“The medically compromised patient: communicating with our MD colleagues”

Evidence Based Dentistry Rounds Fall 2020

Specialty: Collaborative Care

Group: 6A-4

Date: 9/30/20

Rounds Team

- **Group Leader: Dr. Cimrmancic**
- **Specialty Leader: Dr. Gequillana**
- **Project Team Leader: Drew Gottwald**
- **Project Team Participants:**
  - **D1: Alice Zheng**
  - **D2: Christina Chen**
  - **D3: Hien Doan**

Patient

- Comp Exam Date:
- Age: 53 years old
- Gender: Male
- Ethnicity: White
- Chief Complaint: “I need 6 extractions, 1 crown, and possibly 2 implants.”
- Pertinent Information: Argumentative

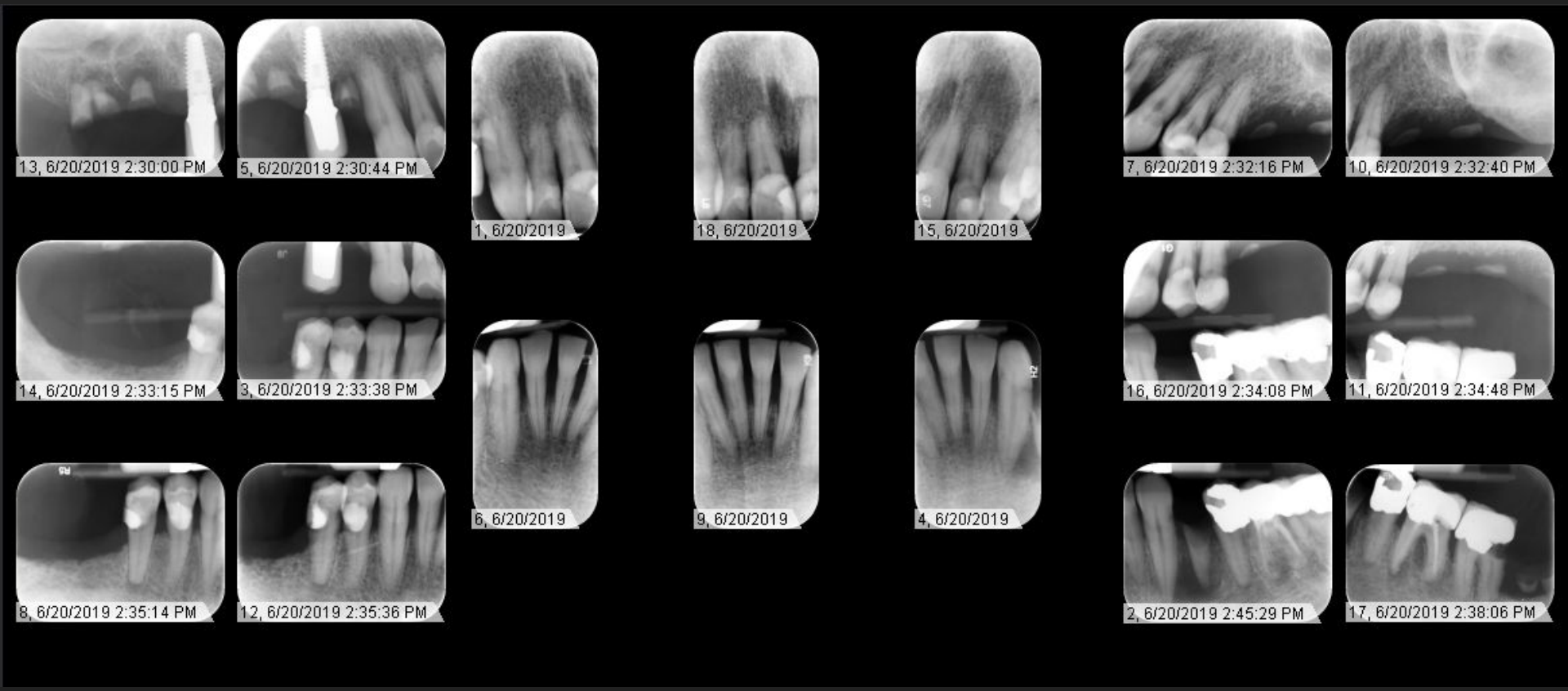
Medical History

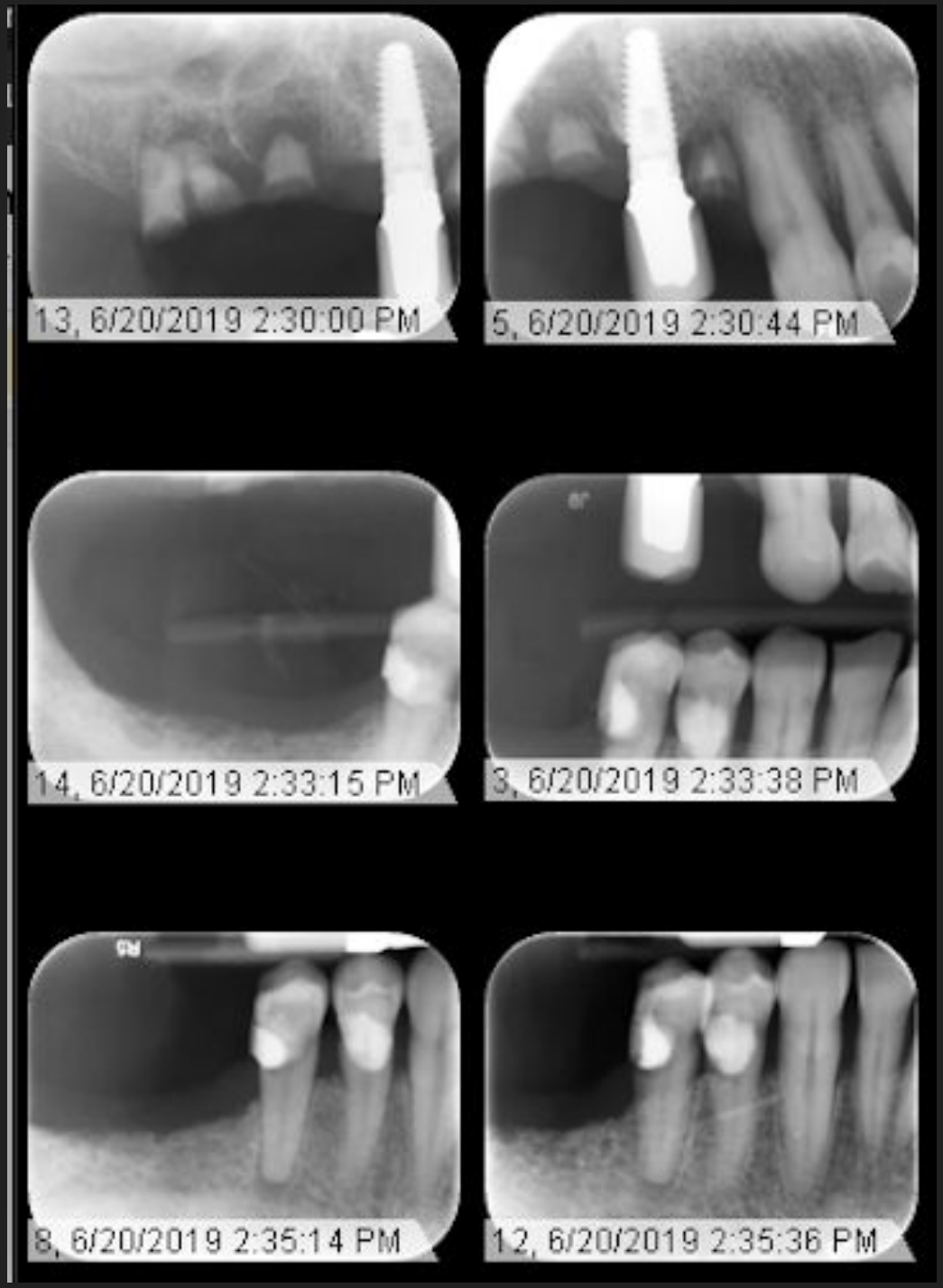
- History:
  - Myocardial Infarction 7 years prior, indicated intense angina 6 months prior
  - 2 pack/day smoker since patient was 16
- Diagnoses
  - Type II Diabetes
- Conditions
  - Uncontrolled diabetes
- Medications
  - None (?????!?!?!?!)
- Medical Consults, if any
  - Sent to primary care provider Dr. Roberto Musni MD
  - Response: “Patient hasn’t been seen here for 10 years”
- Treatment considerations: Uncontrolled diabetic? MI?

