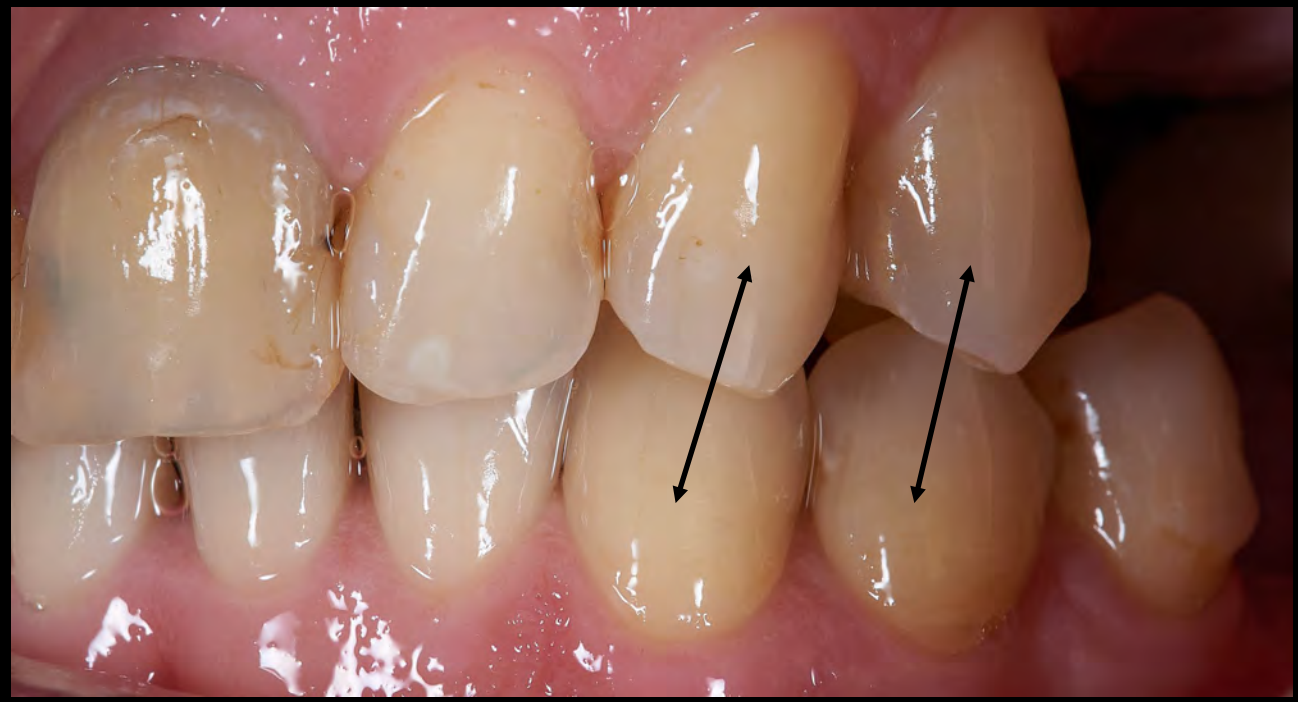
Occlusion

Canine Class I

Anteriors all out of occlusion due to lower incisors tilted inwards by ortho

Shortened dental arch → ***Subjective Chewing Ability Improvement Limited to those with Perceived Limitation*** [1]





Shimstock contacts on right side:

- **UR first bicuspid and LR first bicuspid**
- **UR canine and LR canine/bicuspid**

Shimstock contacts on left side:

- **UL canine and LL canine**
- **UL first bicuspid and LL first bicuspid**

Fueki K, et al. J Oral Rehabil 2017;44:563-72, Fueki K, et al. J Oral Rehabil 2016;43:534-42, Fueki K, et al. J Oral Rehab 2011;38:525-32

Tx Plan Comparison

ECONOMY CLASS

Removable prosthetics + Composite

Disease Control

- OHI + Prophy + CAMBRA products
- #29 Doc

Reconstructive

- **UA+LA RPD to replace edentulous sites**
- **Composite veneers #4, 5, 6, 7, 8, 10, 11, 12**
- #9 E.Max crown
- #14 zirconia crown
- #32 zirconia crown
- Composite restorations #23, 24, 25, 26 to close black triangles

Maintenance

- 6-month hygiene recalls
- CAMBRA product refills
- Occlusal guard

Cost: $9,743

Rationale: *Most conservative, cheapest, least aesthetic, potentially most challenging*

BUSINESS CLASS

Implants + Ceramics + Composite

Disease Control

- OHI + Prophy + CAMBRA products
- #29 Doc

Reconstructive

- Implant placement #3, 13, 19, 30
- E.Max #4, 5, 6, 7, 8, 9, 10, 11, 12
- #14 zirconia crown
- #32 zirconia crown
- Composite restorations #23, 24, 25, 26 to close black triangles
- Implant crowns #3, 13, 19, 30

Maintenance

- 6-month hygiene recalls
- CAMBRA product refills
- Occlusal guard

Cost: $27,127

Rationale: *Balance of aesthetics and function*

FIRST CLASS

+3 Implants + Ceramics

Disease Control

- OHI + Prophy + CAMBRA products
- #29 Doc

Reconstructive

- Implant placement #**2**, 3, 13, **18**, 19, 30, **31**
- E.Max #4, 5, 6, 7, 8, 9, 10, 11, 12
- #14 zirconia crown
- #32 zirconia crown
- **E.Max veneers #23, 24, 25, 26** to close black triangles
- Implant crowns #**2**, 3, 13, **18**, 19, 30, **31**

Maintenance

- 6-month hygiene recalls
- CAMBRA product refills
- Occlusal guard

Cost: $39,921

Rationale: *Most aesthetic, most invasive, diminishing returns (2nd molar implants)*

Implant Process

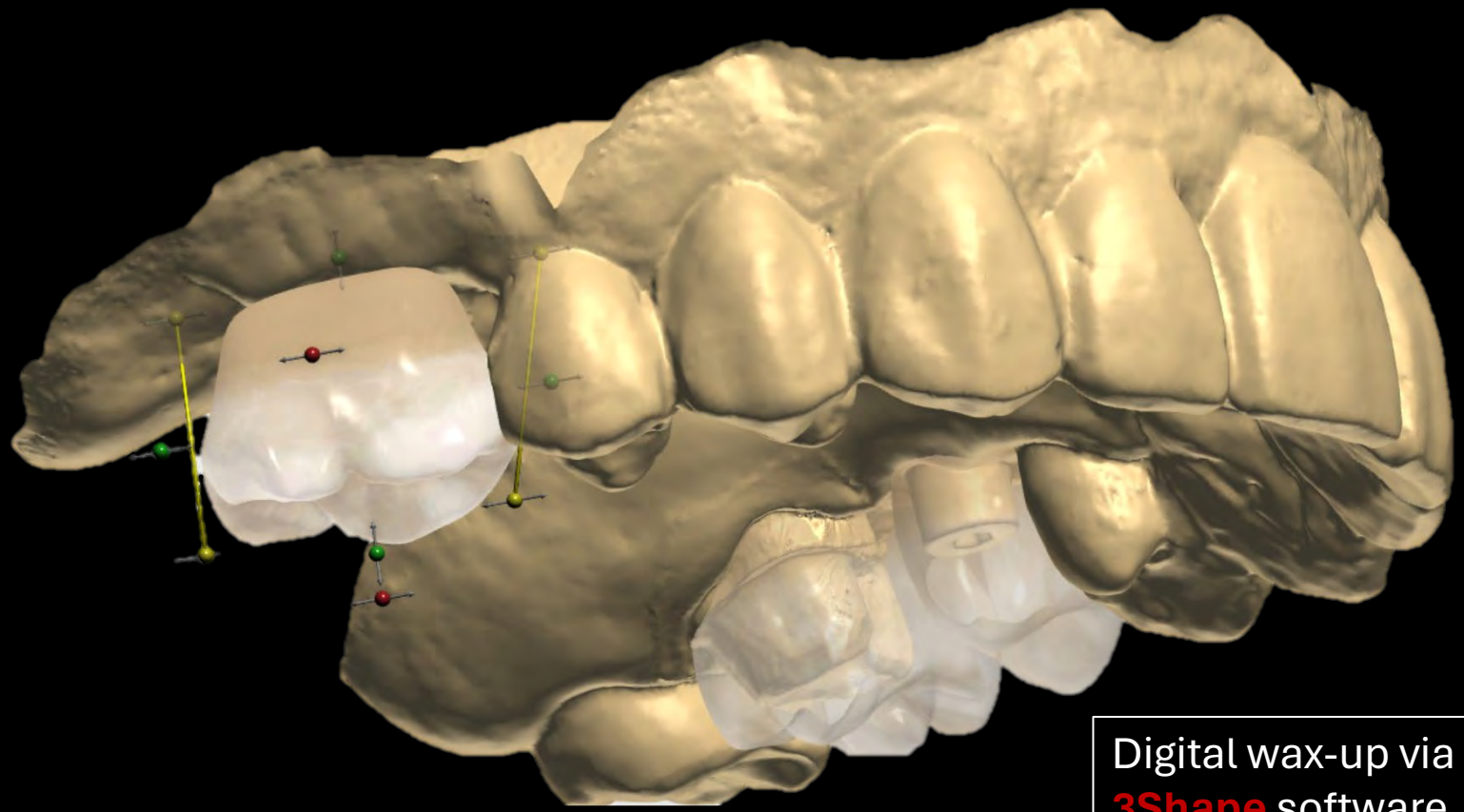
Surgical Plan

- #03: 4.5mm x 8mm Straumann BLX
- #13: 4.5mm x 6mm Straumann BLX
- #19: 4.5mm x 10mm Straumann BLX
- #30: 4.5mm x 10mm Straumann BLX

