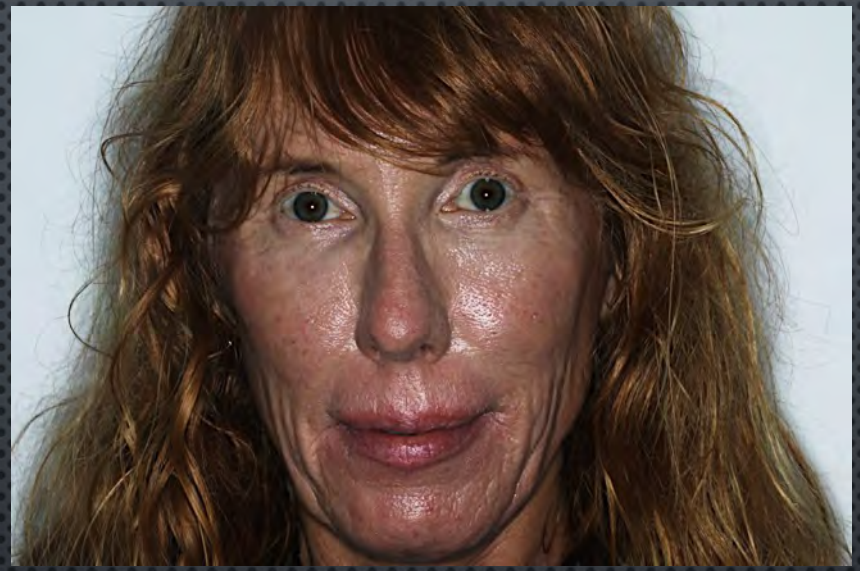
THE DIRECT AND INDIRECT RESTORATIVE COMPONENTS OF A FULL MOUTH REHABILITATION

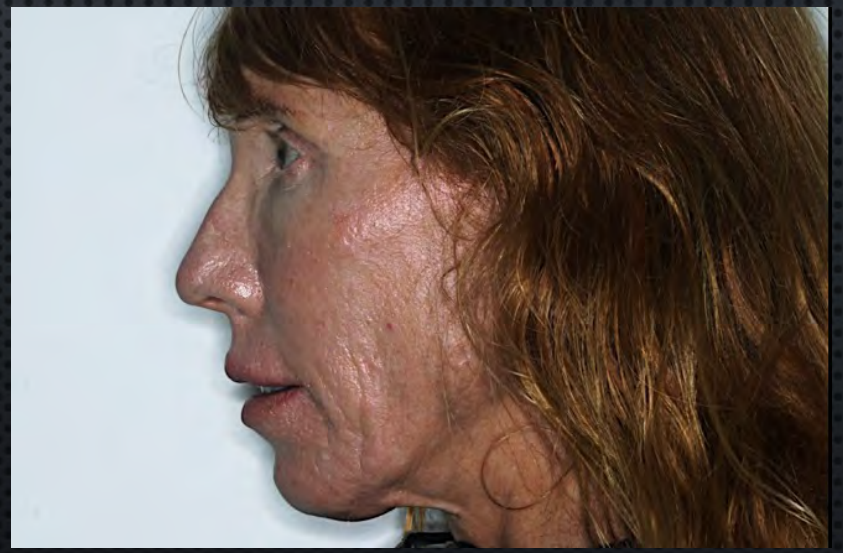
BRANDON GOLUB DDS 2021

PATIENT BACKGROUND

- NAME: MICHELLE
- CC: "I WANT TO REPLACE MY MISSING TEETH WITH IMPLANTS AND MAKE MY SMILE AND MOUTH HEALTHY"
- AGE/SEX/RACE: 56 YO, FEMALE, CAUCASIAN
- HPI: HEAVILY RESTORED MOUTH, SOME WORK DONE IN MEXICO, **NO REGULAR DENTAL APPOINTMENTS OR DENTAL HOME, SEVERE DENTAL ANXIETY**
- MEDICAL HX: **RECOVERED OPIOID USER AND FORMER SMOKER, HISTORY OF BULIMIA AND ALCOHOLISM**
- MEDICATIONS: **ACCUTANE**, SPIRONOLACTONE - BOTH FOR SKIN
- SOCIAL HX: INTERIOR DESIGNER, LOVES PHOTOGRAPHY AND TO BE OUTDOORS
- HABITS: NO TOBACCO, NO ETOH
- ASA: I

EXTRAORAL PHOTOS
8/31/2020





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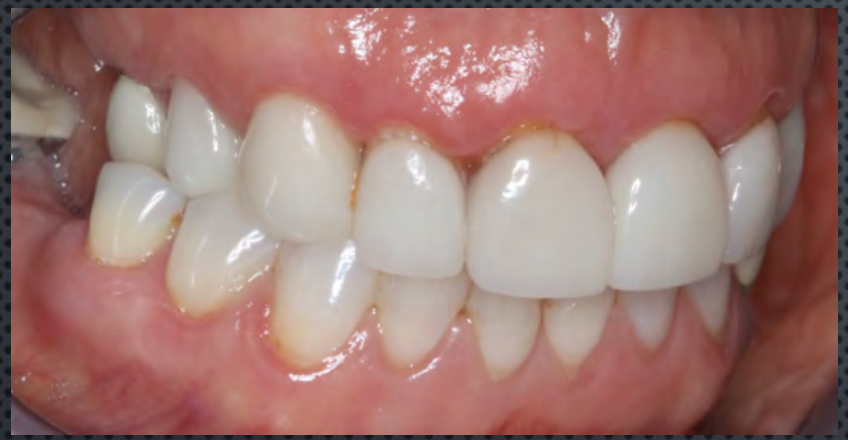
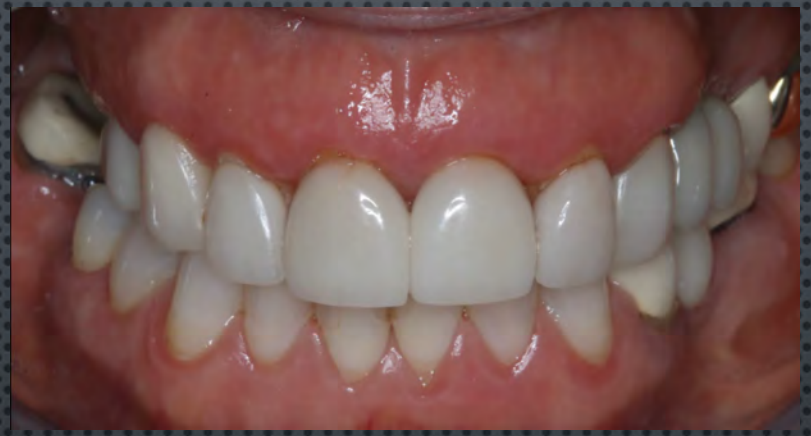
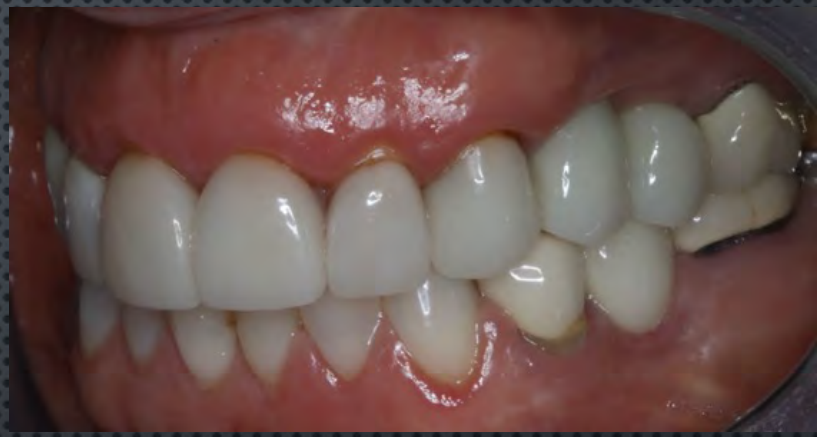
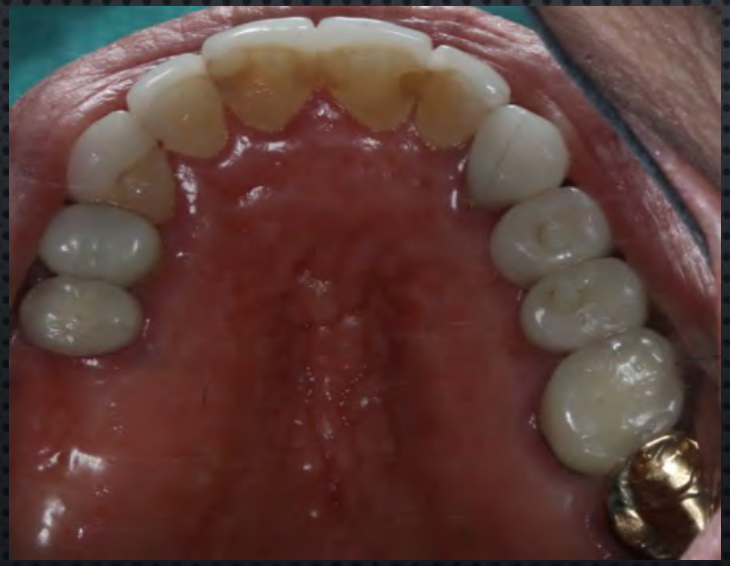
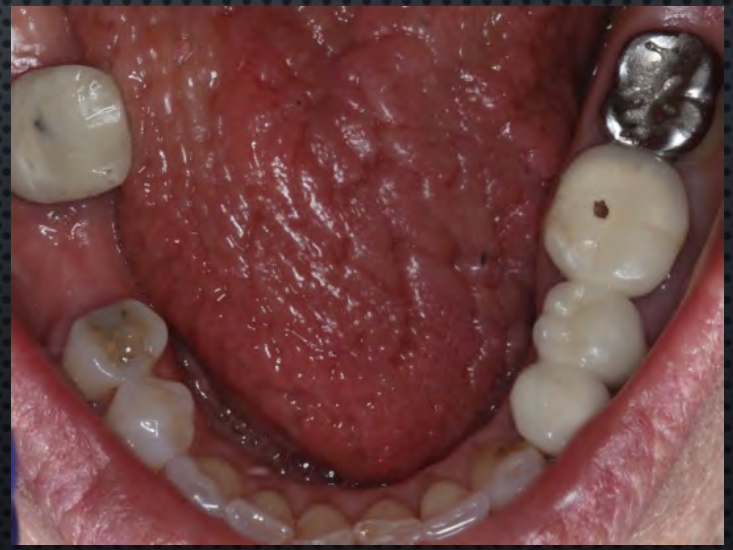
8/31/2020



