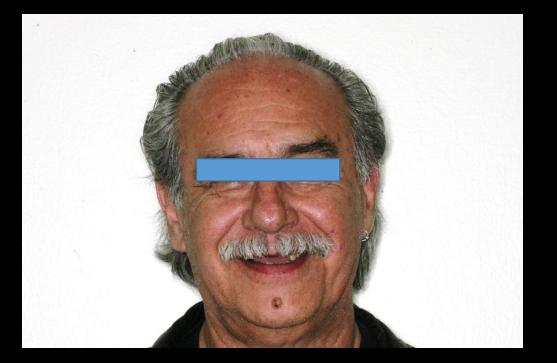
Case Presentation

Student Doctor: Daniel Kamran Thanks to Dr. Gonzalez, Dr. Shaw, and Dr. Booth

Patient History

- . Age / Sex: 72/M
- CC: I want to replace my partial denture with implants
- DHX: Highly restored dentition
- MH: BP: 147/93 mmHg, Pulse:
 - 76, hypertension
- Medication: Amlodipine
- Allergies: Naprosin (Naproxene)
- . ASA II (1)
- SHX: Lives alone, really close to family



Medications

 Amlodipine (Ca Channel Blocker) for Hypertension = "Fewer reports of gingival hyperplasia with amlodipine than with other calcium channel blockers (usually resolves upon discontinuation); consultation with physician is suggested if gingival hyperplasia is observed"

Patients Goals, Concerns, and Considerations

- Pt wants to be able to smile and not use a partial denture
- Pt wants to have better oral health
- Pt would like to finish the implant process
 - Initially, implant process began in 2014.
 - Scope of practice was a large issue
 - Patient expectations vs reality

Intraoral Photos (2015)





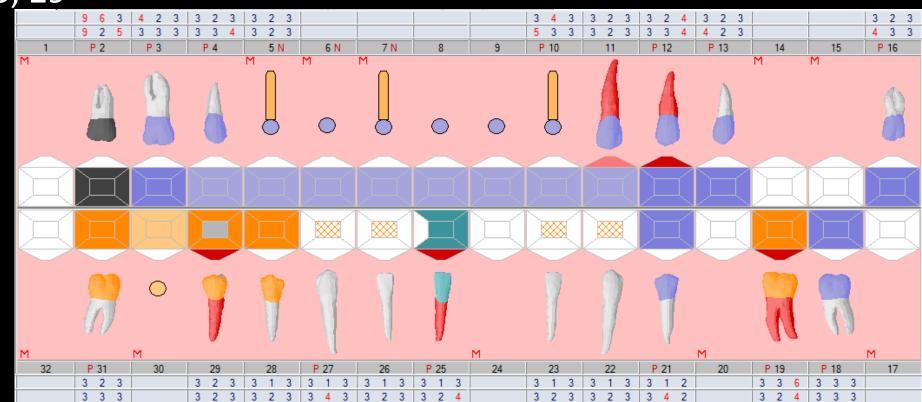






Dental History and Hard Tissue Charting

- Missing: #1, 5-10, 14, 15, 17, 20, 24, 30, 32
- Composite: #25
- Fixed Prosth: PFM #3, 4, 5-10 (bridge), 11, 12, 13, 16, 18, 21; Alloy #2; Gold: 19, 28, 29 31 (bridge)
- RCT: #11, 12, 19, 25, 29



Periodontal Exam: Maxillary

	963	4 2 3	3 2 3 3	323				3 4 3	3 2 3	3 2 4	3 2 3			3 2 3	PD
	B B														Bleed
	0 0 0	0 0 -1	0 -1 0 (0 -1 0				0 -1 0	1 0 1	1 0 1	1 0 0			-1 -1 0	FreeGM
	963	4 2 4	3 3 3 3	3 3 3				3 5 3	2 2 2	2 2 3	2 2 3			4 3 3	Attach
	2	1												1	Furcation
															MG Inv
															Calc
	0	0	0	0	0)		0	0	0	0			0	Mobil
1	2	3	4	5 N	6 N 7	7 N 8	9	10	11	12	13	14	15	16	
	925	3 3 3	3 3 4 3	323				5 3 3	3 2 3	3 3 4	4 2 3			4 3 3	PD
											В				Bleed
	1 -1 0	0 -1 0	0 0 0 (0 -1 1				1 -1 -1	0 -1 0	0 -1 0	0 0 0			-1 -4 0	FreeGM
	8 3 5	3 4 3	3 3 4 3	3 3 2				4 4 4	3 3 3	3 4 4	4 2 3			5 7 3	Attach
	2 1	2 1												1	Furcation
															MG Inv
															Calc
															Diag