Dental History

- Patient reported seeing a dentist every 0-6 months.
- Patient presented with sensitivity to cold and pressure, trouble chewing, and a displeasure with his smile.
- Patient brushed their teeth once a day and reported clenching habits.
- Corah of 8.
- Patient had previous fillings, RCT, one implant, and extractions.

Radiographs

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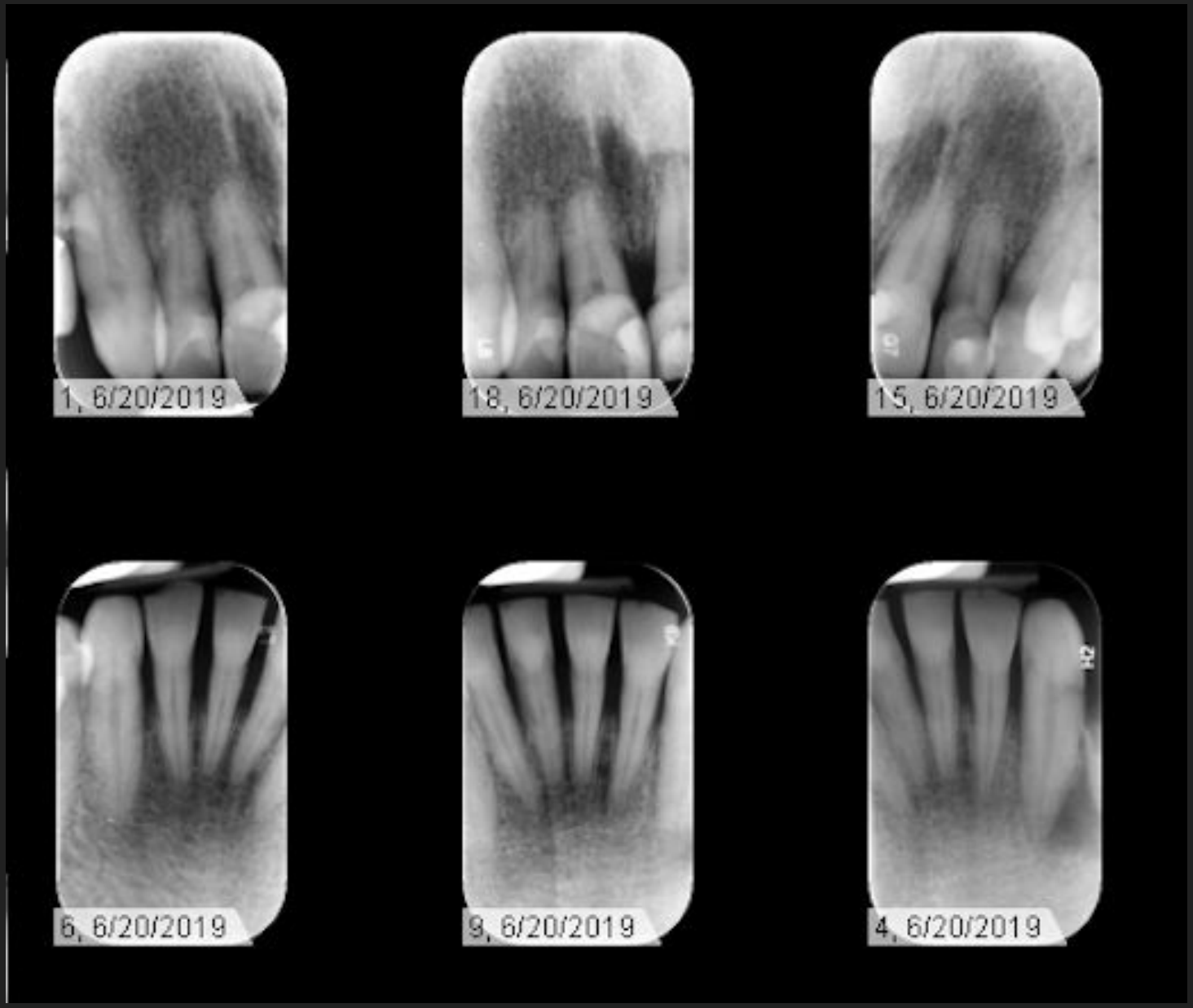
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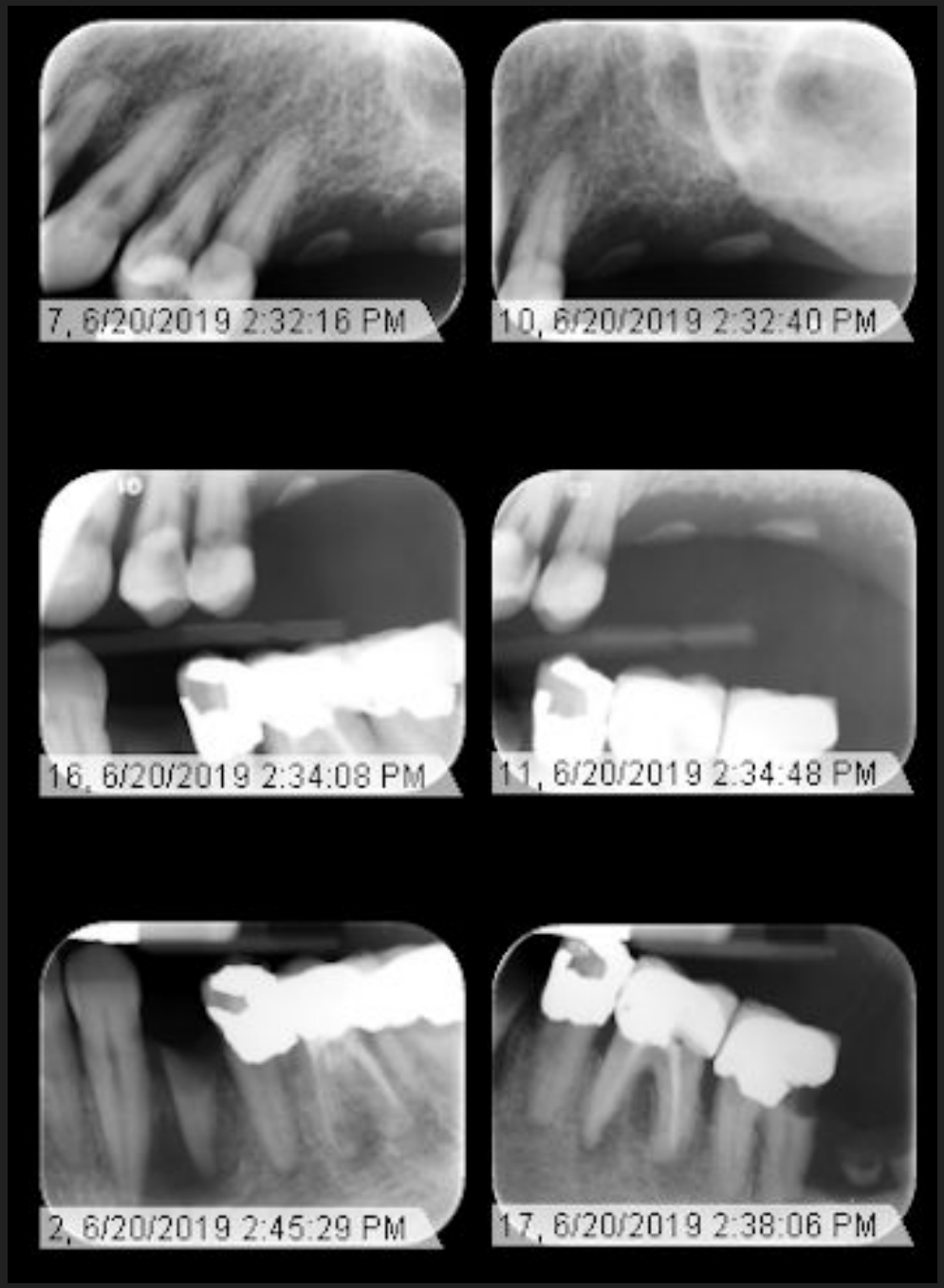
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16, 6/20/2019 2:34:08 PM
11, 6/20/2019 2:34:48 PM
2, 6/20/2019 2:45:29 PM
17, 6/20/2019 2:38:06 PM