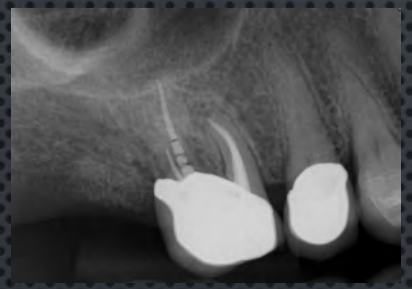
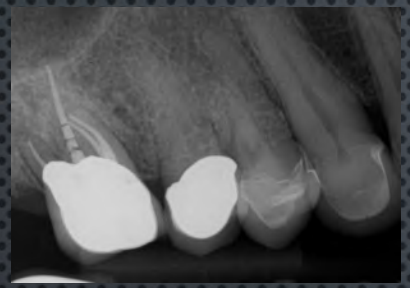
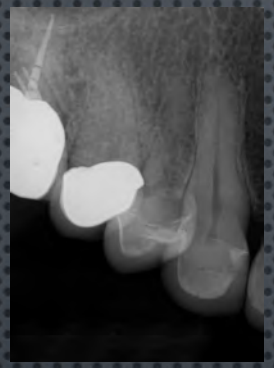
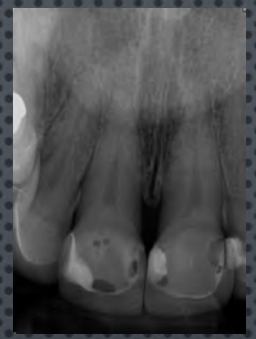
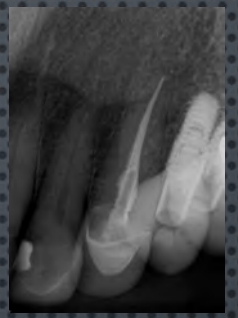
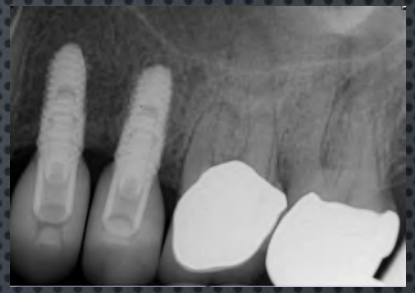
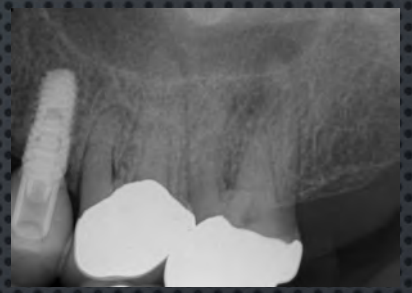
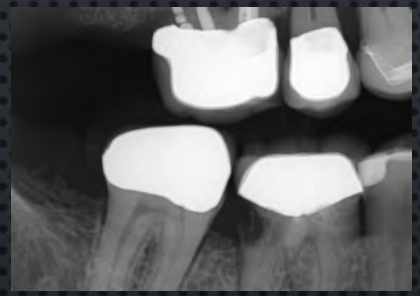
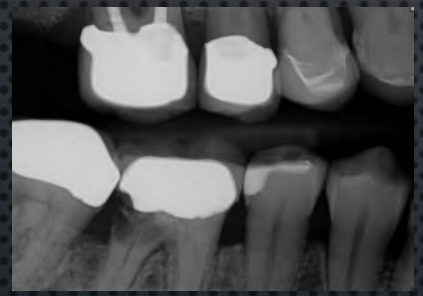
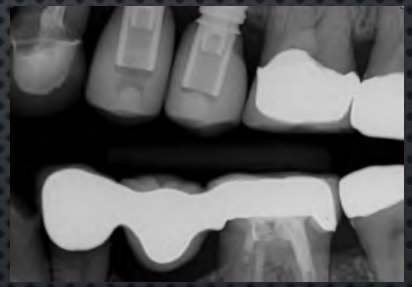
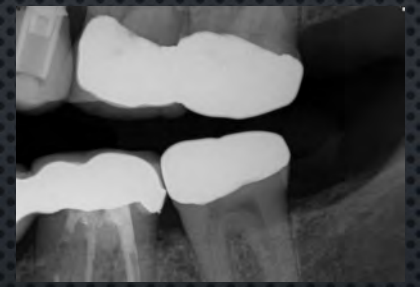
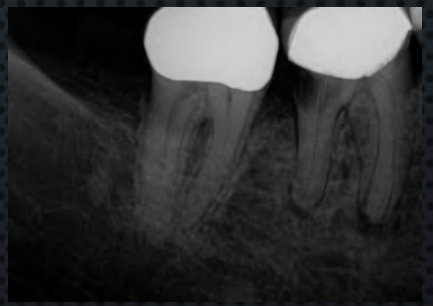
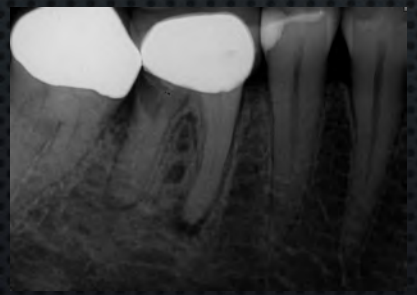
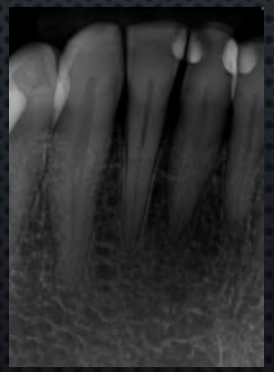
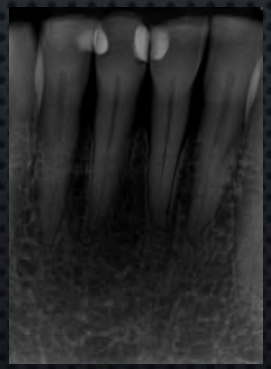
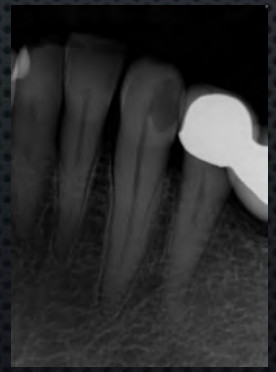
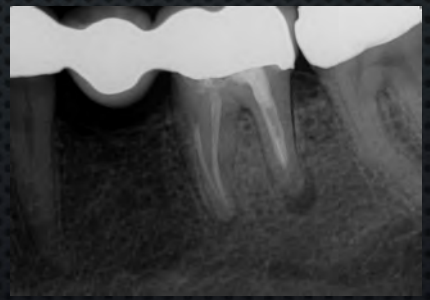
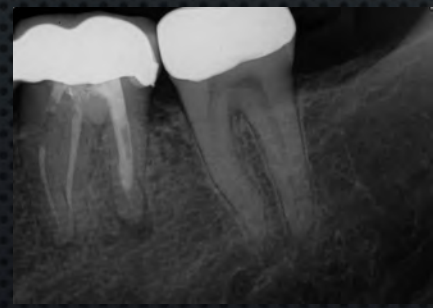






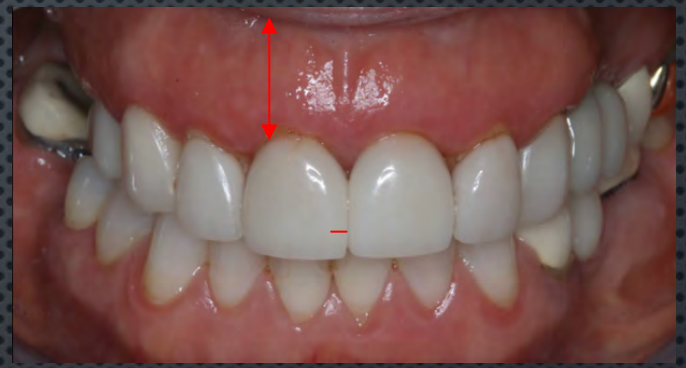


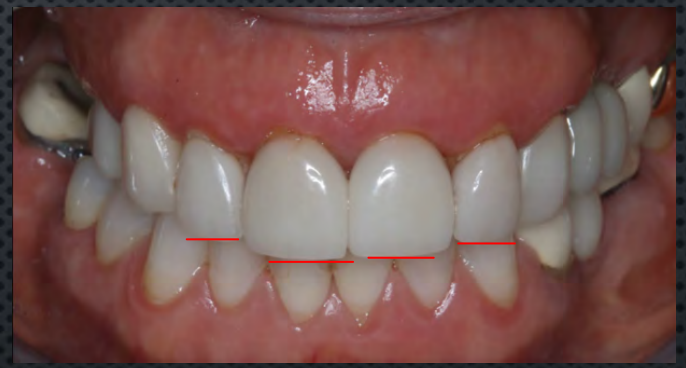
ODTP
8/18/2020

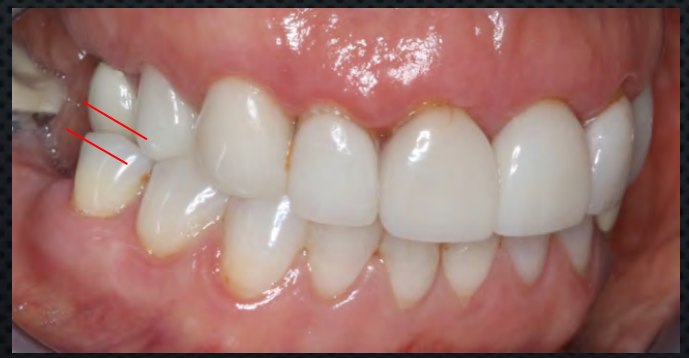



















OCCLUSAL AND FACIAL ASSESSMENT

- High lip (smile) line
  - Vertical maxillary excess
- Midline deviation ~1-2mm
  - Right unilateral posterior crossbite
- Convex facial profile
- **Class 1 occlusion**
- **Class 1 canine classification**
- **Canine guidance**
- Central incisor vertical overlap: 1mm
- Central incisor functional horizontal overlap: 3mm
- Right canine vertical overlap: 1mm
- Right canine functional horizontal overlap: 1mm
- Left canine vertical overlap: 1mm
- Left canine functional horizontal overlap: 1mm
- Tooth #8 longer than tooth #9
- Tooth #10 longer than tooth #7
- Crowding, rotated lower anterior teeth

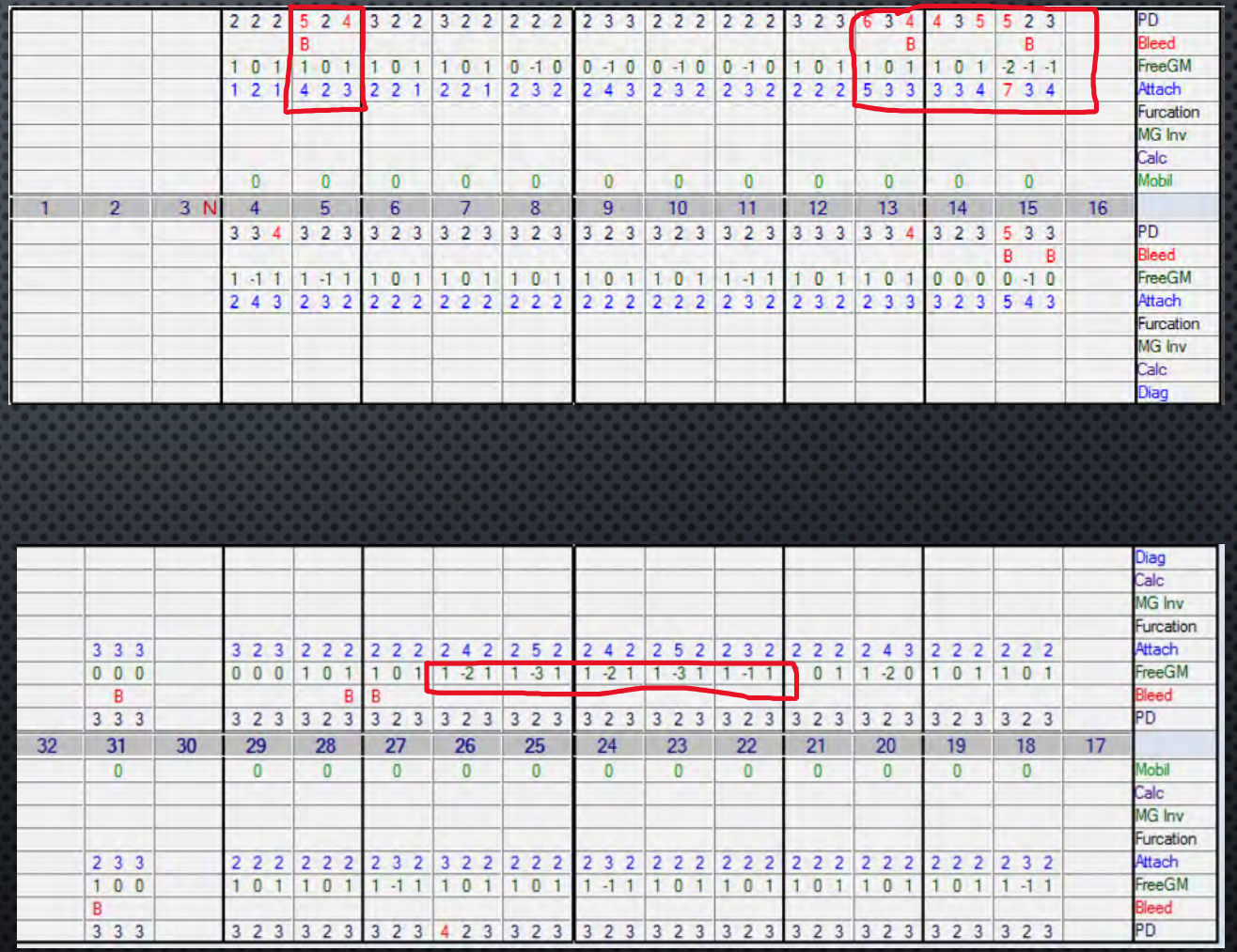






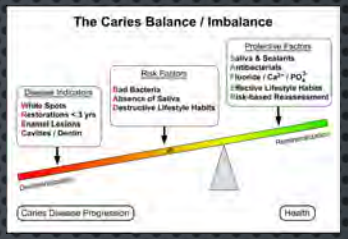
PERIODONTAL FINDINGS

- PLAQUE INDEX: 1.2
- PROBING DEPTHS: GENERALIZED 2-3 MM WITH LOCALIZED 4-6MM IN UL POSTERIOR TEETH AND #5



DENTAL FINDINGS

- Generalized recurrent decay
- #3 – missing*
- #5- Recurrent decay of porcelain crown
- #6 – Recurrent decay of Veneer
- #7 – Recurrent decay of Veneer
- #8- Recurrent decay of Veneer
- #9 – Recurrent decay of Veneer
- #11- Recurrent decay of Porcelain Crown
- #14 – Recurrent decay of PFM crown with PARL
- #15 – Recurrent decay of gold crown with PARL
- #19 – Bridged with #21 PARL on distal root, poor fill of endo
- #21 - Recurrent decay
- #24 - Recurrent decay of composite
- #25 – Recurrent decay of composite
- #26 – recurrent decay of composite
- #28 – ICDAS 2
- #29 – Recurrent decay of DO composite, mesial decay
- #30 – missing *
- #31 – Recurrent decay, porcelain worn away on occlusal of crown



Young et al., 2011

CARIES RISK: HIGH OVERALL CARIES RISK

Disease Indicators:
- New/progressing visible cavitations or radiolucencies into dentin

Risk Factors:
- High acidogenic bacterial load: 1st recording – 1841 RLU, 2nd redo recording for accuracy – 2891 RLU
- Frequent snacking, hyposalivation

Protective Factors:
- Fluoride toothpaste 2x daily
- Adequate saliva flow

*Extracted in February 2020

Diagnosis and Prognosis

Periodontal Dx: Generalized mild periodontitis, Stage 1 Grade B

- Etiology: bacterial plaque, poor oral hygiene, defective restorations, diet
- Prognosis: good

Dental Dx : High caries risk with gross recurrent decay

Occlusal Dx: Mutually protected occlusion with bilateral simultaneous posterior contact

OVERALL PROGNOSIS = Good with improved oral hygiene, CAMBRA products, new restorations, and consistent recall appointments.