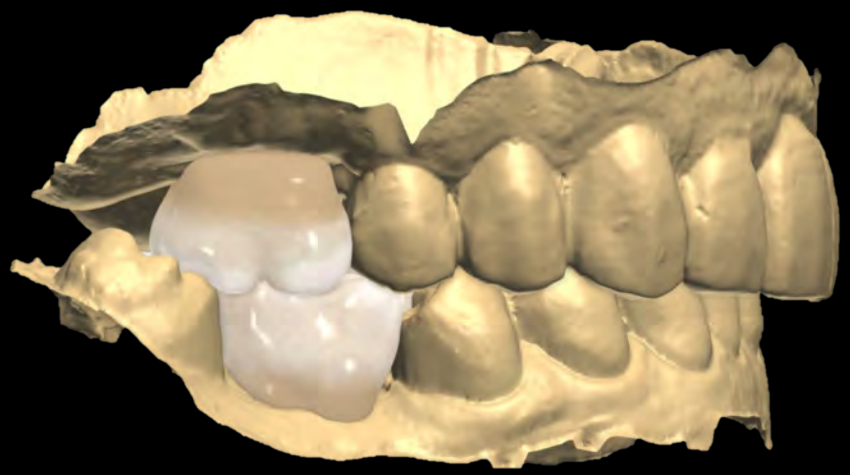
Surgical Protocol: 1-Stage

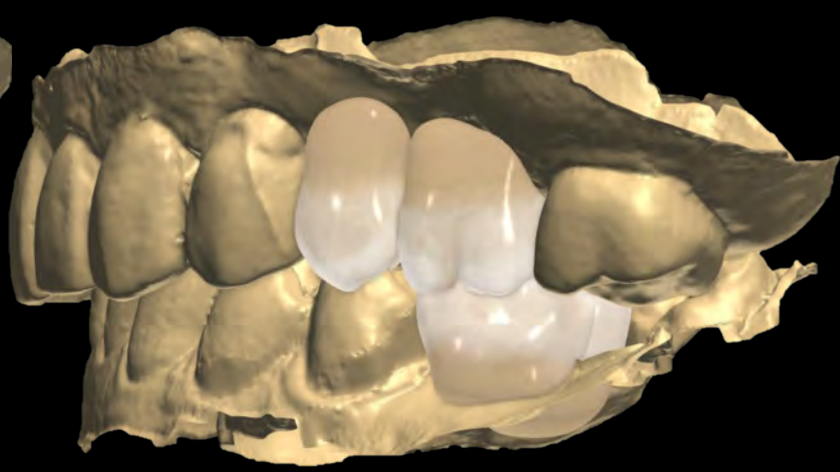
Prosthetic Plan

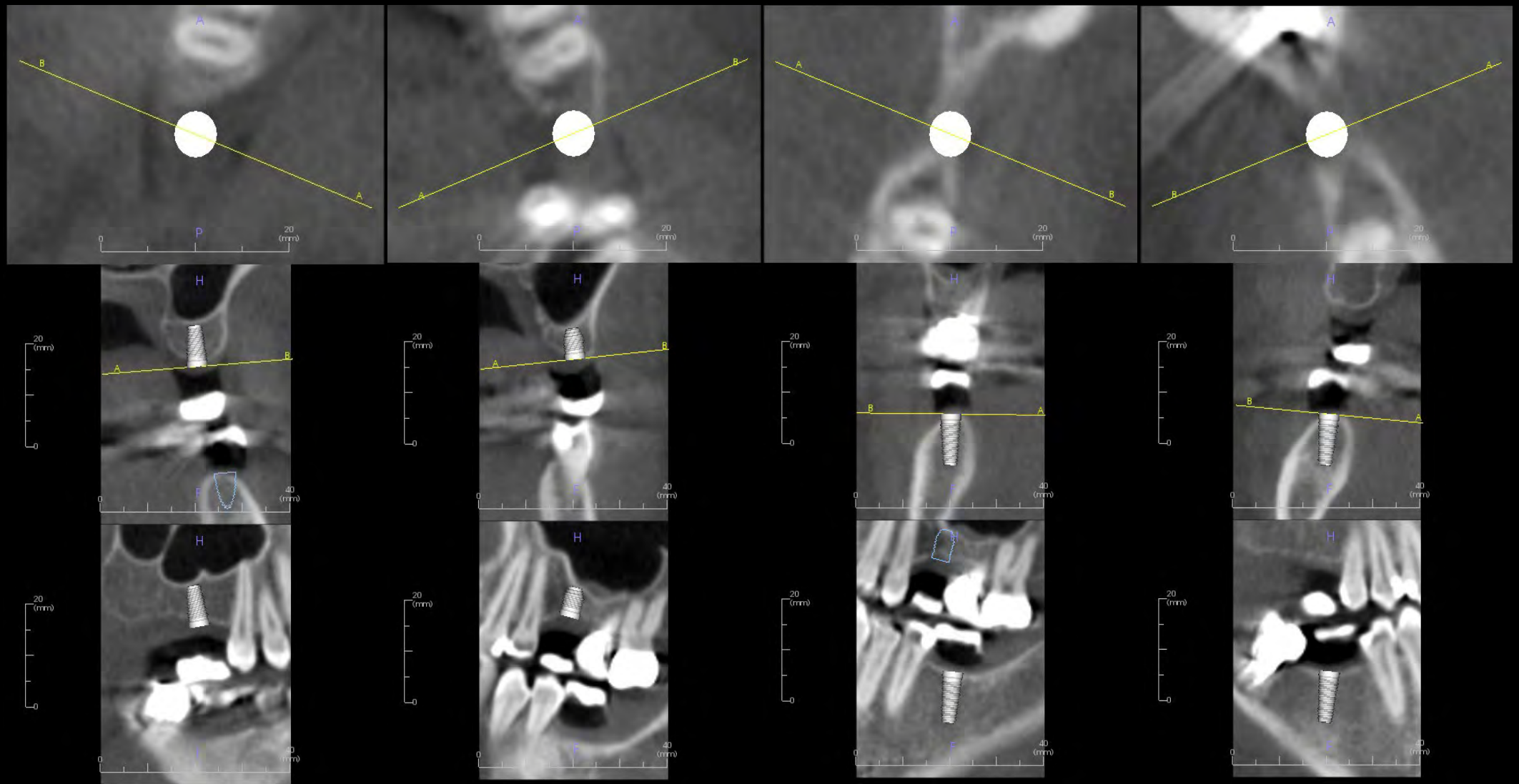
- Restore mandibular implants after **2-month** osseointegration verification using **screw-retained zirconia crowns**
- Restore maxillary implants after **3-month** osseointegration verification using **screw-retained zirconia crowns**