Radiographic Findings

- Primary Caries: M #11, MODBL #13, MODB #12, DMF #22, L #27, L #28, L #29,
- Recurrent Caries: L #8, L #9, DIL #10, L #11, B #28, B #29,
- Gross Decay: D #18
- Defective Restoration: MODBL #19
- Overhang: D #20
- Radiolucency: #21, #22, #29
- Retained Roots: #2, #3, #17, #5, #21
- Resins: L #11, MIL #8, MIL #9, DIL #10, DO #13, DL #20, B #28, B #29, DO #29
- Amalgam: B #20, DO #20
- PFMs: #18, #19
- Endo Therapy: #19
- Implant: #4 (with porcelain crown)

Teaching Moment

Patient states:

“I just don’t understand. You keep telling me things aren’t stable and I need to get all this work done. I just want implants. The previous guy I saw placed an implant. Either you’re lying or he did something wrong, right?”

How do you respond?

Clinical Findings

- Primary Caries: M #11, MODBL #13, MODB #12, DMF #22, L #27, L #28, L #29,
- Recurrent Caries: L #8, L #9, DIL #10, L #11, B #28, B #29,
- Gross Decay: D #18
- Defective Restoration: MODBL #19
- Overhang: D #20
- Retained Roots: #2, #3, #17, #5, #21
- Resins: L #11, MIL #8, MIL #9, DIL #10, DO #13, DL #20, B #28, B #29, DO #29
- Amalgam: B #20, DO #20
- PFMs: #18, #19
- Implant: #4 (with porcelain crown)

Periodontal Charting

						1	1	1				1					MOBILITY
																	FURCA
																	PLAQUE
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			5 4 6	5 4 6	5 5 6	5 4 7	6 3 5	6 3 5	4 2 5	4 3 3		6 5 7	6 6 7	5 5 6			CAL
			5 5 5	5 5 5	5 5 5	6 6 6	5 5 5	5 5 5	6 6 6	4 4 4		5 5 5	7 7 7	6 6 6			MGJ
			B B B	B B B	B B B	B B B	B B B	B B B	B B B	B B B		B B B	B B B	B B B			BOP
																	PLAQUE
													2	2			FURCA
									1			1					MOBILITY