HEART BEFORE HANDS

- I understood that the most difficult aspect of this case was not going to be the dentistry but getting Michelle into the right mentality. A big part of my role before even picking up the handpiece would be spending time explaining the importance of taking care of herself in all manners, including oral health, mental health, and her overall well-being. Each appointment, I knew it would be important to keep Michelle's dental phobia and anxiety in mind and my plan was to make her feel as comfortable and safe as possible.

COMPREHENSIVE IDEAL TX PLAN

URGENT PHASE:
NONE

PATIENT PREFERENCES:
- NO REMOVABLE APPLIANCE
- SOLITARY, ESTHETIC CROWNS

DISEASE CONTROL PHASE:
- 3 QUAD (UR/UL/LR) LIMITED SRP AND PROPHY, OHI, CAMBRA PRODUCTS, ITE (4-6 WKS)
- #5- #11 CARIES REMOVAL, BUILDUP IF NECESSARY
- #14 – CARIES REMOVAL, RCT, BUILDUP
- #15 – CARIES REMOVAL, RCT, BUILDUP
- #19 – EXTRACTION WITH BONE GRAFT
- #21 – CARIES REMOVAL AND BUILDUP, RCT IF NECESSARY
- #24- #26 – CARIES REMOVAL, BUILDUP IF NECESSARY
- #29 – CARIES REMOVAL AND MOD COMPOSITE FILL
- #31 – CARIES REMOVAL AND BUILDUP

RESTORATIVE PHASE
- #3 BONE GRAFT, IMPLANT, ZIRCONIA CROWN
- #5 - #11 LAYERED E.MAX CROWN
- #14 MONOLITHIC ZIRCONIA CROWN
- #15 MONOLITHIC ZIRCONIA CROWN
- #19 IMPLANT, ZIRCONIA CROWN
- #20 IMPLANT, ZIRCONIA CROWN
- #21 MONOLITHIC ZIRCONIA CROWN
- #23-#26 E.MAX VENEERS (#23 FOR ESTHETICS)
- #30 BONE GRAFT, IMPLANT, ZIRCONIA CROWN
- *#18 MONOLITHIC ZIRCONIA CROWN WOULD LATER BE ADDED DUE TO ESTHETIC CONCERNS

- **ORAL HYGIENE AND HOME CARE WAS DISCUSSED EXTENSIVELY**

TOTAL COST: ~$32,000

MAINTENANCE PHASE:
- 4 MONTH RECALLS
- OCCLUSAL GUARD (MAXILLARY)

CAMBRA
- CTX4 RINSE FOR 30 DAYS
- CTX3 RINSE FOLLOWING CTX4 RINSE
- PREVIDENT 5000 TOOTHPASTE
- XYLITOL GUM

EXPECTED TIMEFRAME OF TREATMENT: ~14-16 MONTHS

Alternative tx plan #1: Combination with fixed pros.

Instead of **extraction #19 and bone graft**:
- Caries removal and root canal retreatment #19

As an alternative to **implants**:
- #19-21 redo zirconia or PFM
- #29-31 Zirconia or PFM bridge

Total cost: ~$22,000

Expected timeframe of treatment: ~9-12 months

Alternative tx plan #2: Combination with Removable

As an alternative to implants or fixed pros.:
- #2, #3 – Removable Partial Denture
- #19, #20, #30 - Removable Partial Denture

Total cost: ~$23,000

Expected timeframe of treatment: ~10-12 months

Alternative tx plan #3: Zirconia on anterior crowns

Instead of **E.max Lithium Disilicate on anterior restorations**
- #5-11 monolithic or layered zirconia

Total cost: ~$32,000

Expected timeframe of treatment: ~14-16 months

Alternative tx plan #4: Composite veneers

Instead of **E.max Lithium Disilicate on lower anterior veneers**
- #23-26 composite veneer restorations

Total cost: ~$31,000

Expected timeframe of treatment: ~14-16 months

Alternative tx plan #5: PFM restorations

Instead of **E.max Lithium Disilicate or zirconia full coverage restorations:**
- #5-#11 PFM crowns
- #14, #15, #31 PFM crown

As an alternative to **zirconia crown on implant restoration:**
- #3, #30 PFM implant crown

Total cost: ~$31,000

Expected timeframe of treatment: ~14-16 months

Alternative tx plan #6: Removable with implants

Instead of **implants on #3 or #30:**
- Implant #3, RPD #19,#20, #30

OR

Instead of **extraction #19 and bone graft**:
- Caries removal and root canal retreatment #19
- #19-21 redo zirconia or PFM
- Implant #30, RPD #2, #3

Total cost: ~$29,000

Expected timeframe of treatment: ~15-17 months

WHY MONOLITHIC ZIRCONIA FOR THE POSTERIOR CROWNS?

- THE MECHANICAL PROPERTIES OF **MONOLITHIC ZIRCONIA** RESTORATIVE MATERIAL ARE **SUPERIOR** TO ALL-CERAMIC RESTORATIVE MATERIALS, ALLOWING FOR **AVOIDANCE OF FRACTURE AND CHIPPING**
- IN STUDY BY TANG, ET AL., DURING THE 96-WEEK FOLLOW-UP PERIOD, THE **MONOLITHIC ZIRCONIA CROWN** WAS FOUND TO HAVE **GOOD BIOCOMPATIBILITY**, **MINIMAL** ANTAGONIST **TOOTH WEAR**, AND **SUCCESS RATE** OF POSTERIOR RESTORATIONS WAS HIGH
- IN THE STUDY BY SULAIMAN ET AL., IT WAS OBSERVED IN A 5-YEAR PERIOD THAT THE RESTORATIONS FABRICATED FROM **MONOLITHIC ZIRCONIA MATERIAL** HAD **LOW FRACTURE RATES**.
    - **ANTERIOR** RESTORATIONS FRACTURED AT A SLIGHTLY **HIGHER RATE** THAN POSTERIOR RESTORATIONS.

WHY E.MAX LITHIUM DISILICATE FOR THE ANTERIOR CROWNS?

- **BOND** RESTORATION TO TOOTH FOR **LONG TERM RETENTION AND SEAL**
- **SUPERIOR ESTHETICS**
- BETTER **MARGIN ADAPTATION**
- **LAYERING TECHNIQUE ALLOWS FOR CUSTOM INTERNAL CHARACTERIZATION**

Gunge, H., Ogino, Y., Kihara, M., Tsukiyama, Y., & Koyano, K. (2018). Retrospective clinical evaluation of posterior monolithic zirconia restorations after 1 to 3.5 years of clinical service. Journal of oral science, 60(1), 154–158. https://doi.org/10.2334/josnusd.17-0176

Malament, K. A., Natto, Z. S., Thompson, V., Rekow, D., Eckert, S., & Weber, H. P. (2019). Ten-year survival of pressed, acid-etched e.max lithium disilicate monolithic and bilayered complete-coverage restorations: Performance and outcomes as a function of tooth position and age. The Journal of prosthetic dentistry, 121(5), 782–790. https://doi.org/10.1016/j.prosdent.2018.11.024

Sulaiman, T. A., Abdulmajeed, A. A., Donovan, T. E., Cooper, L. F., & Walter, R. (2016). Fracture rate of monolithic zirconia restorations up to 5 years: A dental laboratory survey. The Journal of prosthetic dentistry, 116(3), 436–439. https://doi.org/10.1016/j.prosdent.2016.01.033

Tang, Z., Zhao, X., Wang, H., & Liu, B. (2019). Clinical evaluation of monolithic zirconia crowns for posterior teeth restorations. Medicine, 98(40), e17385. https://doi.org/10.1097/MD.0000000000017385

BONDING E.MAX LITHIUM DISILICATE

- In report by Succaria and Morgano, lithium disilicate crowns were shown to have the same or higher fracture resistance when bonded than when not bonded
  - This fracture strength further increases when the preparation is below the manufacturer recommended 1.5mm minimum thickness.
- In the same report, several studies showed that zirconia crowns did not have a significantly higher fracture strength when bonded with resin cements than when cemented with glass ionomer or zinc phosphate cements, even with 0.5 mm(smaller) occlusal thickness.
- Several laboratory studies have determined that bonding crowns with resin cements increases the retention strength of the crown more than cementing with glass ionomer or zinc phosphate cements.

Lawson, N. C., Litaker, M. S., Ferracane, J. L., Gordan, V. V., Atlas, A. M., Rios, T., Gilbert, G. H., McCracken, M. S., & National Dental Practice-Based Research Network Collaborative Group (2019). Choice of cement for single-unit crowns: Findings from The National Dental Practice-Based Research Network. Journal of the American Dental Association (1939), 150(6), 522–530. https://doi.org/10.1016/j.adaj.2019.01.021

Succaria, F., & Morgano, S. M. (2011). Prescribing a dental ceramic material: Zirconia vs lithium-disilicate. The Saudi dental journal, 23(4), 165–166. https://doi.org/10.1016/j.sdentj.2011.10.001

NOW THAT WE DECIDED ON E.MAX, MONOLITHIC OR LAYERED?

- LITERATURE FINDS THAT **LAYERED** E.MAX LITHIUM DISILICATE CROWNS PROVIDE **GREATER ESTHETICS** DUE TO THE ADDITIONAL LAYER OF PORCELAIN THAT IS FIRED OVER THE CORE
  - IT IS **RECOMMENDED** THAT **LAYERED** E.MAX LITHIUM DISILICATE BE USED FOR **ANTERIOR RESTORATIONS**

- A **DISADVANTAGE** OF HAVING A LAYERED RESTORATION VERSUS A MONOLITHIC RESTORATION IS THAT THE LAYERED RESTORATION IS **MORE PRONE TO FRACTURE** AND STUDIES DEMONSTRATE THAT IT GIVES "UNDER SHEAR" OR FLEXURAL LOADS BETWEEN 90 AND 140 MPA.

- **WE ULTIMATELY DECIDED WITH LAYERED E.MAX LITHIUM DISILICATE FOR ITS ESTHETIC PROPERTIES**

Fahl N Jr, McLaren EA, Margeas RC. Monolithic vs. layered restorations: considerations for achieving the optimum result. Compend Contin Educ Dent. 2014 Feb;35(2):78-9. PMID: 24712092.

INTERDISCIPLINARY CARE
DISCIPLINES INVOLVED: 6

MICHELLE ACCEPTED THE IDEAL, COMPREHENSIVE TREATMENT PLAN

PERIODONTICS: SCALING AND ROOT PLANNING, OHI, ITE

DIRECT RESTORATIVE:

COMPOSITE RESTORATIONS (2)

ENDODONTICS:

ROOT CANAL THERAPY (2)

ORAL SURGERY: SURGICAL EXTRACTIONS AND BONE GRAFTING(4)

FIXED RESTORATIVE:

BUILD UP PLACEMENT, SINGLE UNIT CROWN DELIVERIES (11), MULTIPLE UNIT VENEER DELIVERIES (4), OCCLUSAL GUARD DELIVERY (1)

IMPLANTS:

IMPLANT PLACEMENT WITH BONE GRAFTING (4), 3-UNIT IMPLANT FDP DELIVERY, SINGLE UNIT IMPLANT CROWN DELIVERIES (2)

INTERDISCIPLINARY CARE

KEYS TO SUCCESS

- EFFICIENT COMMUNICATION BETWEEN EACH SPECIALTY AND CONSISTENT FOLLOW-UP NECESSARY.