- Generalized Moderate LOA with Localized Severe
 - No Mobility
- PD ranging from 3-4 mm, Severe Depth at #2
 - BOP on #2, 13

 \bullet

• Furcation: #2, #3, #16

Periodontal Exam: Mandibular

											-					
																Diag
																Calc
																MG Inv
	1												2	1		Furcation
	2 2 2		2 2 2	2 1 2	4 2 4	3 2 3	3 2 3		3 2 3	3 1 2	2 4 4		4 5 8	3 4 4		Attach
	101		101	1 0 1	-1 -1 -1	0 -1 0	0 -1 0		0 -1 0	0 0 1	1 -3 -2		-1 -2 -2	0 -1 -1		FreeGM
																Bleed
	3 2 3		3 2 3	3 1 3	3 1 3	3 1 3	3 1 3		3 1 3	3 1 3	3 1 2		3 3 6	3 3 3		PD
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
	0		0	0	0	0	0		0	0	0		0	0		Mobil
																Calc
																MG Inv
	1												1	1		Furcation
	2 3 2		2 2 2	2 2 2	2 5 2	4 2 4	4 2 6		5 3 2	2 2 2	2 4 4		3 3 4	4 5 4		Attach
	101		1 0 1	1 0 1	1 -1 1	-1 0 -1	-1 0 -2		-2 -1 1	1 0 1	1 0 -2		0 -1 0	-1 -2 -1		FreeGM
																Bleed
	3 3 3		3 2 3	3 2 3	3 4 3	3 2 3	3 2 4		3 2 3	3 2 3	3 4 2		3 2 4	3 3 3		PD

- Generalized moderate LOA with Localized severe
- No Mobility

- PD of 3-4mm, Severe on #19
- BOP: None

• Furcation: #18, #19, #31

Periodontal Findings and Caries Risk Assessment

- Plaque Index: 0.8
- ATP Reading: 1450
- Salivary Flow: 1.0mL/min
- pH: 7.0 or above
- Hygiene: Brushing 2x/day, Flossing 1x/day
- Perio Dx: generalized chronic moderate periodontitis with severe localized periodontitis
- Overall Caries Risk:
 - Etiology: Plaque, xerostomia due to drugs, oral hygiene
 - Diagnosis: Moderate Caries Risk
- Prognosis: Fair to good

FMX - 9/2016



6, 9/7/2016 3:17:10 PM

21, 9/7/2016 2:59:09 PM



13, 9/7/2016 3:18:17 PM

7, 9/7/2016 3:02:00 PM

15, 9/7/2016 3:08:46 PM

4, 9/7/2016 3:27:55 PM



16, 9/7/2016 2:54:41 PM

12, 9/7/2016 2:49:28 PM



19, 9/7/2016 2:46:54 PM

8, 9/7/2016 2:47:58 PM

17, 9/7/2016 2:52:14 PM

14, 9/7/2016 2:53:46 PM











11, 9/7/2016 3:23:57 PM

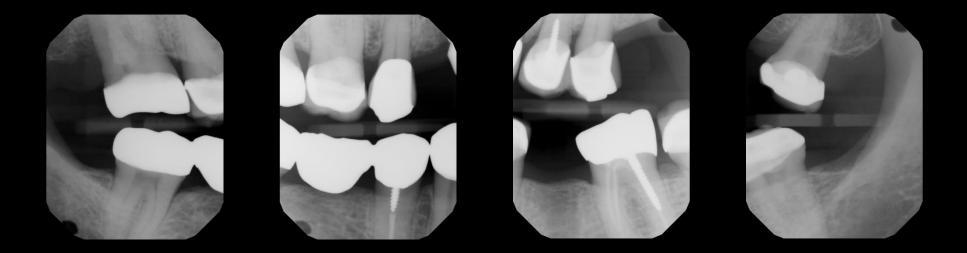




20, 9/7/2016 3:06:03 PM

18, 9/7/2016 3:07:22 PM

Bitewings – 8/2017



Radiographic and Hard Tissue Findings

- Alveolar bone level: generalized chronic moderate periodontitis with severe localized periodontitis
- Periapical Issues: none
- Radiolucency(s): none
- Hard Tissue: no decay and no significant findings
- Other Pathology: none