Periodontal Diagnosis

- Heavy plaque
- Enlarged margin (lower anterior)
- Rolled margin (lower left posteriors)
- Red Color (maxillary facial anteriors)
- Cyanotic (lower left and palate)
- Bulbous papillary shape (generalized)
- Edematous and Spongy

Periodontal Diagnosis: Generalized Severe Periodontitis

2017 AAP: Stage IV Grade C

Problem List

- Caries
- Defective Restorations
- Esthetics
- Gross Caries
- At home care
- Missing Teeth
- Mobility
- PARL
- Perio Disease
- Sensitivity

What to do now…?

09/09/19	D. Gottwal	Note	C. Dix	Last Modified: 09/09/19

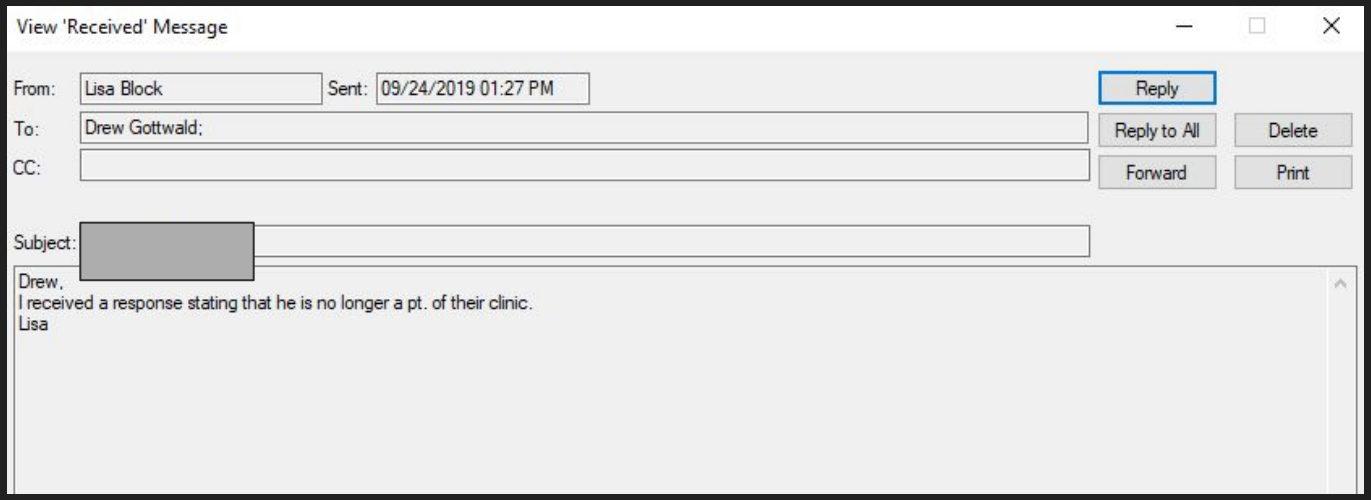
TX PLANNING PRESENTATION and DIAGNOSTIC CASTS:
Pt was presented with Stage 1 and Stage 2 Plans and risks and benefits and alternative tx options were explained. Pt agreed to stage 1, but is unsure of stage 2. Patient stated that he was unsure of removable options and preferred an implant to replace #14 and allow him to chew. Dr. Dix was consulted and explained to the patient that an implant can not begin until the patient has completed Stage 1 tx plan.
Diagnostic impressions were taken with a bite record.
To follow up with: pour up casts, obtain a prosthodontic consult, OS referral and OS consult scheduled.
NV: SRP