PROGRESSION OF TREATMENT PLAN

PHASE 1: TO MAINTAIN VDO

- ESTABLISH AND MAINTAIN POSTERIOR STOPS FOR STABLE VDO AND OCCLUSION

1. 3 QUADRANT (UR/UL/LR) LIMITED SRP AND PROPHY, OHI, ITE
2. #29 – CARIES REMOVAL AND COMPOSITE RESTORATION MOD
3. #14 – CARIES REMOVAL, RCT, BUILDUP, PREP AND TEMP FOLLOWED BY DELIVERY OF CROWN
4. #19 – SECTION BRIDGE, EXTRACTION WITH BONE GRAFT
5. #21 – CARIES REMOVAL, RCT IF NECESSARY, PREP AND TEMP FOLLOWED BY DELIVERY OF CROWN
6. #15 – CARIES REMOVAL, RCT, BUILDUP, PREP AND TEMP FOLLOWED BY DELIVERY OF CROWN
7. #31 – CARIES REMOVAL AND BUILDUP, PREP AND TEMP FOLLOWED BY DELIVERY OF CROWN
8. #3 BONE GRAFT AND IMPLANT & #30 BONE GRAFT AND IMPLANT

PHASE 2: TO BUILD BACK

- WITH POSTERIOR STOPS AND VDO MAINTAINED, THE OCCLUSION WAS STABLE

ONCE PREVIOUS RESTORATIONS IN PHASE 1 WERE ALL DELIVERED AND POSTERIOR STOPS MAINTAINED, WE BEGAN THIS PHASE.

1. #5- #11 CARIES REMOVAL AND BUILDUP IF NECESSARY, PREP AND TEMP FOLLOWED BY DELIVERY OF CROWNS
2. IMPLANT PLACEMENT 19-21 WITH BONE GRAFT
3. IMPLANT #3 AND #30 RESTORATIONS
4. #23-26 CARIES REMOVAL, VENEER PREP AND TEMPS FOLLOWED BY DELIVERY OF CROWNS
5. #19-21 IMPLANT FDP RESTORATION
6. NEW PLAN ADDED FOR REDO CROWN #18 (ZIRCONIA)
7. OCCLUSAL GUARD FOR MAXILLA

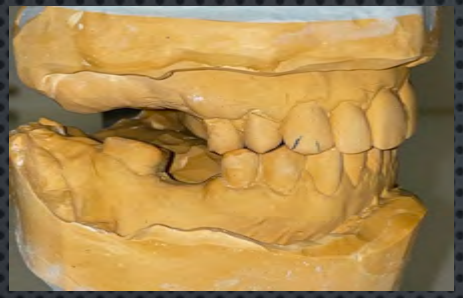
THIS PRESENTATION OF IMAGES AND DENTAL WORK IS IN CHRONOLOGICAL ORDER OF THE TREATMENT PLAN AND HOW WE PROGRESSED THROUGH CLINIC

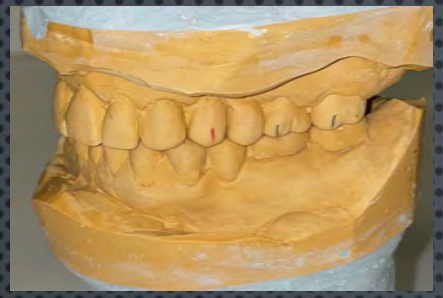
- I STARTED THIS CASE IN SEPTEMBER 2020 AND FINISHED IN MAY 2021

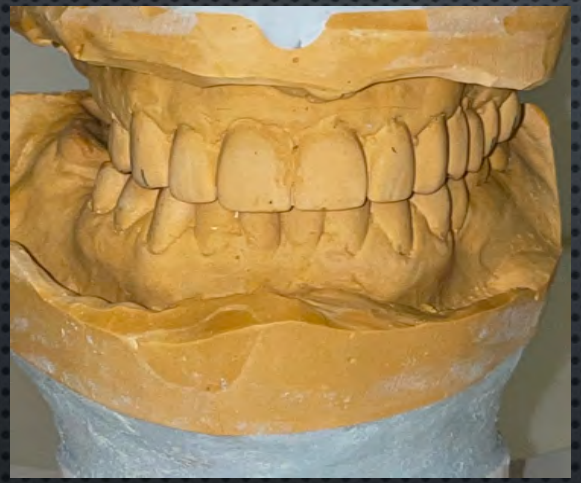
****EXPECTED TIMEFRAME FOR COMPLETION: 14-16 MONTHS****

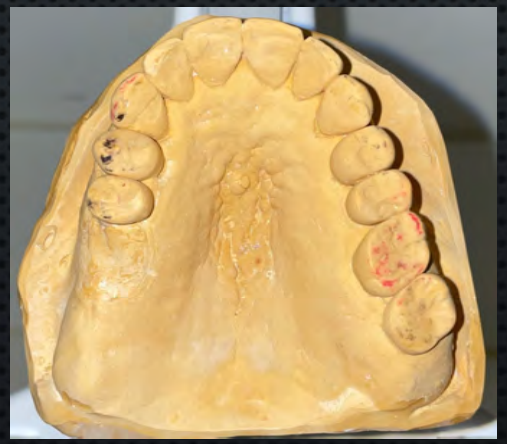
****ACTUAL TIMEFRAME OF COMPLETION: 8 MONTHS****