Digital wax-up via **3Shape** software





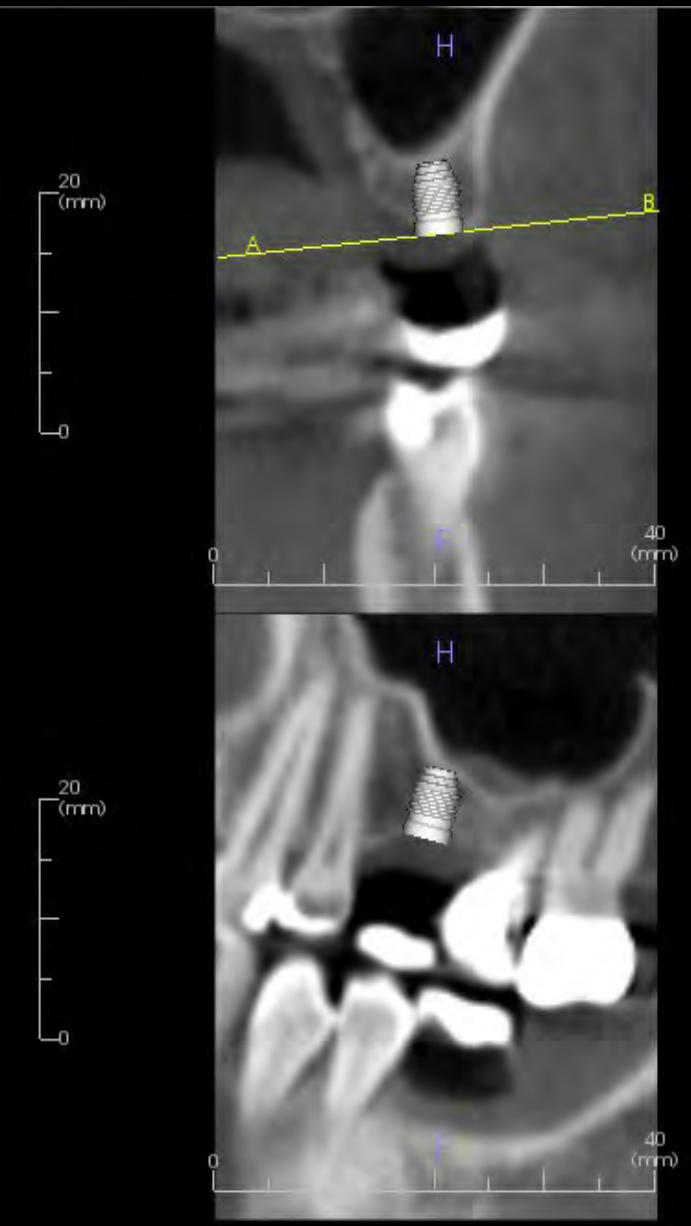


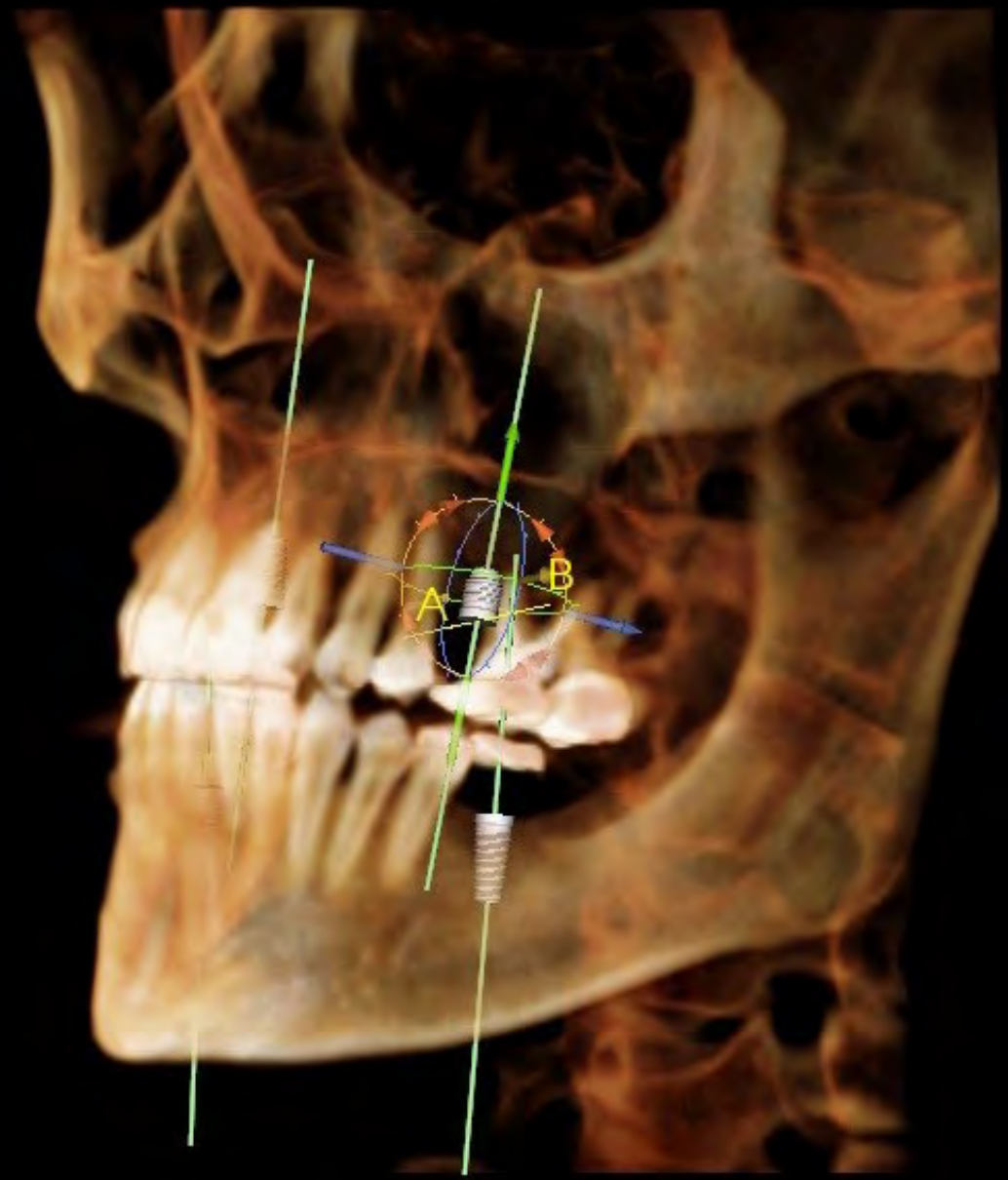
#3: 4.5mm x 8mm Straumann BLX	#13: 4.5mm x 6mm Straumann BLX	#19: 4.5mm x 10mm Straumann BLX	#30: 4.5mm x 10mm Straumann BLX

Surgical Protocol: 1-Stage, Unguided

To Sinus Tap or Not?

#13: 4.5mm x 6mm Straumann BLX





Short vs. Long Implants with Maxillary Sinus Augmentation

- RCT Multicenter Study
- 5-yr FU, 90 patients
- 98.5%-100% implant survival
- High survival rates for both procedures but increased morbidity, costs and surgical time with augmentation

Thoma DS, et al. J Clin Periodontol 2018;45:1465-74.