09/23/19	D. Gottwal	Note	J. Preston	Last Modified: 11/22/19

UPDATE note:
Patient's case was originally dismissed by Dr Keesler after he viewed mounted casts and was informed patient did not want removable partial dentures. When told he would be dismissed, patient decided he would agree to removable partial dentures. TPW II general form and casts were looked at by Dr. Chien on 9/23/19 and Dr. Chien stated that ectraction of #2, 3, 14, 17, 18, 21, and 29 was indicated, but he also wanted #19 evaluated for extraction after looking at radipgraphs. I had the patient come to the school for a prosth consult with Dr. Ahmed. Dr. Ahmed determined that #2, 3, 14, 17, 18, 19, 21, and 29 should be extracted, maxillary undercuts should be removed, modified the TPW II form, and swiped a OS/Removable consult form. Dr. Ahmed also stated that #28 should be prepped for a crown, but removed if decay reaches the pulp. Dr. Erbes requested a medical consult with the patient's physician, Dr. Roberto Musni. A consult was sent. Dr. Erbes also requested that Dr. Ahmed circle the location of the maxillary undercuts he wanted removed. This was also completed.

11/22/19	D. Gottwal	Note	J. Preston	Last Modified: 11/22/19

UPDATE Note:
Pt physician contacted school and stated that pt was no longer a pt of record at the practice. Pt was contacted in early October and stated that he would be looking for a new physician. Pt was told once he has obtained a physician we can fax over a medical consult and get him started again. I will be reaching out to patient over break and checking back in. If patient has not obtained a new physician pt will be told he will be dismissed due to Marquette being a teaching institution and pt is not offering an opportunity to student to learn.



D1 - Basic Science Question

What is HbA1c?

- Reflects average blood glucose concentration over 8-12 weeks
- HbA1c = “glycated hemoglobin”
  - Glucose binds to hemoglobin
  - Average erythrocyte life span is 120 days.
- Not affected by daily fluctuations in blood glucose
- Used for diagnosis and management of diabetes

References: Little RR, Sacks DB. HbA1c: how do we measure it and what does it mean?. *Curr Opin Endocrinol Diabetes Obes*. 2009;16(2):113-118. doi:10.1097/MED.0b013e328327728d

What are oral manifestations of uncontrolled diabetes?

- What is diabetes mellitus?
  - Group of metabolic disorders characterized by high levels of blood glucose
  - Lack of insulin production → type 1
  - Decreased response to insulin → type 2
- Oral manifestations of uncontrolled diabetes:
  - Xerostomia
  - Burning mouth sensation
  - Taste alteration
  - Parotid enlargement
  - Candidiasis
  - Oral ulceration
- No increased prevalence of benign neoplasms

Gupta, S., & Kumar, A. C. (2011). A Comparative Study on Oral Manifestations of Controlled and Uncontrolled Type 2 Diabetes Mellitus in South Indian Patients. *Journal of Indian Academy of Oral Medicine and Radiology, 23*, 521-526. doi:10.5005/jp-journals-10011-1214

Hamadneh, S., & Dweiri, A. (2012). Oral Manifestations in Controlled and Uncontrolled Diabetic Patients. *Pakistan Oral and Dental Journal*, *32*(2), 456. Retrieved September 8, 2020, from http://connection.ebscohost.com/c/articles/85474541/oral-manifestations-controlled-uncontrolled-diabetic-patients-study-iordan

Quirino, M. R., Birman, E. G., & Paula, C. R. (1995). Oral manifestations of diabetes mellitus in controlled and uncontrolled patients. *Brazilian dental journal, 6*(2), 131–136.

What are oral manifestations of uncontrolled diabetes?