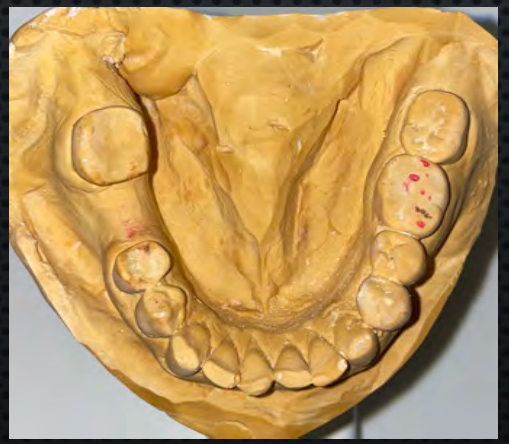
DIAGNOSTIC CASTS



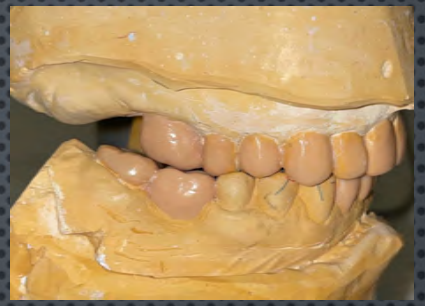


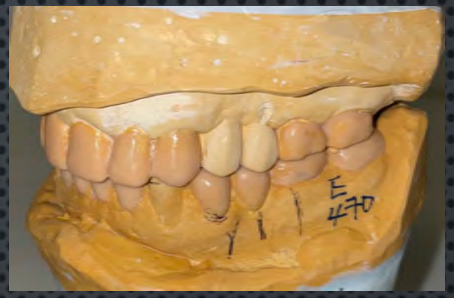


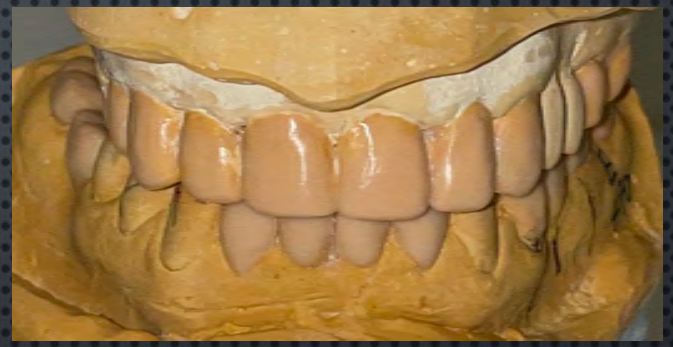


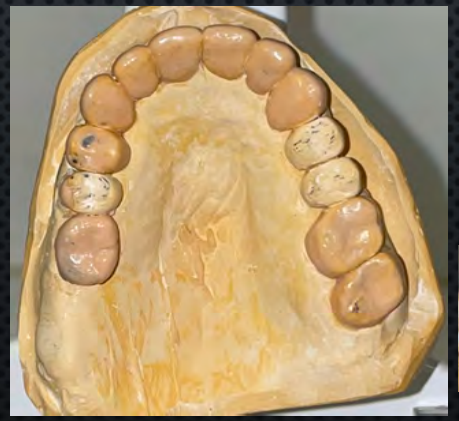


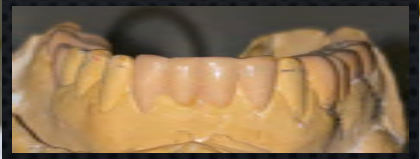
DIAGNOSTIC CASTS WITH WAX-UP

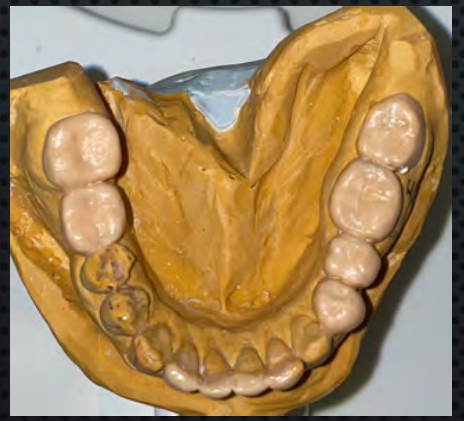






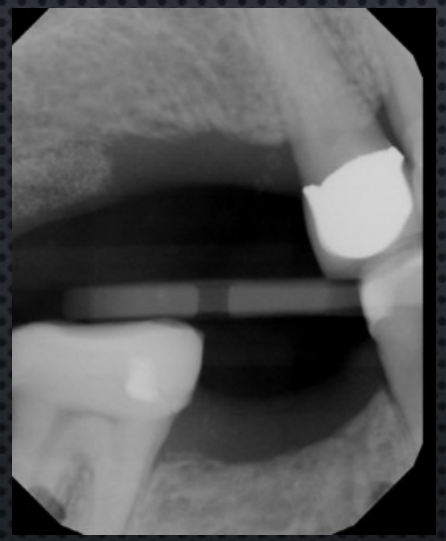




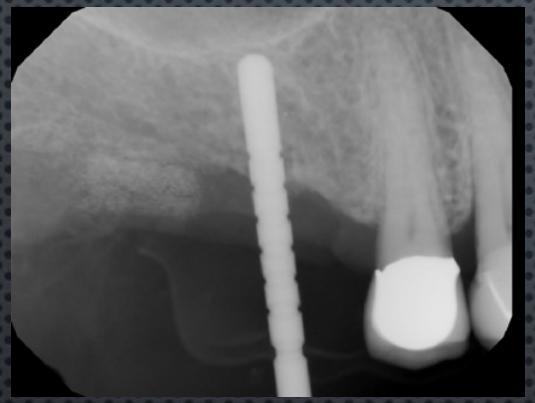


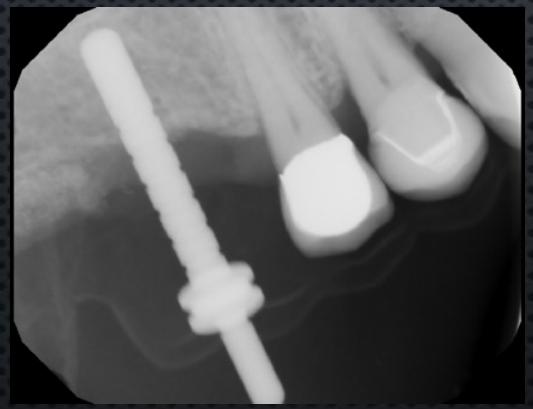
IMPLANT PLACEMENT #3
10/27/2020

- **THIS DAY, I PLACED MY FIRST IMPLANT (#3) UNDER THE SUPERVISION OF DR. MASHKOOR**

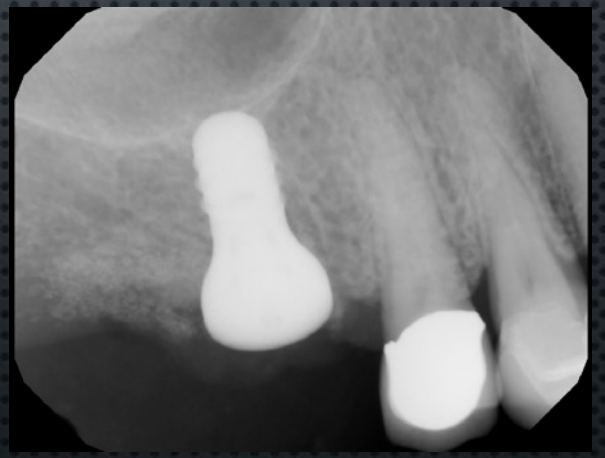


PRE-OP BWX

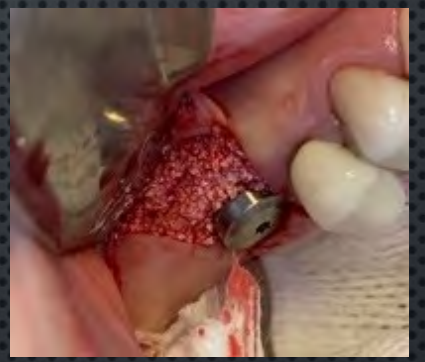


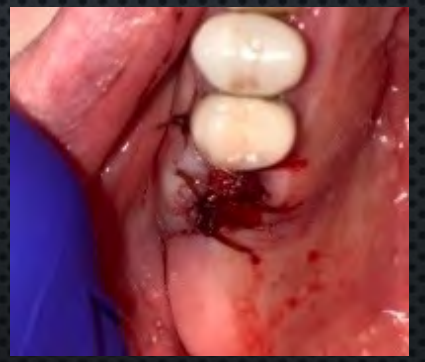


IMPLANT INTRA-OP PAS



FINAL PA



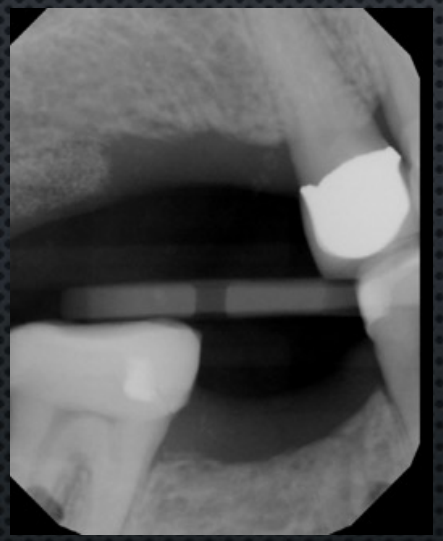


INTRAORAL PHOTOGRAPHS POSTOP

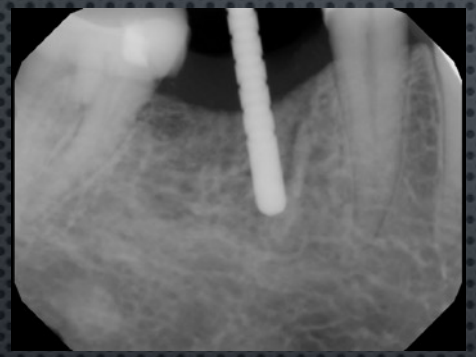
Sadowsky SJ. Dent Mater 2020;36:1-8, Zhang Y. Dent Mater 2014;30:1195-1203.

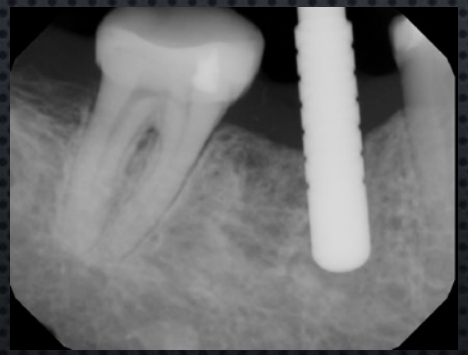
IMPLANT PLACEMENT #30
10/27/2020

- **THIS SAME DAY, I PLACED MY SECOND IMPLANT (#30) UNDER THE SUPERVISION OF DR. MASHKOOR ★**



PRE-OP BWX





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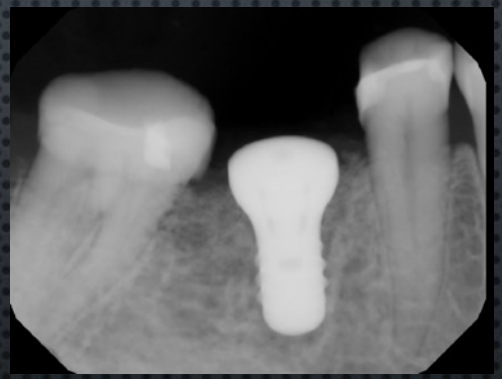
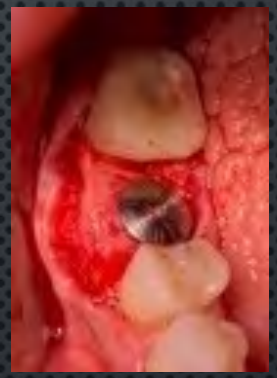
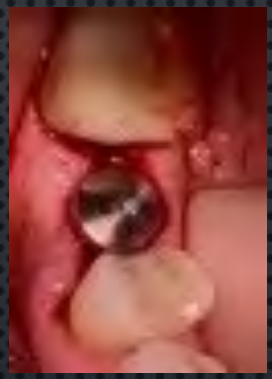
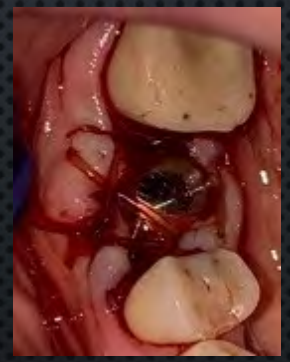


FINAL PA POST-OP



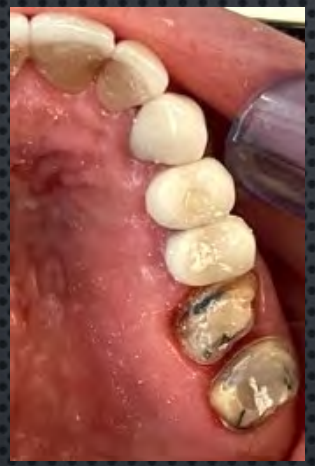




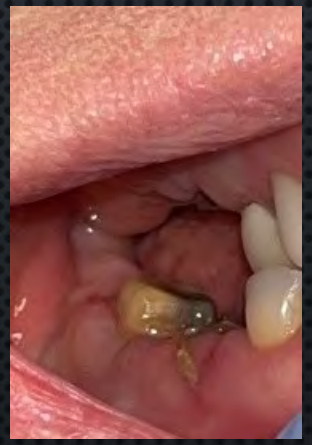
INTRAORAL PHOTOGRAPHS

Sadowsky SJ. Dent Mater 2020;36:1-8, Zhang Y. Dent Mater 2014;30:1195-1203.

ZIRCONIA CROWN #14, #15, #31
DELIVERED 11/06/2020



PREPPED
#14, #15



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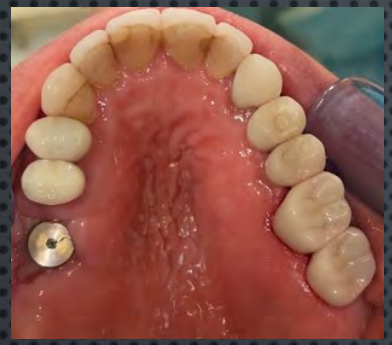
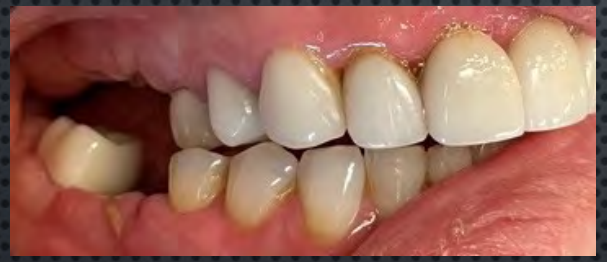
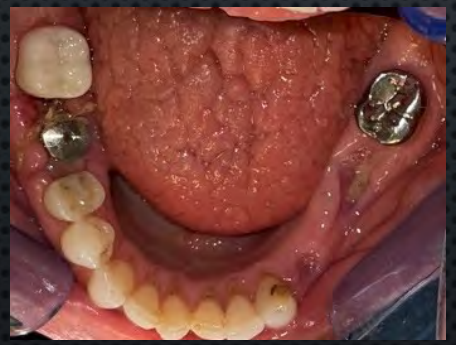
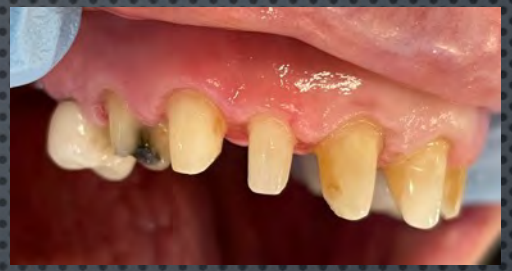


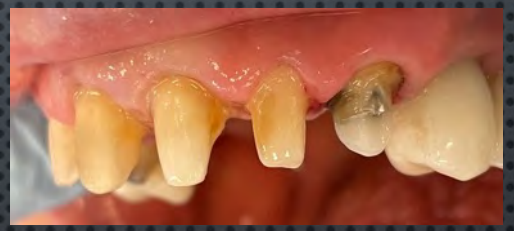


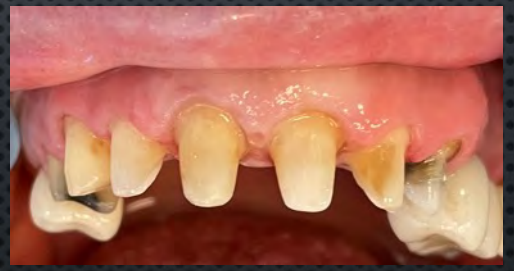


POST-DELIVERY

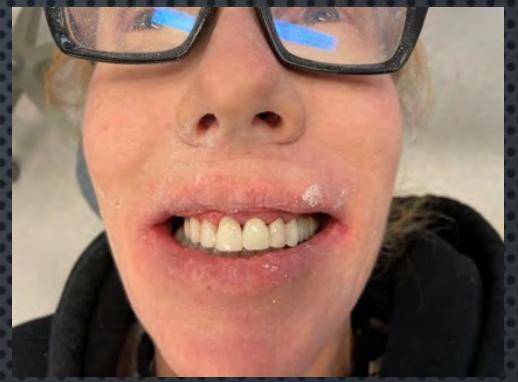
PREP AND TEMP, #5-11
11/16/2020

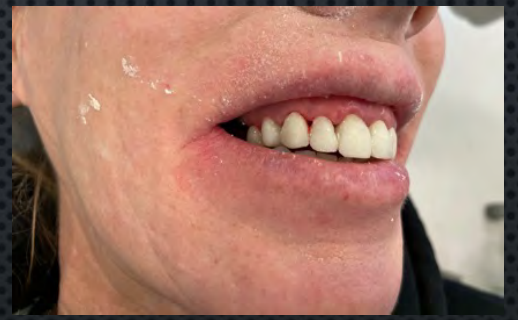






PREPPED #5-11



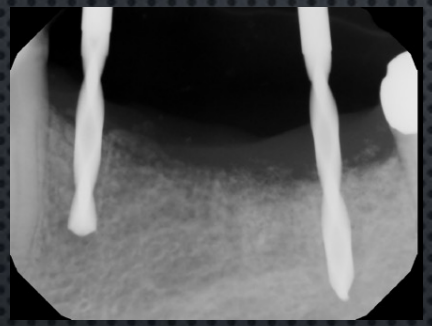


All individual units

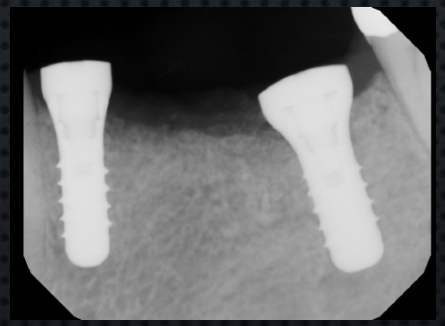
IMPLANT AND BONE GRAFT PLACEMENT #19,#21
01/11/2021