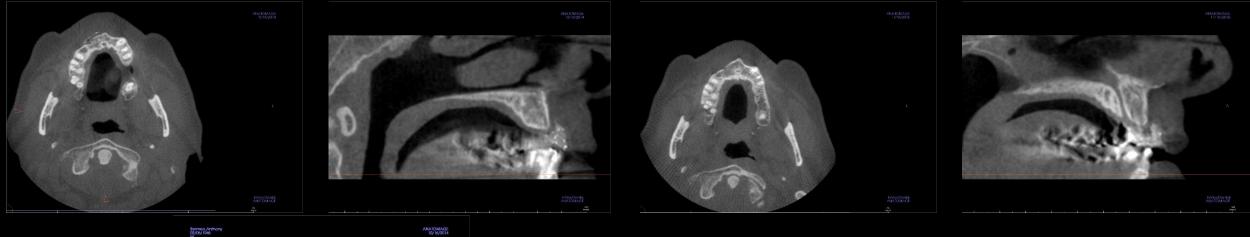
Overall Risk Assessment (medical, perio, and caries)

- Etiology: Plaque, oral hygiene, xerostomia due to drugs
- Caries risk assessment: Moderate caries risk
- Prognosis: Fair to good

Treatment Plan

- Urgent Care:
 - None
- Disease Control Phase:
 - Adult prophy
- Reconstructive Phase:
 - #5, 7, 10 Implants and #5-10 PFM Bridge
- Maintenance Phase: Recall, Prophy, Occlusal Guard
- Treatment Cost: \$17,000+
- Pt Accepted Treatment Plan
- Other treatment options: No treatment and Keep current partial denture

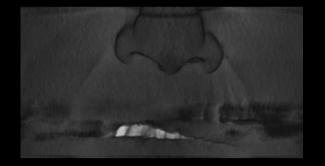
Implant Process





10/16/2014

- Bone Density Appropriate
- Ridge Width >3mm
- Arch Depth >13mm, far away from sinus

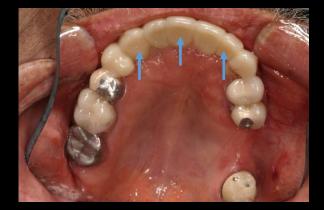


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Implant Surgical Guide

- Different versions of final restoration will let us know approximately the trajectory of the implants
- Implants follow the long axis of the final prosthesis