Made by student with the help of Carlos Correa

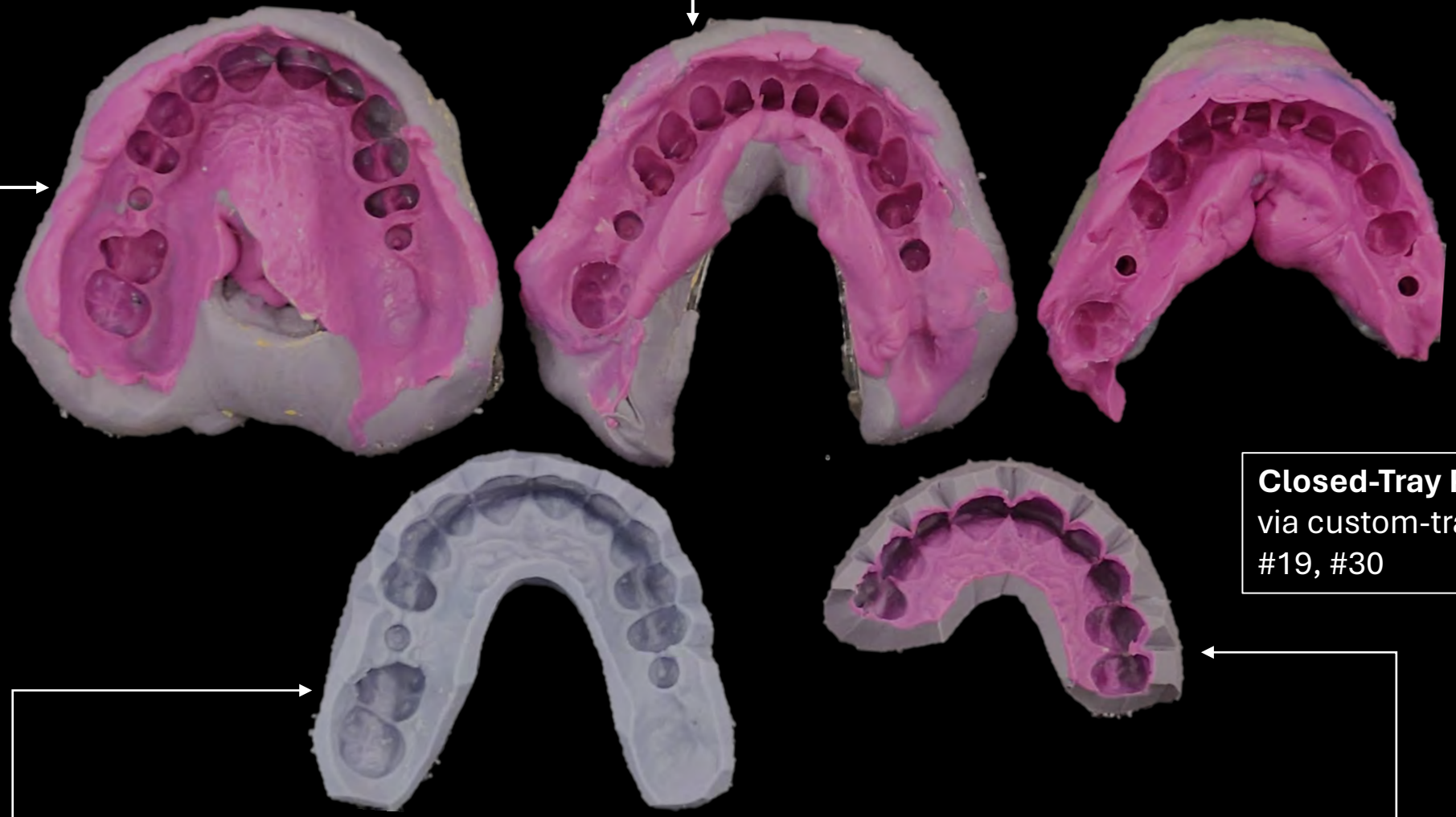
“Idealized” by CDA based on initial wax-up on second cast

Marker lines drawn to communicate ***cant correction*** to lab for finals

Anterior Wax-Ups

Impressions & Smile Design

Maxillary + Mandibular PVS impression via putty-wash method for re-pourable diagnostic casts

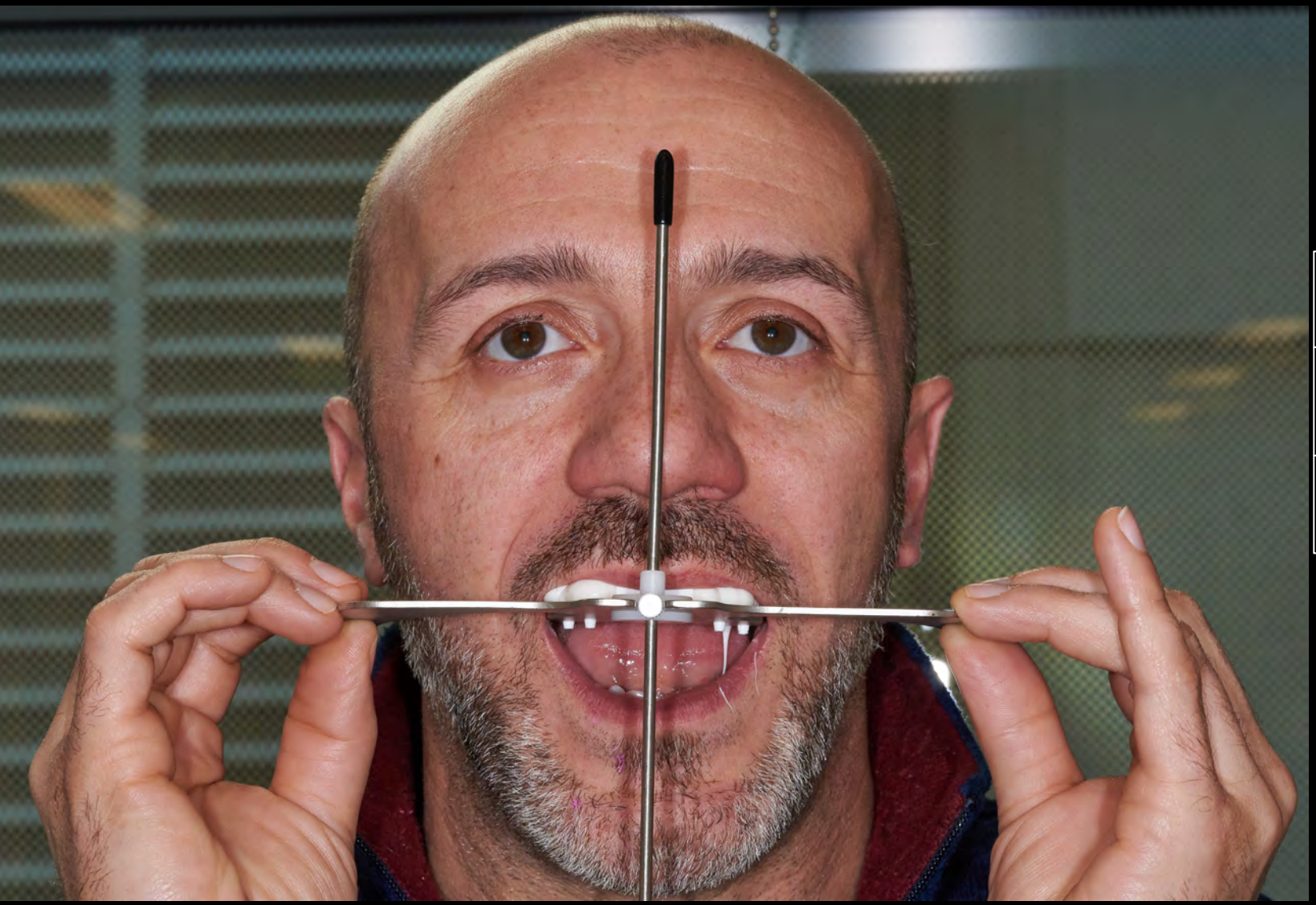


Closed-Tray PVS Final Impression via custom-tray for implant sites #19, #30

Lab-made putty matrix based on lab-made wax-up for temporaries

Student-made putty matrix based on initial wax-up for consultation/smile-design appointment

Profile Assessment



Vanilla bite registration using **Kois Dento-Facial Analyzer**
Discrepancy between dental midline and facial midline, slight asymmetric profile
Purpose: Accurate mounting of maxillary diagnostic model, avoid canted final result

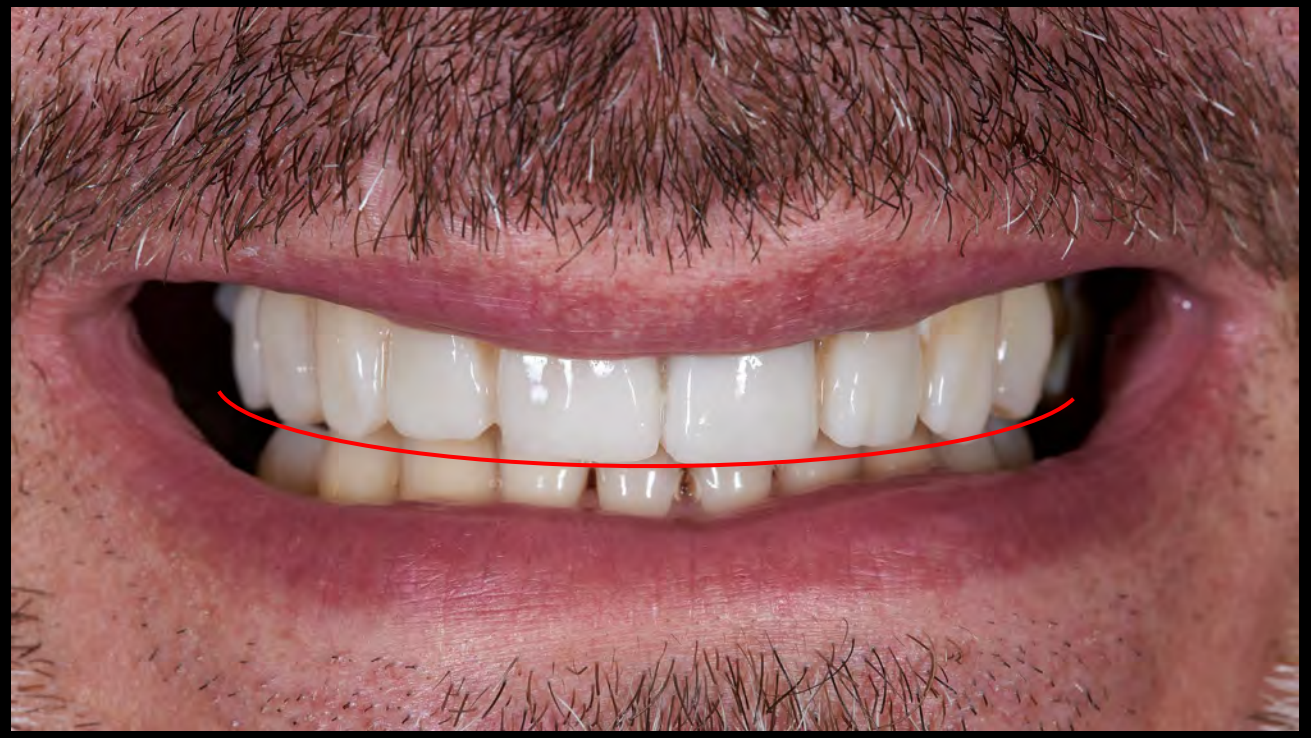
Patient was very pleased with smile design and expressed realistic expectations regarding aesthetics.
Requested to proceed with treatment ASAP.