THIS DAY, I PLACED ADDITIONAL IMPLANTS, (MY FIRST IMPLANT BRIDGE) (#19, #21) UNDER THE SUPERVISION OF DR. MASHKOOR

RADIOGRAPHS

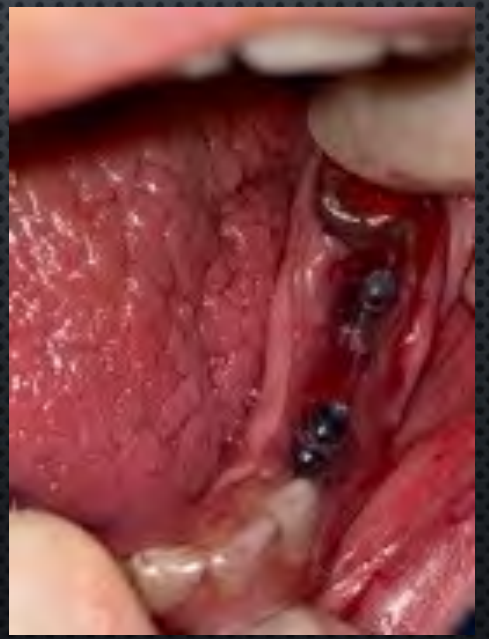


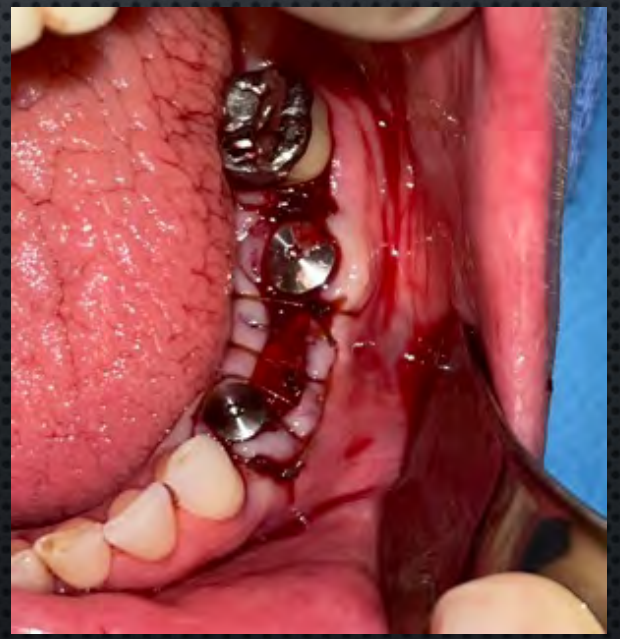
INITIAL OSTEOTOMIES



FINAL PA POSTOP

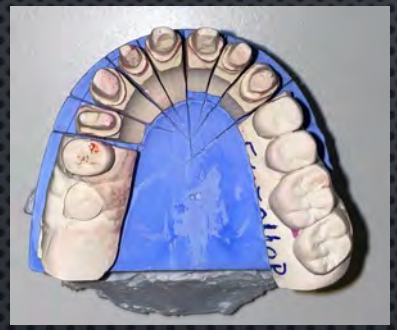
INTRAOP PHOTOGRAPHS

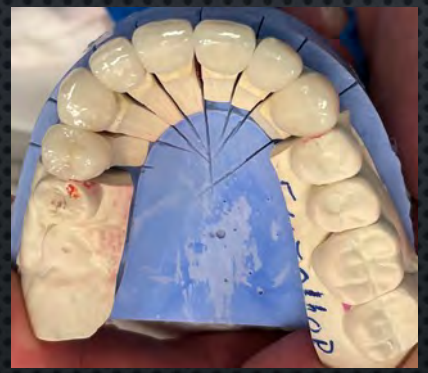




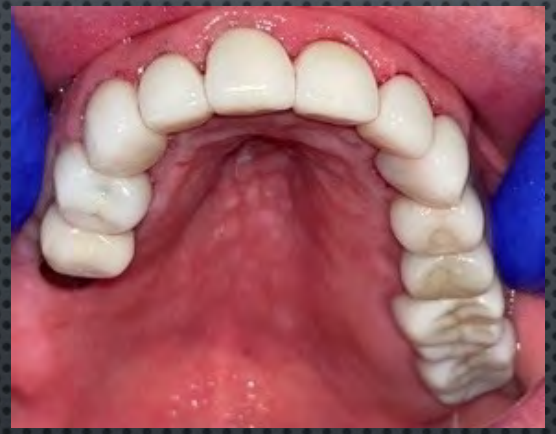
FINAL POSTOP

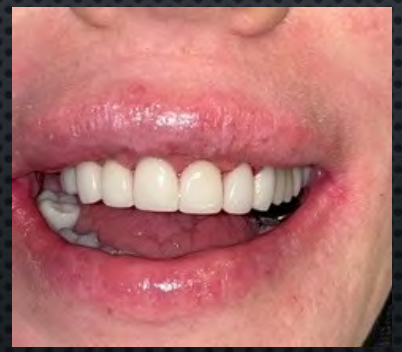
CIMOE CROWNS #5-11 DELIVERY DAY
1/15/2021

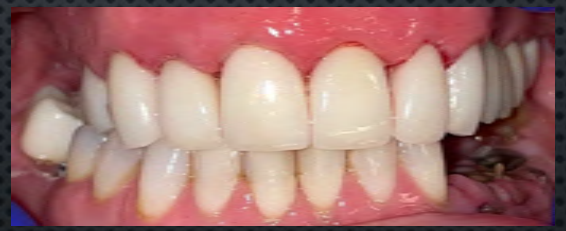




MASTERCAST WITH ALL CROWNS PRE-DELIVERY



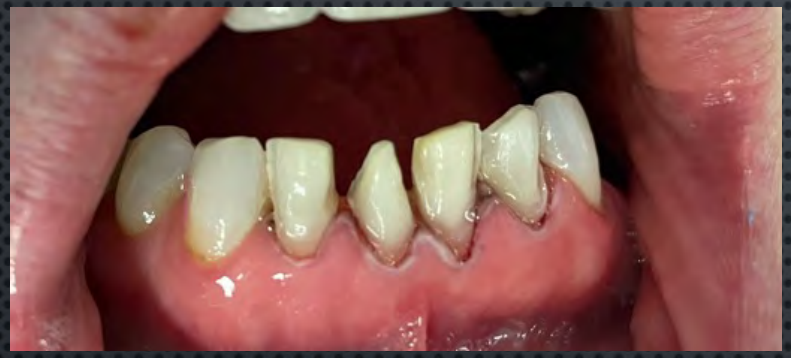




POST-CEMENTATION

VENEERS PREPARATIONS 2/4/21

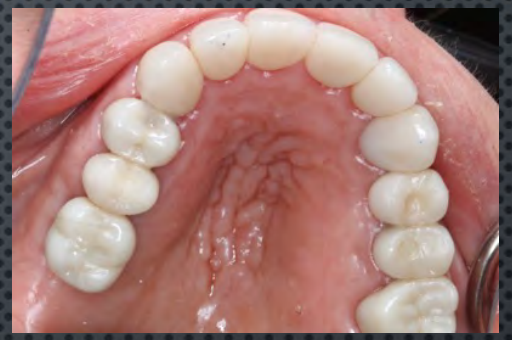
PREPARATIONS

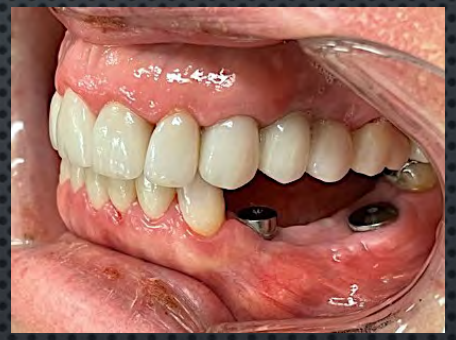


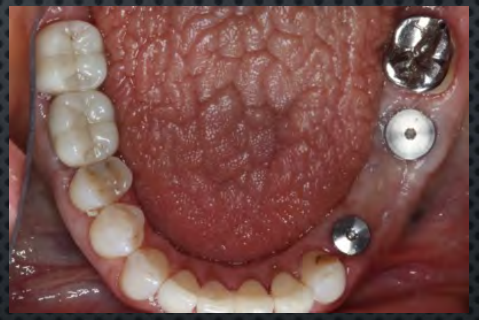
- #25 had caries that extended towards the lingual so more of the tooth structure had to be removed

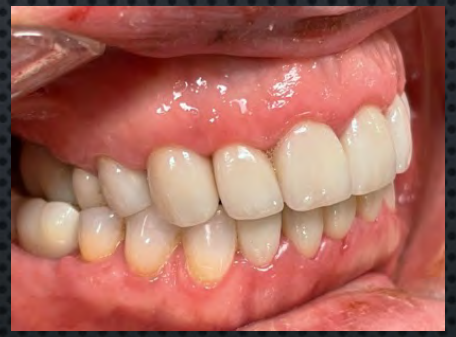
VENEER DELIVERIES #23-26 3/12/2021

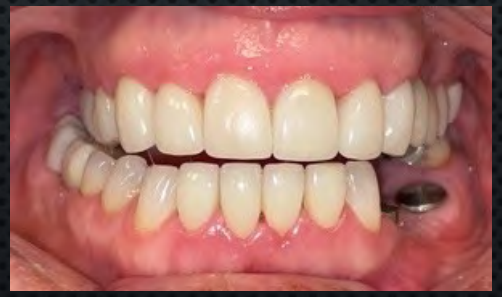
POST-DELIVERY

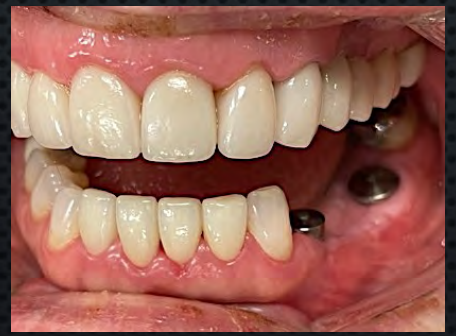






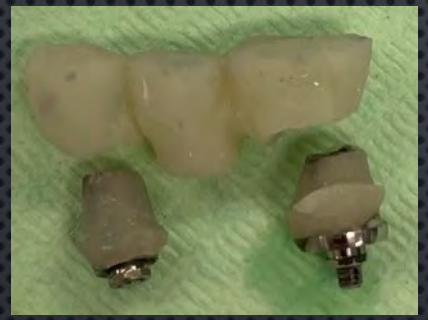


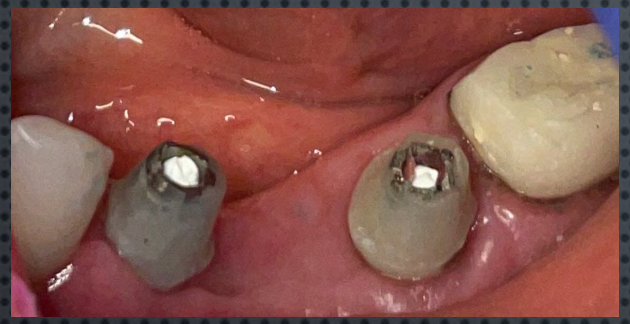


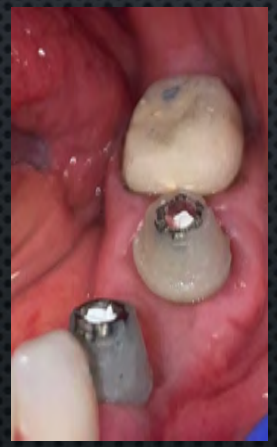


CUSTOM TEMPORARY ABUTMENTS 19-21 (IMPLANTS) 3/26/21

CUSTOM TEMPORARY ABUTMENTS

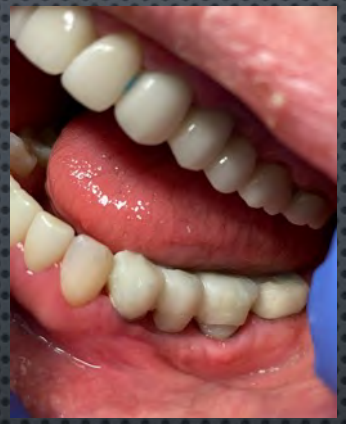


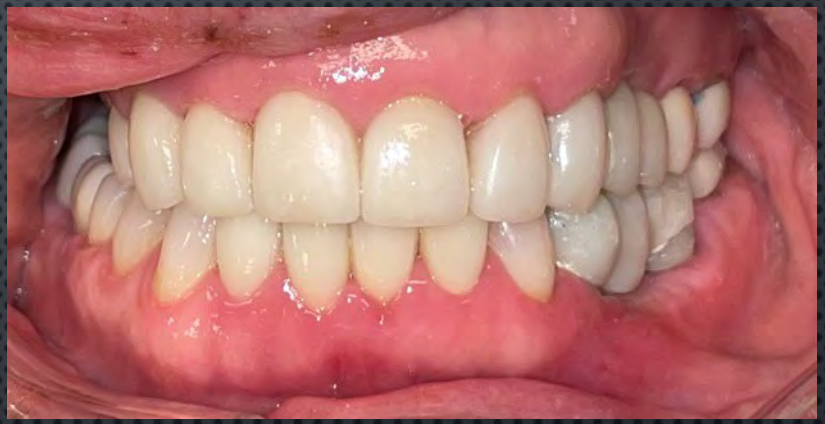


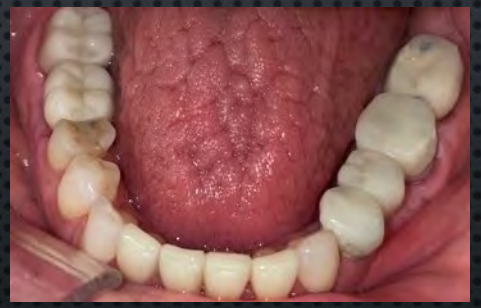


- **FLOWABLE** COMPOSITE AS **BUILDUP** AROUND BOTH CUSTOM ABUTMENTS
  - **PREPARED LIKE A CROWN**
- **INTEGRITY** USED FOR **PROVISIONAL**