- Uncontrolled diabetes and periodontal health:
  - Greater incidence of severe periodontal disease
  - Poor response to periodontal treatment
  - Increased CAL and BoP
  - Increased salivary Porphyromonas gingivalis

“the success of periodontal treatment is dependent on the control exhibited by the diabetic patient”

- Increased risk of infection and healing time
- Higher likelihood of dental caries

Aoyama, N., Suzuki, J. I., Kobayashi, N., Hanatani, T., Ashigaki, N., Yoshida, A., Shiheido, Y., Sato, H., Izumi, Y., & Isobe, M. (2018). Increased Oral Porphyromonas gingivalis Prevalence in Cardiovascular Patients with Uncontrolled Diabetes Mellitus. *International heart journal*, *59*(4), 802–807. https://doi.org/10.1536/ihj.17-480

de Lima, A., Amorim Dos Santos, J., Stefani, C. M., Almeida de Lima, A., & Damé-Teixeira, N. (2020). Diabetes mellitus and poor glycemic control increase the occurrence of coronal and root caries: a systematic review and meta-analysis. *Clinical oral investigations*, 10.1007/s00784-020-03531-x. Advance online publication. https://doi.org/10.1007/s00784-020-03531-x

Mattson, J. S., & Cerutis, D. R. (2001). Diabetes mellitus: a review of the literature and dental implications. *Compendium of continuing education in dentistry (Jamesburg, N.J. : 1995)*, *22*(9), 757–773.

Stegeman C. A. (2005). Oral manifestations of diabetes. *Home healthcare nurse*, *23*(4), 233–242. https://doi.org/10.1097/00004045-200504000-00009

D3 PICO

- **Clinical Question:**

PICO Format

P:

I:

C:

O:

PICO Formatted Question

Clinical Bottom Line

Search Background

- **Date(s) of Search:**
- **Database(s) Used:**
- **Search Strategy/Keywords:**

Search Background

- **MESH terms used:**

Article 1 Citation, Introduction

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.
- Study Design:
- Study Need / Purpose:

Article 1 Synopsis

- 1-2 slides
- Method
- Results
- Conclusions
- Limitations

Article 1 Selection

- 1 slide
- Reason for selection
- Applicability to your patient
- Implications

Article 2 Citation, Introduction

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.
- Study Design:
- Study Need / Purpose:

Article 2 Synopsis

- 1-2 slides
- Method
- Results
- Conclusions
- Limitations

Article 2 Selection

- 1 slide
- Reason for selection
- Applicability to your patient
- Implications

Levels of Evidence

☐ **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)
☐ **1b** – Individual RCT
☐ **2a** – Systematic Review of Cohort Studies
☐ **2b** – Individual Cohort Study
☐ **3** – Cross-sectional Studies, Ecologic Studies, "Outcomes" Research
☐ **4a** – Systematic Review of Case Control Studies
☐ **4b** – Individual Case Control Study
☐ **5** – Case Series, Case Reports
☐ **6** – Expert Opinion without explicit critical appraisal, Narrative Review
☐ **7** – Animal Research
☐ **8** – In Vitro Research

Double click table to activate check boxes

Template Revised 9/10/2020

Optional for evidence citations or other notes. Delete if not needed.

Strength of Recommendation Taxonomy (SORT)

☐	**A** – Consistent, good quality patient oriented evidence
☐	**B** – Inconsistent or limited quality patient oriented evidence
☐	**C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

Double click table to activate check-boxes

Conclusions: D3

How does the evidence apply to this patient?

- Consider/weigh:
  - Literature
  - Group Leader & Specialist experience
  - Patient circumstances & preferences

Based on the above considerations, how will you advise your D4?

Conclusions: D4

Based on your D3's bottom line recommendations, how will you ***advise*** your patient?

How will you ***help*** your patient?

Updates….?

Discussion Questions

1. If it's our ethical duty to address and treat oral diseases to establish a healthier foundation before proceeding to restorative or prosthetic treatments, outside of emergency pain management, wouldn't it also be our duty to submit referrals to physicians to get them to a healthier baseline prior to treating this uncontrolled and unmonitored pt?
2. What dental procedures are contraindicated in someone that has uncontrolled diabetes vs someone who just had a recent MI?
3. What type of dental procedures are contraindicated for patients with uncontrolled diabetes and unmonitored heart issues?
4. Are there in office tests to check HbA1c levels in a dental setting?

THANK YOU