Based on student-made wax-up using putty-wash matrix and B1 shade Integrity.

Prelude Adhesive painted and cured on smile design for 5 seconds per tooth at high setting to achieve **“luster” effect.**

SMILE DESIGN

SMILE DESIGN

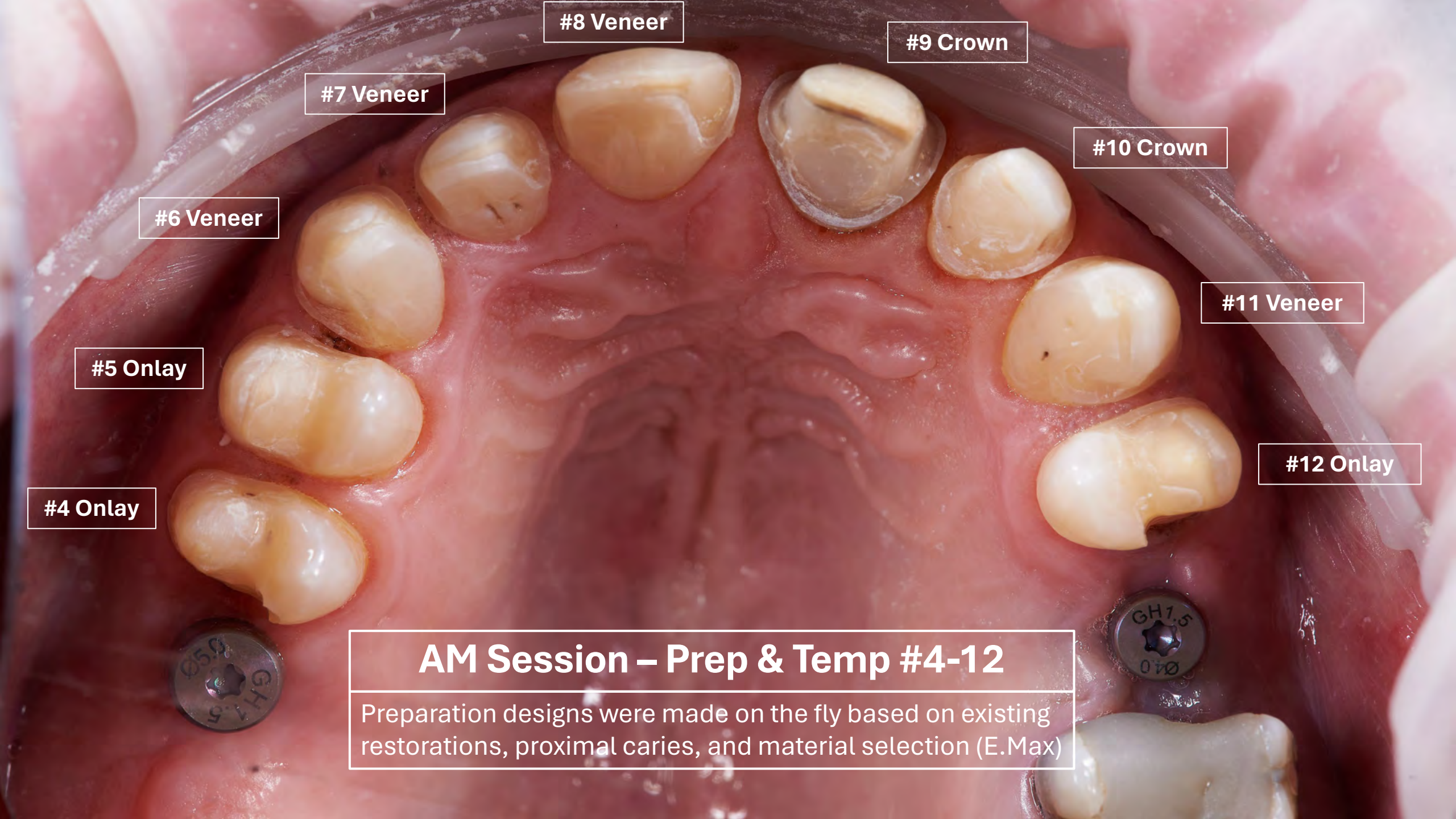


“Reverse” smile line

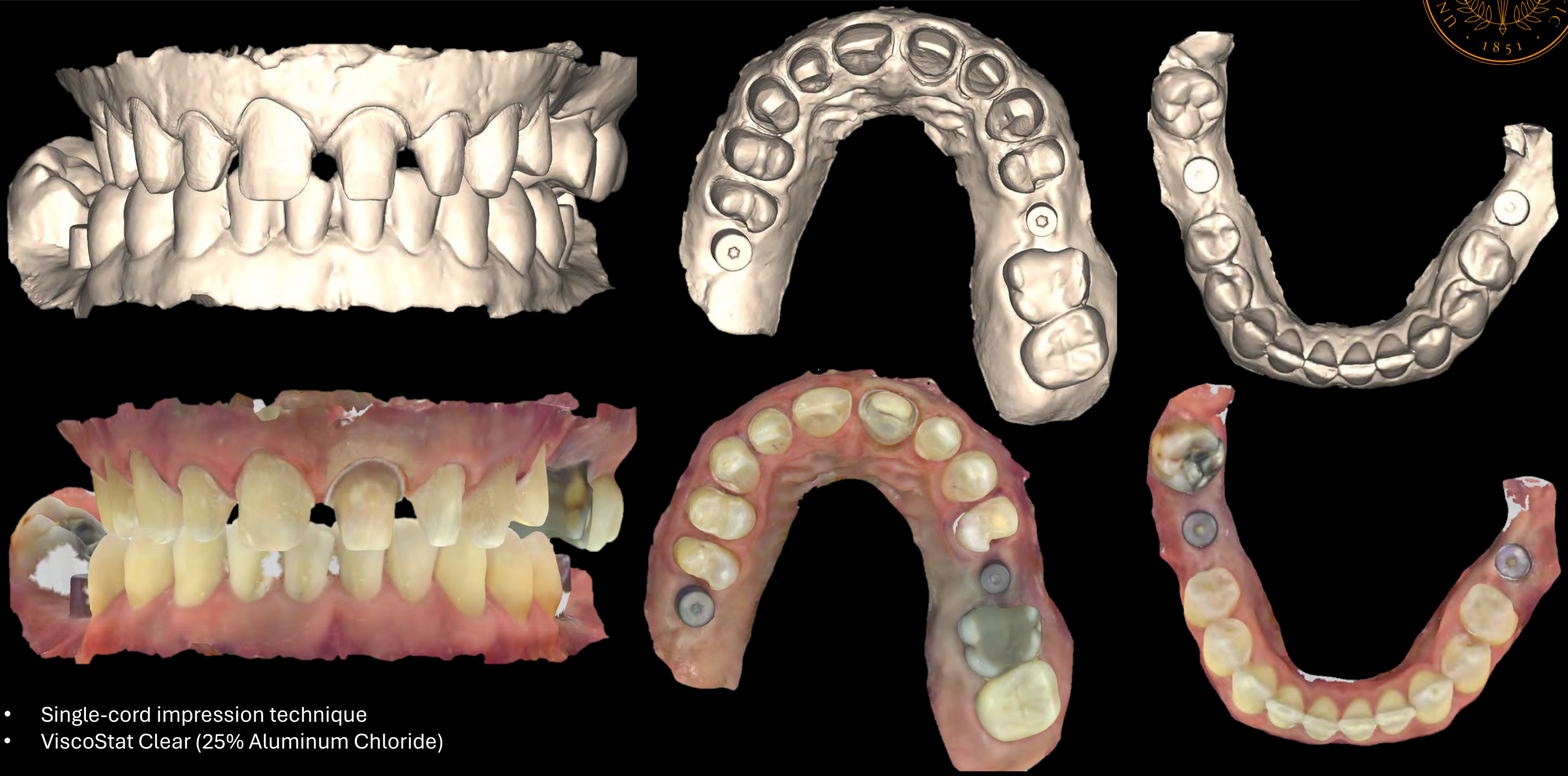
- Cuspids and bicuspids hang lower than centrals
- Incisal edge positions don’t follow smooth path to buccal corridors