POST CEMENTATION OF TEMPORARY BRIDGE TO CUSTOM TEMPORARY ABUTMENTS







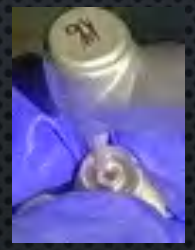
CUSTOM TEMPORARY ABUTMENTS

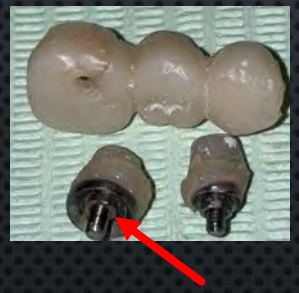
- **ESTHETIC** TRANSITION BEFORE PERMANENT BRIDGE
- GET **ACCUSTOMED** TO PRESENCE OF TEETH ON LL SIDE
- SHAPE THE SOFT TISSUE FOR IDEAL **EMERGENCE PROFILE**

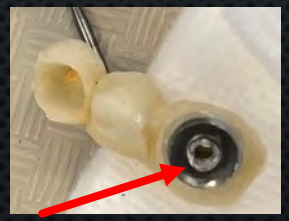
- **PLACED MARGINS OF TEMPORARY ABUTMENT AWAY FROM IMPLANTS TO AVOID CEMENT EXTRUSION INTO IMPLANT SITES**

CONVERSION OF CEMENT-RETAINED PROVISIONAL ON #19-21 IMPLANTS TO SCREW-RETAINED PROVISIONAL 4/7/21

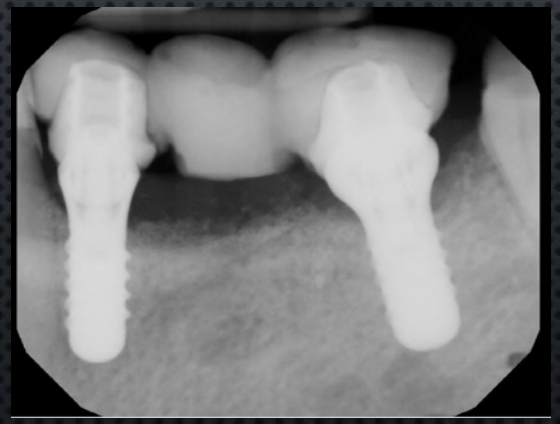
- SIMILAR TO HOW FINAL RESTORATION WILL BE: #19 NON-ENGAGING ABUTMENT, #21 ENGAGING ABUTMENT
- CONVERTED #19 CUSTOM ENGAGING TEMPORARY ABUTMENT TO NON-ENGAGING TEMPORARY ABUTMENT WITH THE HELP OF DR. GONZALEZ
- CONVERTED PROVISIONAL TO SCREW RETAINED ON #19 VIA CREATION OF SCREW ACCESS HOLE



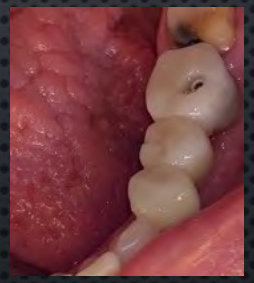


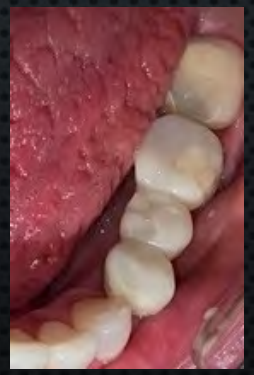


REMOVAL OF **ENGAGING** COMPONENT



POST CEMENTATION PA



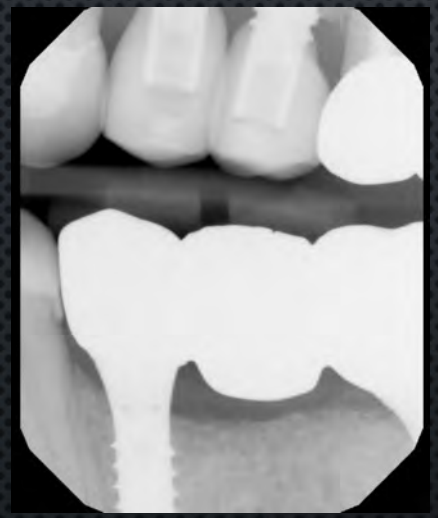


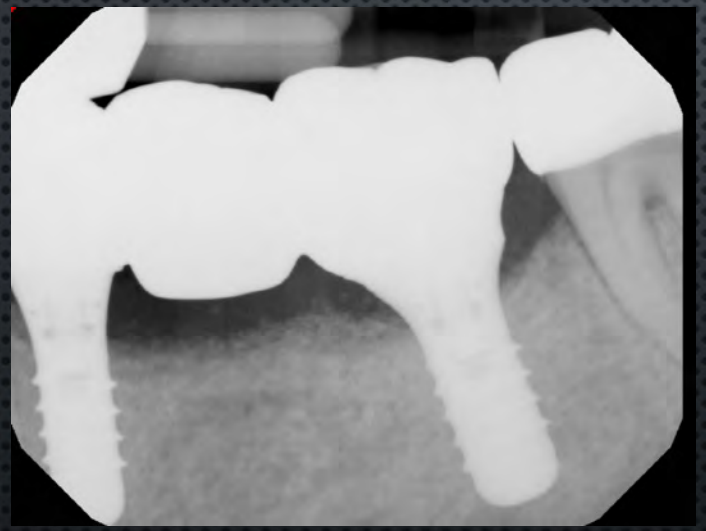
POST CEMENTATION **PRIOR TO** COVERAGE OF SCREW ACCESS HOLE

POST CEMENTATION WITH **SCREW ACCESS HOLE COVERED** AND TEMPORARY #18 CEMENTED

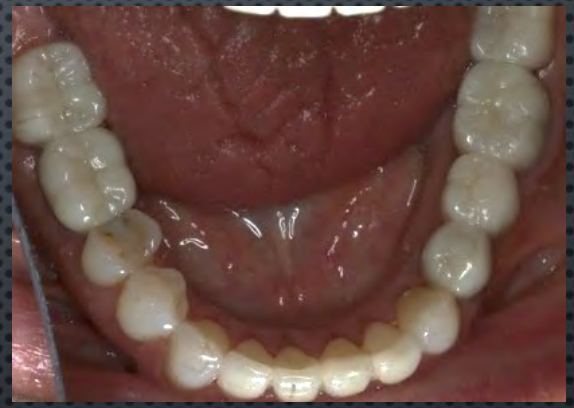
DELIVERY OF ZIRCONIA CROWN #18
DELIVERY OF IMPLANT SCREWMENTABLE BRIDGE #19-21
4/30/21

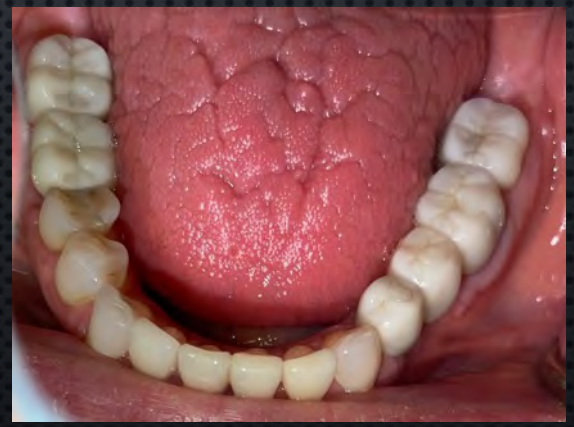
POST CEMENTATION

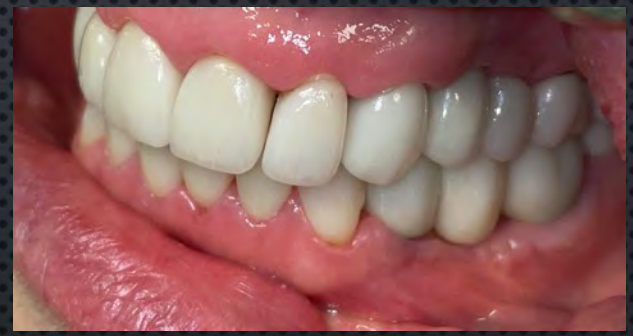




RADIOGRAPHS



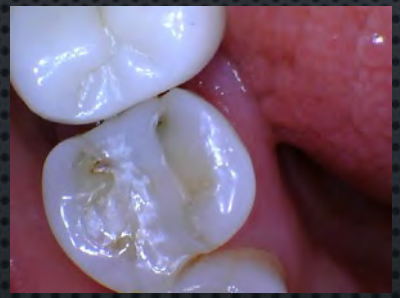
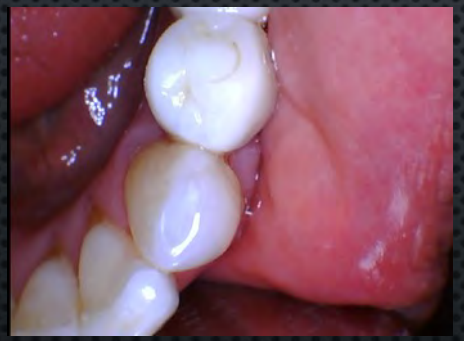
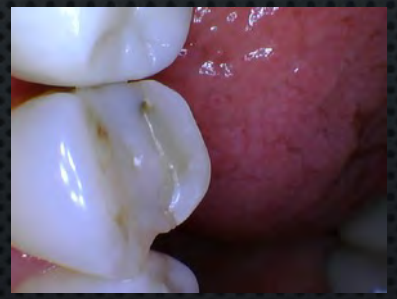




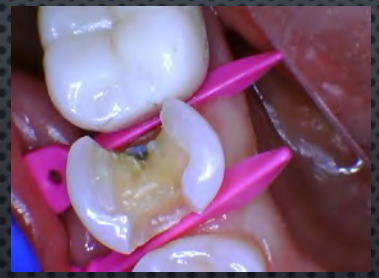
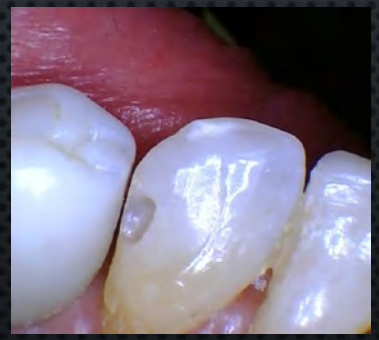
INTRAORAL PHOTOGRAPHS

29 MOD REDO COMPOSITE
22 DL REDO COMPOSITE
5/7/21

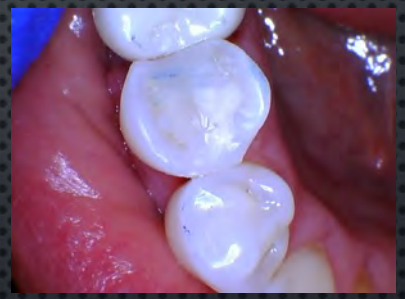
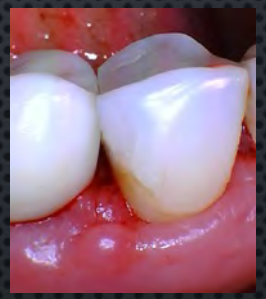
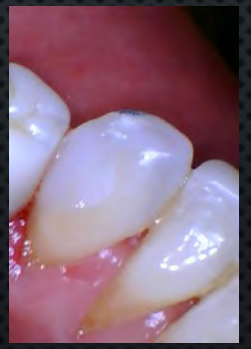
- **LIGHT DISTAL CONTACT** ON#22 AND #29
- #29 MOD **STAINED** WITH MICROSHRINKAGE
  - BONDED NEW PREP TO ENAMEL