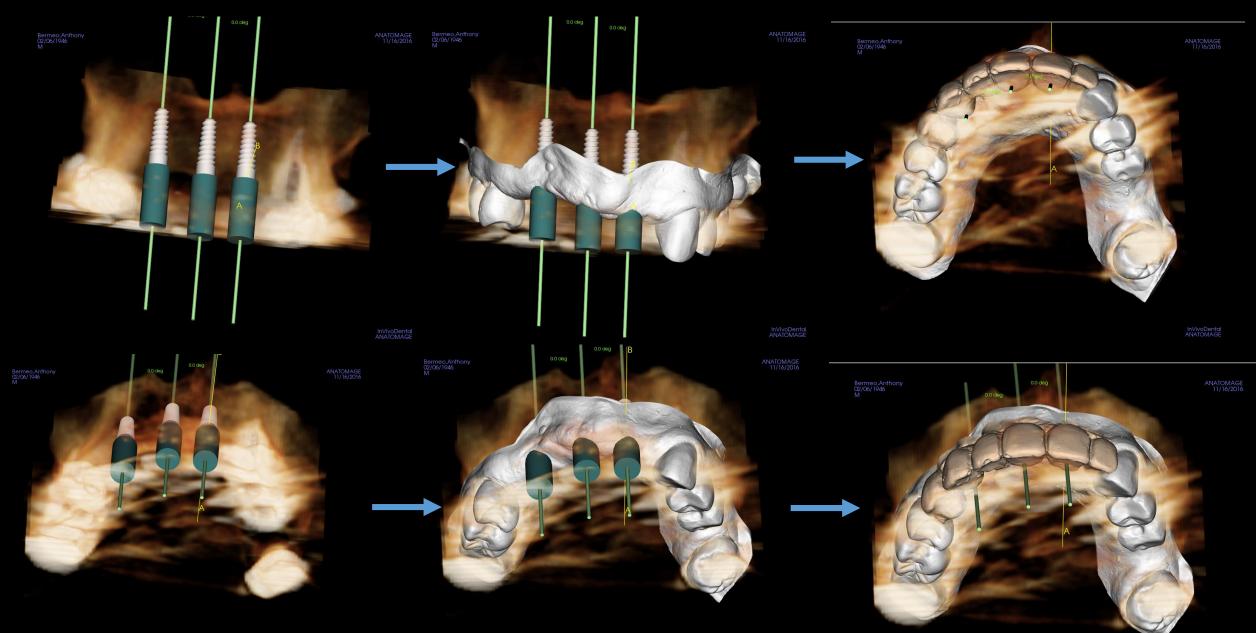








Anamotage



Initial Implant Placement

- Implant Type: Zimmer
- Implant Length and Width: 12mm and 3.8mm
- Final torque: 40 Nm
- All placed slightly below crest
- 2 stage implant



Osseointegration check (7/2017)

- Implant = Zimmer
- Probing Depth = 2-3mm
- No mobility
- Reserved tissue by making palatal flap and stitched tissue around implant (3)
- Very happy with how gingiva healed





Final Impression and Master Cast

- Open Tray Impression
 - Multiple Implants
 - Different trajectories
 - Splinted impression copings together
 - To avoid undercuts
 - To help implants not move upon impression removal













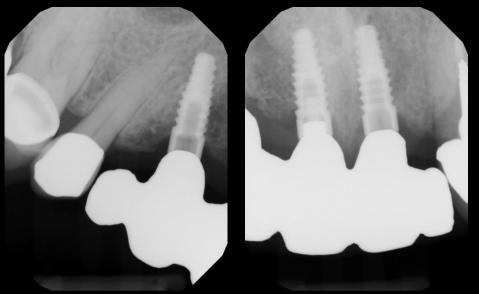
Considerations for Final Prosthesis

• Engaging vs Non Engaging abutments

- Which abutments should be engaging?
- Type of Final Material
 - Zirconia vs PFM (2)
 - Other considerations
- Final Decisions
 - PFM bridge, Facial is Porcelain and Lingual is Metal

Bridge framework Try-In

- Bridge framework Try-In (metal only)
- Considerations





Final Prosthesis - CIBOE

- Contacts
- Internal
- Blanch
- Occlusion
- Esthetics











Post Op (3/2018)











"I can now eat artichokes & gala apples. Smiling for U.O.P & all staff that has helped me. Thank you" - Patient

Questions?

Informed Consent Issues

- Patient understands risks of implant treatment. Procedure explained.
- Patient understands the risks and esthetics considerations of implant crown restoration. Procedure explained.
- Discussed with patient other treatment options (no treatment and keep partial).

Evidence Based Decisions

1. <u>Kohal RJ¹</u>, <u>Klaus G</u>, <u>Strub JR</u>. **Zirconia-implant-supported all-ceramic crowns withstand long-term load: a pilot investigation.** <u>https://www.ncbi.nlm.nih.gov/pubmed/16958698</u>

2. <u>Rafael Gómez-de Diego</u>,¹ <u>María del Rocío Mang-de la Rosa</u>,² <u>María J.</u> <u>Romero-Pérez</u>,³ <u>Antonio Cutando-Soriano</u>,⁴and <u>Antonio López-Valverde-</u> <u>Centeno</u>. Indications and contraindications of dental implants in medically compromised patients: Update. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4192572/</u>

3. Bruno Ramos Chrcanovic, ¹, * Tomas Albrektsson, ¹, ² and Ann Wennerberg ¹. Flapless versus Conventional Flapped Dental Implant Surgery: A Meta-Analysis. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4065043/</u>

4. Lexicomp