“Ideal” smile line

- Teeth drape up into buccal corridor
- Incisal edge positions rise uniformly from anterior to posterior


#8 Veneer
#9 Crown
#7 Veneer
#10 Crown
#6 Veneer
#11 Veneer
#5 Onlay
#12 Onlay
#4 Onlay
AM Session – Prep & Temp #4-12
Preparation designs were made on the fly based on existing restorations, proximal caries, and material selection (E.Max)

PM Session - Digital Final Impression via iTero



- Single-cord impression technique
- ViscoStat Clear (25% Aluminum Chloride)

CHALLENGE

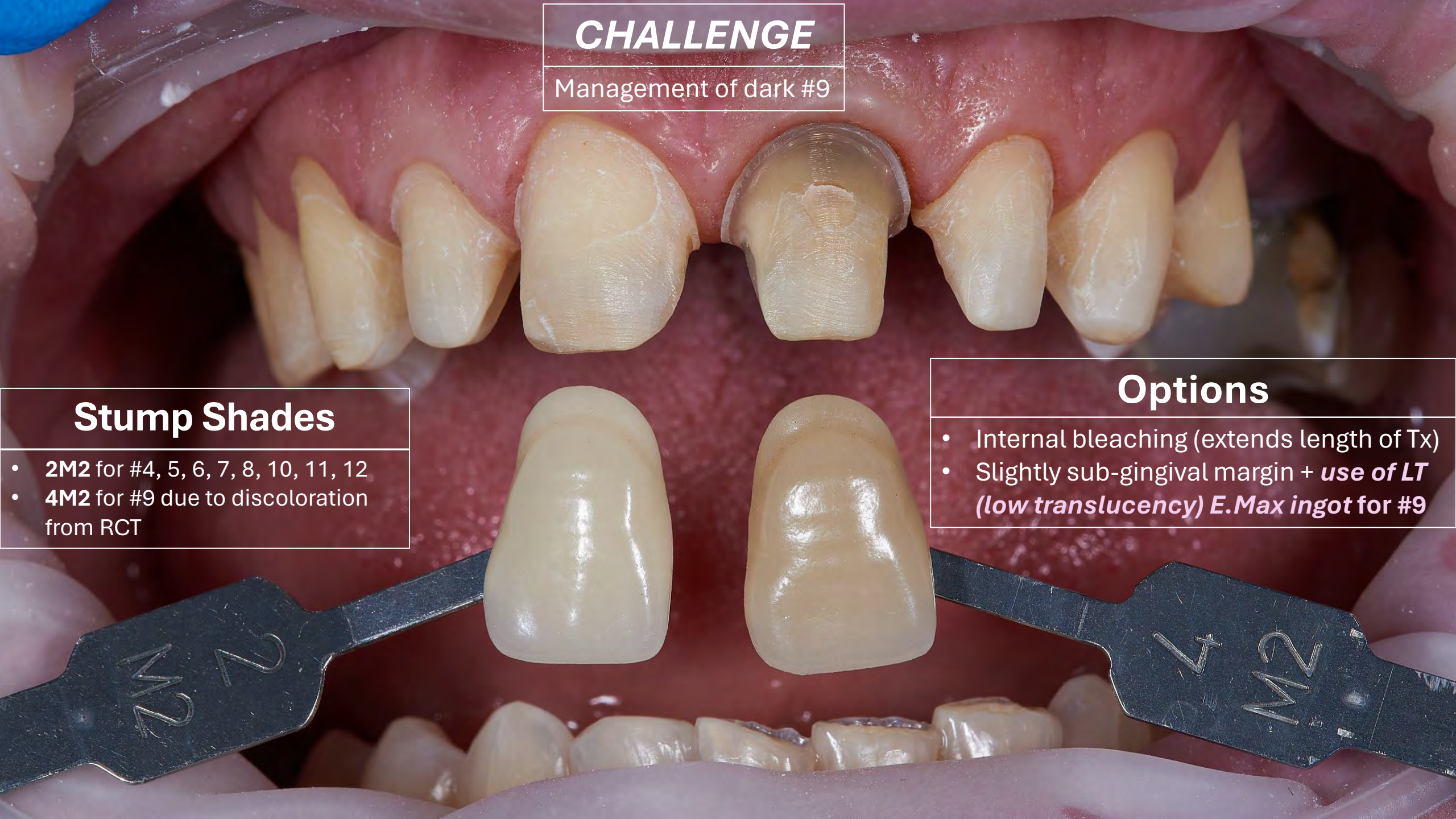
Management of dark #9

Stump Shades

- **2M2** for #4, 5, 6, 7, 8, 10, 11, 12
- **4M2** for #9 due to discoloration from RCT

Options

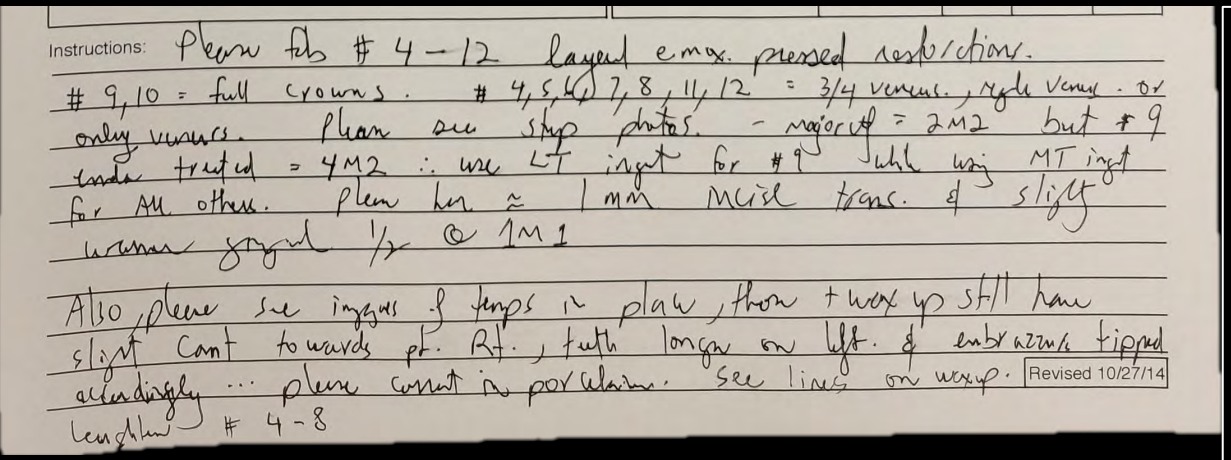
- Internal bleaching (extends length of Tx)
- Slightly sub-gingival margin + ***use of LT (low translucency) E.Max ingot*** **for #9**



- Made via **lab putty matrix** and polished with Thompson wheel
- Preps and gingiva cleaned with **chlorhexidine**
- Smooth, sealed margins on tooth structure allows for healthy tissue prior to CIMOE
- 2 single unit B1 Integrity molds ***act as orthodontic retainers*** and provide strength to provisionals