PRE-OP PHOTOS OF TOOTH #29 AND #22

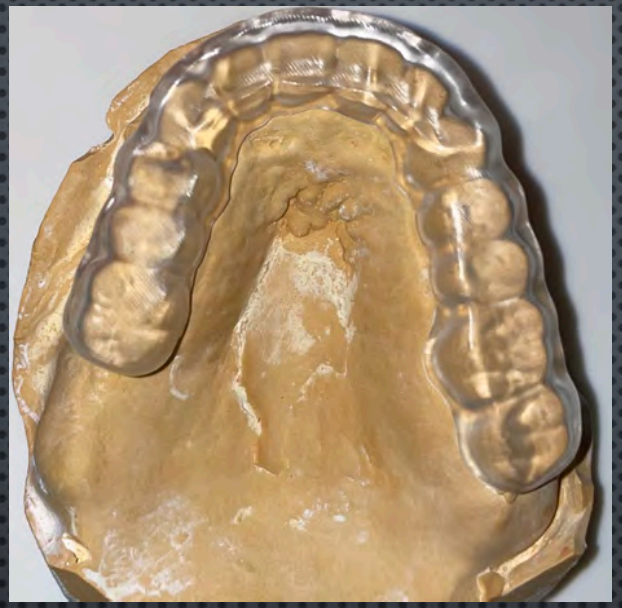



INTRA-OP PHOTOS OF TOOTH #29 AND #22

FINAL, FILLED PHOTOS OF TOOTH #29 AND #22

DELIVERY OF MAXILLARY NIGHT GUARD



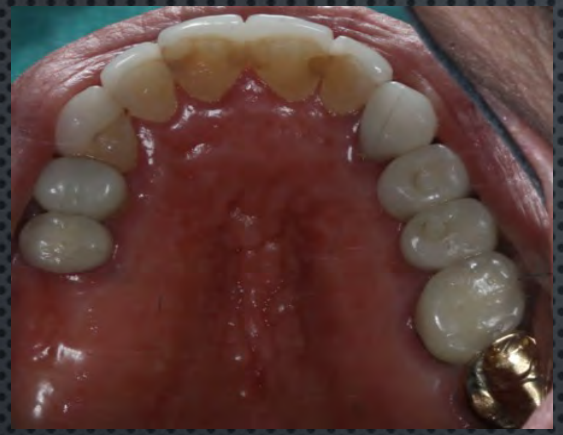
SIGNIFICANCE OF AN OCCLUSAL GUARD

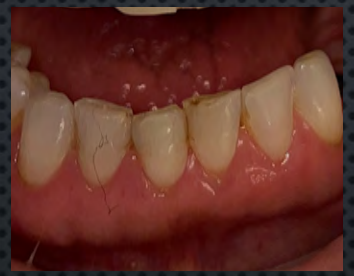
- Literature demonstrates a statistically significant ($p<0.05$) correlation between bruxism and porcelain chipping, in addition to implant failure
- The use of an occlusal guard assists in preventing veneered porcelain from chipping
- The use of an occlusal guard has been shown to reduce overload failures of implants

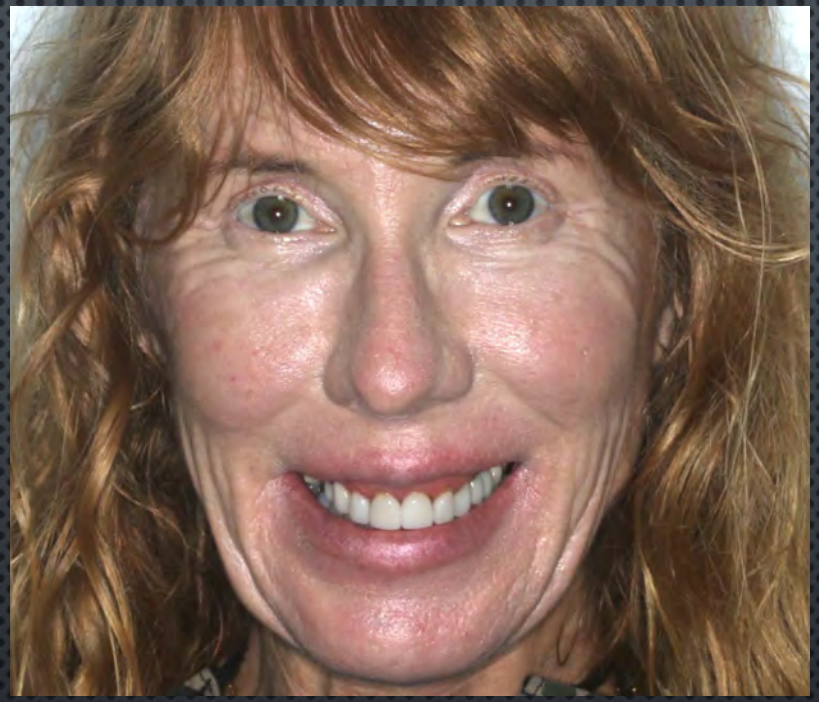
Koenig, Vinciane, et al. "Clinical Risk Factors Related to Failures with Zirconia-Based Restorations: An up to 9-Year Retrospective Study." Journal of Dentistry, vol. 41, no. 12, 2013, pp. 1164–1174.

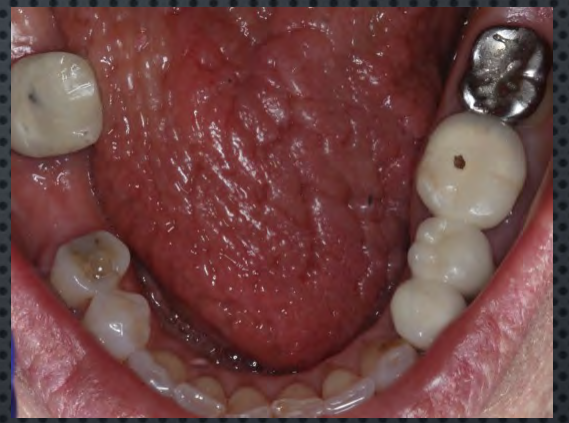
Komiyama, O. , Lobbezoo, F. , De Laat, A. , Iida, T. , Kitagawa, T. , Murakami, H. , Kato, T. , & Kawara, M. (2012). Clinical Management of Implant Prostheses in Patients with Bruxism. International Journal of Biomaterials, 2012 . doi: 10.1155/2012/369063

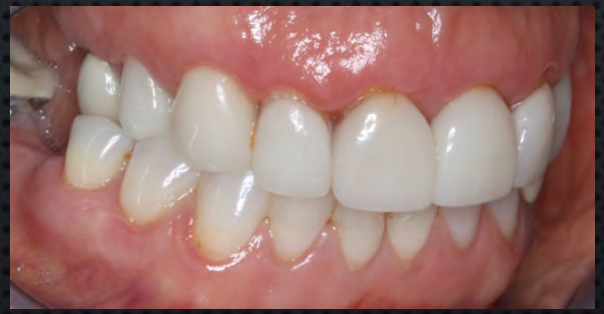
FROM BEFORE…

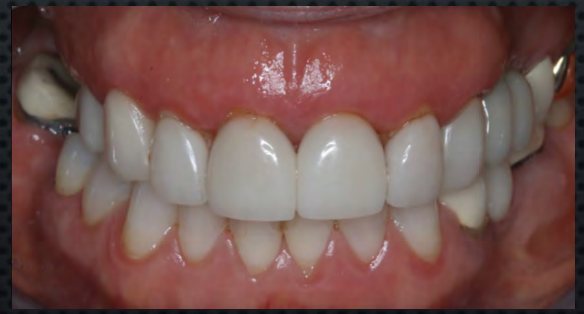


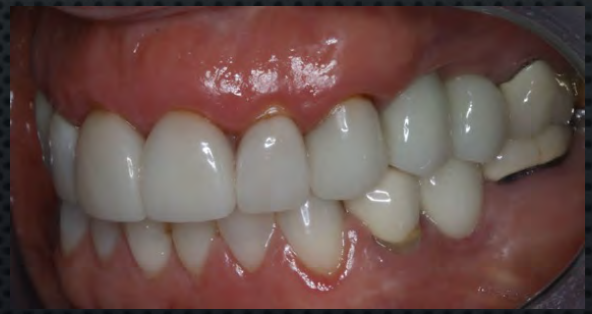




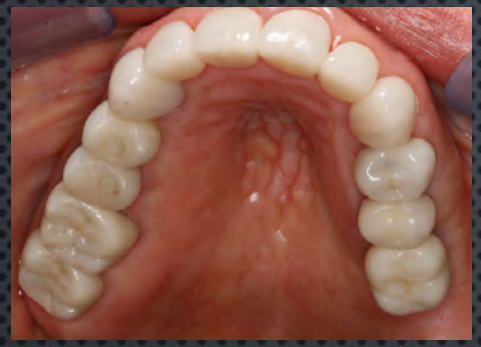


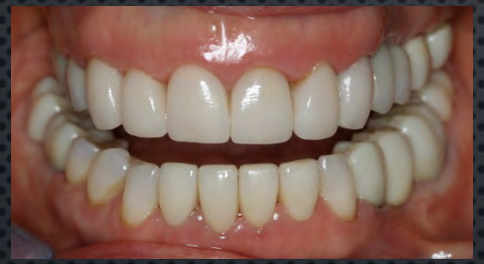


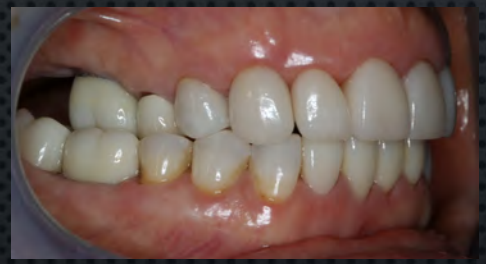


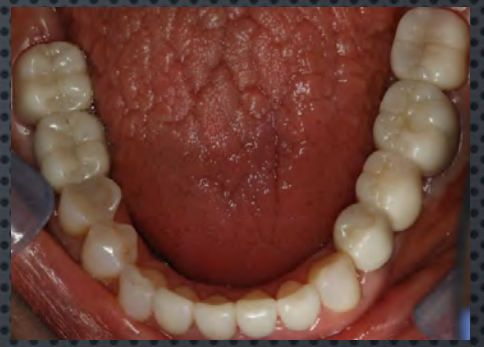


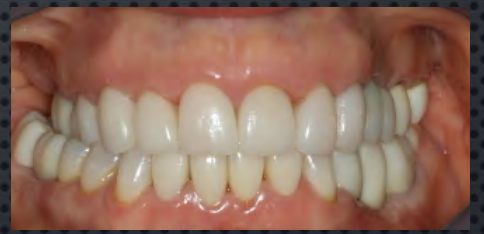
...TO AFTER

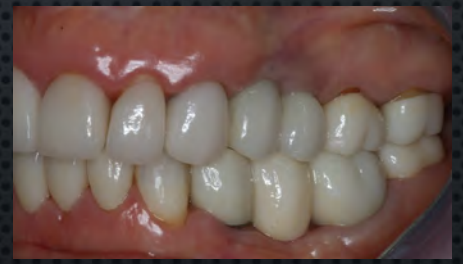












SUMMARY OF CASE

TOTAL COST: $32,000

Treatment began: 9/16/2020 → TREATMENT COMPLETED: 4/30/2021

EXPECTED treatment time: 14-16 months → ACTUAL TOTAL TREATMENT TIME: 8 MONTHS

Disciplines Completed (6)

Periodontics	Direct Restorative	Endodontics	Oral Surgery	Implants	Fixed Restorative

PATIENT EXPECTATIONS EXCEEDED

Due to Michelle's work, her husband and daughter were inspired and are now patients at the dental school

Michelle restoring her mouth was **so much more significant** than just her dental health that she cried with **tears of joy** when she saw her completed case for the first time and felt as if her life had changed.

ALTHOUGH IT GAVE ME PRIDE AND JOY IN COMPLETING THIS FULL MOUTH RECONSTRUCTION CASE, ONE OF THE GREATEST REWARDS CAME FROM A LETTER MICHELLE SENT ME AND I WANT TO SHARE SOME DIRECT QUOTES FROM THIS LETTER BELOW:

"I associated the dentist with feeling of shame and guilt" and "relived the traumatic memory of being slapped by my childhood dentist for crying."

"My past dental work was hitting its expiration date. I had some savings but was angry I had to spend it on my teeth."

"When I came to the school, I had familiar sensations of anxiety and embarrassment. I feared judgement for my years of unhealthy habits."

"My experience with you and the UoP team was transformative. I could never have anticipated the sense of fulfillment, growth and inspiration I've received from this endeavor."

"Brandon, you taught me how to value my teeth and in turn, how to value myself. I'm so very grateful."

"Transformative"

SPECIAL THANKS

- I WANT THANK TO ALL OUR WONDERFUL FACULTY, STAFF, AND MY CLASSMATES FOR ALWAYS WILLING TO HELP AND BEING SUCH AMAZING INDIVIDUALS THAT MAKE DUGONI SCHOOL OF DENTISTRY THE WAY IT IS.
- I WANT TO GIVE A SPECIAL THANKS TO THE FACULTY, DR. GLEN HEBERT, DR. FATIMA MASHKOOR, DR. SANDY MCLAREN, DR. EDUARDO GONZALEZ, DR. STEVEN SADOWSKY, DR. MARK STEVENSON, DR. JUSTIN YOUNG, LUCY WRIGHT-NIELSON, MARIETTA DANIEL, AND CARLOS CORREA, THAT HAVE WORKED WITH ME ON THIS CASE, AS I WOULD NOT HAVE BEEN ABLE TO LEARN AND PROGRESS THROUGH THIS CASE WITHOUT THEM.

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