PROVISIONALS

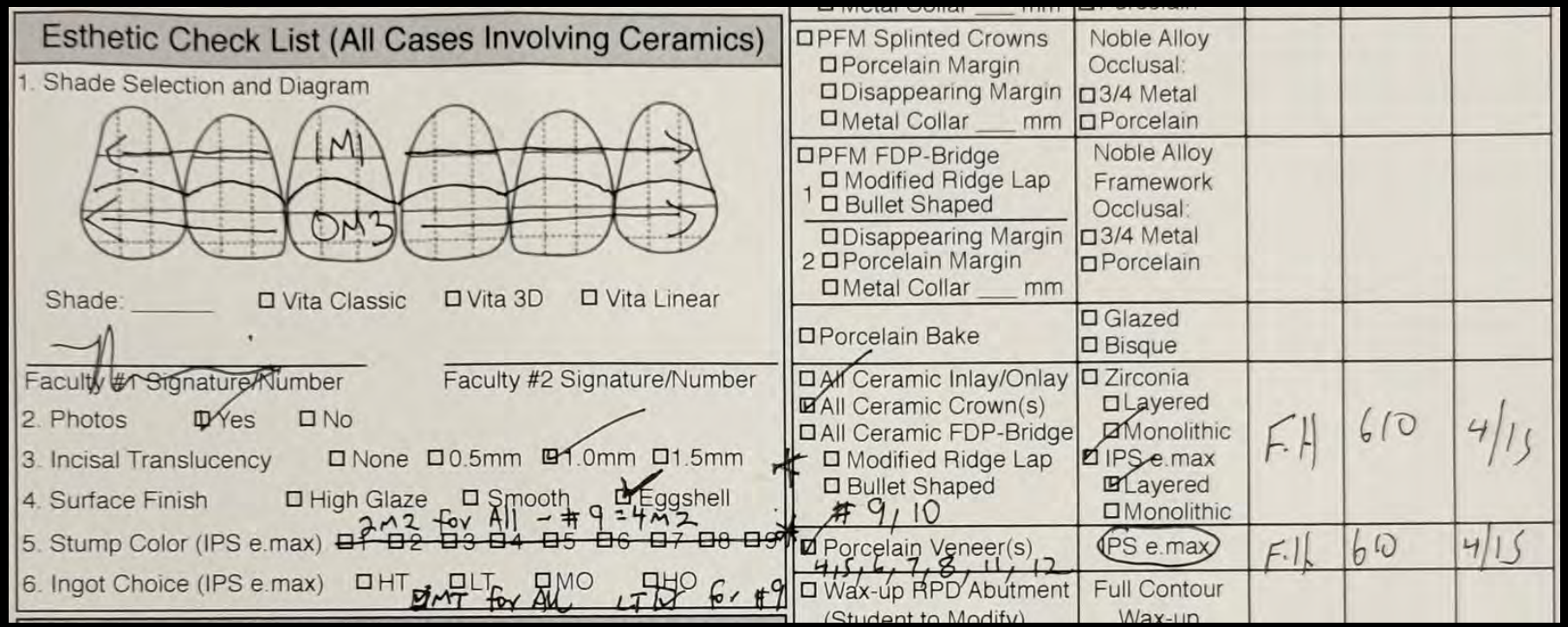
Laboratory Communication


Instructions: Please fab # 4 – 12 layered emax. pressed restorations.
9, 10 = full crowns. # 4, 5, 6, 7, 8, 11, 12 = 3/4 veneers, regular veneers or onlay veneers. Please see stump photos. - majority = 2M2 but #9 endo treated = 4M2 ∴ use LT ingot for #9 while using MT ingot for all others. Please have ~ 1mm incisal trans. & slightly warmer gingival ½ @ 1M1
Also, please see images of temps in place, those + wax up still have slight Cant towards pt. Rt., tooth longer on left. & embrasures tipped accordingly … please correct in porcelain. See lines on wax-up. Revised 10/27/14
Lengthen # 4-8

"Please fab #4-12 layered E.Max pressed restorations.
#9, 10 = full crowns, #4, 5, 6, 7, 8, 11, 12 = ¾ veneers, regular veneers, or onlay veneers.

Please see stump photos – ***majority = 2M2 but #9 endo treated = 4M2***.
Use LT ingot for #9 while using MT ingot for all others.
Please have ***~1mm incisal translucency*** & ***slightly warmer gingival ½ @ 1M1***.

Also, please see images of temps in place, those + wax-ups still have slight cant towards pt's right. Tooth longer on left & embrasure tipped accordingly … please correct in porcelain. See lines on wax-up. Lengthen #4-8."


Esthetic Check List (All Cases Involving Ceramics)

1. Shade Selection and Diagram

Shade: _____ ☐ Vita Classic ☐ Vita 3D ☐ Vita Linear

Faculty #1 Signature/Number — Faculty #2 Signature/Number

2. Photos ☑ Yes ☐ No
3. Incisal Translucency ☐ None ☐ 0.5mm ☑ 1.0mm ☐ 1.5mm
4. Surface Finish ☐ High Glaze ☐ Smooth ☑ Eggshell
5. Stump Color (IPS e.max) ~~☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9~~ 2M2 for All – #9 = 4M2
6. Ingot Choice (IPS e.max) ☐ HT ☐ LT ☐ MO ☐ HO ☑MT for All LT for #9

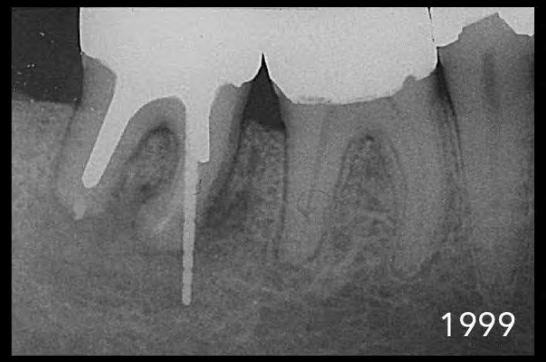
☐ PFM Splinted Crowns ☐ Porcelain Margin ☐ Disappearing Margin ☐ Metal Collar ___ mm	Noble Alloy Occlusal: ☐ 3/4 Metal ☐ Porcelain			
☐ PFM FDP-Bridge 1 ☐ Modified Ridge Lap ☐ Bullet Shaped ☐ Disappearing Margin 2 ☐ Porcelain Margin ☐ Metal Collar ___ mm	Noble Alloy Framework Occlusal: ☐ 3/4 Metal ☐ Porcelain			
☐ Porcelain Bake	☐ Glazed ☐ Bisque			
☐ All Ceramic Inlay/Onlay ☑ All Ceramic Crown(s) ☐ All Ceramic FDP-Bridge ☐ Modified Ridge Lap ☐ Bullet Shaped #9, 10	☐ Zirconia ☐ Layered ☐ Monolithic ☑ IPS e.max ☑ Layered ☐ Monolithic	F.H	6/0	4/15
☑ Porcelain Veneer(s) 4, 5, 6, 7, 8, 11, 12	IPS e.max	F.H	6/0	4/15
☐ Wax-up RPD Abutment (Student to Modify)	Full Contour Wax-up			

- **1M1** gingival/body
- **0M3** incisal
- **1.0mm** incisal translucency
- **Eggshell** surface finish
- **2M2** stump shade #4-12
- **4M2** stump shade #9
- **MT** ingot choice for #4-12
- **LT** ingot choice for #9

MB Root-Amputated #14

- MB root amputated in 2017 by Dr. Grill due to **failing RCT and resorption**
- **Extensive amalgam build-up, mesial class II furcation**
- Single-cord impression technique
- ViscoStat Dark (20% Ferric Sulfate)
- **Digital final impression via iTero**
- Monolithic Zirconia shade 1M2
- ***No adjustments needed at CIMOE***

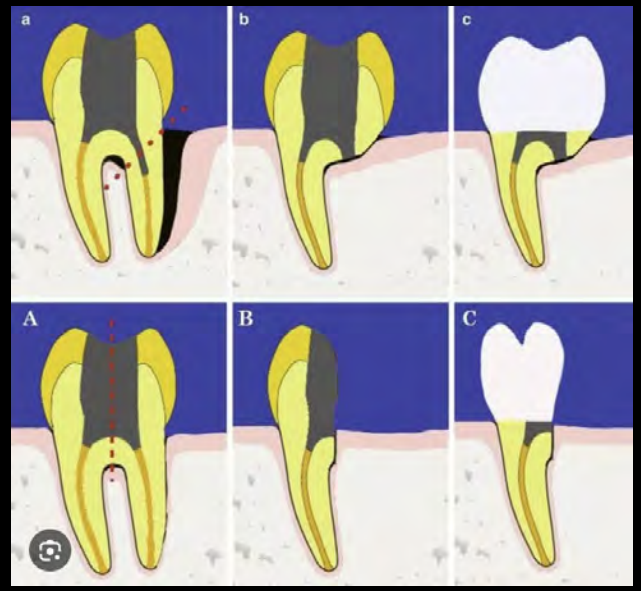
Old-School Treatments



Credit: Dr. Marga Ree DDS, MSc

REE ENDO PRAKTIJK

ROOT AMPUTATION → 92% survival over 12 years[1]
HEMISECTION → 79 to 91% survival over seven to 30 years[2]



Another reason to consider keeping half of a multi-rooted tooth:

Patients experienced four times as many appointments when agreeing to a single tooth implant versus patients having non-surgical root canal treatment and a crown with over twice the expense.[3]

→ Fewer complications than implants, less chair time, fewer appointments, less costly to patient, but no longer *"in vogue"*

1) Basten CH, Ammons WF Jr, Persson R. Long-term evaluation of root-resected molars: a retrospective study. Int J Periodontics Restorative Dent. 1996 Jun;16(3):206-19. PMID: 9084307
2) Derks H, Westheide D, Pfefferle T, Eickholz P, Dannewitz B. Retention of molars after root-resective therapy: a retrospective evaluation of up to 30 years. Clin Oral Investig. 2018 Apr;22(3):1327-1335. doi: 10.1007/s00784-017-2220-1. Epub 2017 Oct 7. PMID: 28988369
3) Vahdati SA, Torabinejad M, Handysides R, Lozada J. A Retrospective Comparison of Outcome in Patients Who Received Both Nonsurgical Root Canal Treatment and Single-tooth Implants. J Endod. 2019 Feb;45(2):99-103. doi: 10.1016/j.joen.2018.10.018. PMID: 30711185

Instructed patient to use at-home whitening kit until one week prior to bonding appointment

Black Triangle Closure

Effects of Bleaching on Shear Bond Strength of Composite Resin & Ceramic to Enamel [1, 2]

Bleaching treatments **alter the surface roughness of enamel** and, thus, the shear bond strength between materials and enamel.
Delaying bonding after bleaching for up to 7 days increases the bond strength between composite / ceramic and enamel.

1) Unlu, N., Cobankara, F. K., & Ozer, F. (2008). Effect of elapsed time following bleaching on the shear bond strength of composite resin to enamel. Journal of Biomedical Materials Research Part B: Applied Biomaterials, 84B(2), 363–368. doi:10.1002/jbm.b.30879

2) Seto TH, Grymak A, Mudliar V, Choi JJE. Effect of Enamel Bleaching on the Bond Strength of Ceramic—A Systematic Review. Oral. 2022; 2(2):182-197. https://doi.org/10.3390/oral2020018

Black Triangle Closure

SCHEDULED FOR NEXT MONDAY !!! 5/6/24

CIMOE #4-12

SCHEDULED FOR NEXT MONDAY !!! 5/6/24

SCHEDULED FOR NEXT MONDAY !!! 5/6/24

CIMOE #4-12

SCHEDULED FOR NEXT MONDAY !!! 5/6/24

Decision Making – Material Selection

Monolithic Zirconia:	**Lithium Disilicate (E.Max)**:
Implant Crowns + #14 FVC • Minimal antagonist tooth wear[1] • High success rate of *anterior and posterior* restorations[1] • Low fracture rates[2] • Superior mechanical properties when compared to all-ceramic restorations[2]	#4-12 veneers, crowns, onlays • *Aesthetic material of choice* (translucency, characterization) • Superior enamel bond and marginal adaptation • Although not as strong as zirconia, still offers excellent long-term success[3]

1)Tang et al., Clinical evaluation of Monolithic Zr crowns for posterior teeth restorations, Baltimore Medicine, Oct 2019, 98 (40)
2) Sulaiman et al., Fracture rate of Monolithic Zirconia restorations up to 5 years, J Prosth Dent, Sep 2016, 116(3)
3) Malament et al., Ten-year survival of pressed, acid-etched EMax LDC restorations, J Prosth Dent, May 2019, 121(5)

Occlusal Night Guard

Why should patients invest?

Not wearing occlusal guard results in:

- **7x increase in porcelain chipping in bruxers**
- **2x increase in porcelain chipping in NON-bruxers**[1]

Lack protective feedback during sleep

- Nightguard is necessary for protection of restorations and implants during sleep.[2]

Effective Maintenance Requirements:

- Education
- Careful adjustment at the delivery
- Periodic adjustments[3]

* To be fabricated and delivered after implant restoration

1) Kinsel et al., Restrospective analysis of ceramic failures of crowns supported by 729 implants, J Prosth Dent, Jun 2009, 101(6)
2) Nishigawa et al., Quantitative Study of Bite Force during sleep, J Oral Rehabil, 2001, 28 (5), pp. 485-491
3) Nesbit et al., Treatment Planning in Dentistry, Second Edition, 2007

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- Dr. Foroud Hakim
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- Dr. Gene Santucci
- Dr. Katherine Diep
- Dr. Sandra McLaren

Implant Faculty
- Dr. Edmond Bedrossian
- Dr. Steven Sadowsky
- Dr. Hussein Al-Wakeel
- Dr. Chi Tran

Perio Faculty
- Dr. Gary Grill

Laboratory Faculty
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- Alfredo Riley
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- Marceyl Jones

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- Patrick Gomez, DDS ’22
- Steven Gong, DDS ‘24
- Natalie Gorman, DDS ’24
- Julianna Xie, DDS '24
- Peto Choti, DDS ‘25
- Molly Delzio, PhD ‘29

Thank you for the education, guidance, and experiences you have all provided for me.

This case felt like the true culmination of my dental school journey. All the disciplines we have learned about played a role in our treatment plan. Due to the patient’s expectations and my own motivation to delivery the best possible results, I was pushed for growth in my areas of weakness. With proper guidance and mentorship, I was able to navigate the many challenges involved in this case with just the right amount of difficulty, which helped tremendously in helping me to actually learn the process from start to finish. I would especially like to thank Dr. Hakim for his invaluable knowledge and support during the aesthetic components of this treatment plan.

Thank you all!

Citations

Basten CH, Ammons WF Jr, Persson R. Long-term evaluation of root-resected molars: a retrospective study. Int J Periodontics Restorative Dent. 1996 Jun;16(3):206-19. PMID: 9084307

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Fueki K, et al. J Oral Rehabil 2017;44:563-72, Fueki K, et al. J Oral Rehabil 2016;43:534-42, Fueki K, et al. J Oral Rehab 2011;38:525-32

Kinsel et al., Restrospective analysis of ceramic failures of crowns supported by 729 implants, J Prosth Dent, Jun 2009, 101(6)

Malament et al., Ten-year survival of pressed, acid-etched EMax LDC restorations, J Prosth Dent, May 2019, 121(5)

Mark Scarbecz, Using DISC system to motivate patients, Journal of American Dental Association, March 2007, Revised 2020, 138(3): 381-5.

Nesbit et al., Treatment Planning in Dentistry, Second Edition, 2007

Nishigawa et al., Quantitative Study of Bite Force during sleep, J Oral Rehabil, 2001, 28 (5), pp. 485-491

Seto TH, Grymak A, Mudliar V, Choi JJE. Effect of Enamel Bleaching on the Bond Strength of Ceramic—A Systematic Review. Oral. 2022; 2(2):182-197. https://doi.org/10.3390/oral2020018

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Thoma DS, et al. J Clin Periodontol 2018;45:1465-74.

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OKU Sutro Excellence Day Project Cover Sheet

Project Title

Aesthetic & Functional Oral Rehabilitation: A Multi-Disciplinary Case involving Periodontics, Orthodontics, Implants, Veneers, and Crowns

Full name(s) and class year(s) of all project collaborators

Example: Jane Smith, DDS 2022; John Smith, DDS 2022

Siavash Ghadiri Zahrani, DDS 2024

Project Category

DDS/IDS - Clinical Awards: Restorative (Direct or Indirect)

Enter your abstract text here (max 300 words)

A truly multidisciplinary case, this project is a case presentation of a patient who recently finished orthodontic treatment and has been wanting implants and veneers since becoming a patient in 2016. Prosthodontic treatment plan consists of 4 implants (sites 3, 13, 19, 30), 7 veneers (sites 4, 5, 6, 7, 8, 11, 12), and 3 crowns (sites 9,10,14). The patient is acutely aesthetically conscious, so we strived to deliver the best results possible via extensive, detailed, open communication with the lab. Challenges included the lack of proper posterior support and minimal contacts, management of patient expectations, as well as time management to be able to submit the project in time for excellence day.

Acknowledgements

RESTORATIVE:
Dr. Foroud Hakim
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