DEPARTMENT OF DENTAL HYGIENE

CASE PRESENTATION

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PATIENT PROFILE

- Mrs. A. is a 25 year old patient.
- Middle class, lives with her boyfriend, has a very busy and changing schedule that leaves her very limited time to worry about her self.
- Currently, does not have dental insurance and has to pay out-of-pocket for care.
- Last dental hygiene visit was 12/06/16.
- Patient reported brushing twice a day with a manual medium toothbrush using vertical and horizontal motions with whitening toothpaste. Mrs. A stated she flosses at least once a day.

CHIEF COMPLAINT

- Mrs. A. states that her mouth is in good condition but is due for a “dental cleaning”.
- She is concerned about having cavities, the occasional bleeding of her gums and sensitivity to cold beverages.
- Patient decided to seek care after her brother had to pay an excessive amount for restorative dental work.

HEALTH HISTORY OVERVIEW

- Blood pressure: 117 / 74 Pulse: 82
- ASA II
- Medical conditions: Fainting spells
- Smoker for 5 years (about 8 cigarettes a day)
- No medications

SYNCOPE

- Syncope is defined as a transient loss of consciousness, secondary to decreased cerebral perfusion, followed by complete recovery. The mechanism is a fall in systemic blood pressure driven by either vasodilatation or decreased cardiac output. The etiology remains uncertain in approximately 10% - 40% of patients (1).
- Syncope is a symptom that can be due to several causes, ranging from benign to life-threatening conditions. Many factors, such as overheating, dehydration, heavy sweating, exhaustion or the pooling of blood in the legs due to sudden changes in body position, can trigger syncope (2).

(1) Al-Busaidi, I. S., & Jardine, D. L. (2019). Different Types of Syncope Presenting to Clinic: Do We Miss Cardiac Syncope?. *Heart, Lung and Circulation*

(2) https://www.heart.org/en/health-topics/arrhythmia/symptoms-diagnosis--monitoring-of-arrhythmia/syncope-fainting

3 MAJOR TYPES OF SYNCOPE

Neurally mediated (the most common) such as vasovagal, result from autonomic reflexes that respond inappropriately, leading to vasodilation and relative bradycardia (3).

Is usually preceded by premonitory symptoms such as lightheadedness, diaphoresis, nausea, malaise, abdominal discomfort, and tunnel vision. However, this may not be the case in one-third of patients. Does not usually occur in the supine position but can occur in the seated position (3).

Vasovagal syncope is usually triggered by sudden emotional stress, prolonged sitting or standing, dehydration, or a warm environment, but it can also occur without a trigger. It is the most common type of syncope in young patients (more so in females than in males) (3).

(3) Hanna, E. B. (2014). Syncope: etiology and diagnostic approach. *Cleve Clin J Med*, *81*(12), 755-766.

3 MAJOR TYPES OF SYNCOPE (CONT'D)

- Orthostatic hypotensive: Normally, after the first few minutes of standing, about 25% to 30% of the blood pools in the veins of the pelvis and the lower extremities, strikingly reducing venous return and stroke volume. Is the most common cause of syncope in the elderly and may be due to autonomic dysfunction, volume depletion, or drugs that block autonomic effects or cause hypovolemia, such as vasodilators, beta-blockers, diuretics, neuropsychiatric medications, and alcohol (3).
- Cardiac syncope: predicts an increased risk of death and may herald sudden cardiac death. It often occurs suddenly without any warning signs, in which case it is called malignant syncope (3).

TREATMENT OF SYNCOPE

- Depending on the diagnosis, cardiovascular syncope may be stopped or controlled with one or more of the following therapies (4):
- Simple reassurance, proper hydration, anticipatory guidance, safety precautions, and increased salt intake are helpful for common type fainting (vasovagal syncope) especially in children and young adults.
- Insertion of a pacemaker is the standard treatment for syncope caused by a slow heartbeat (bradycardia). The pacemaker continuously monitors the heart's natural rhythm. It delivers an electrical impulse to stimulate (pace) the heart's muscle contractions if the heart rate drops below a certain number of beats per minute.
- Treatment for a rapid heartbeat (tachycardia) depends on whether it occurs in the upper chambers (atria) or lower chambers (ventricles) of the heart. These treatments may include: Medications to control irregular heart rhythms or underlying disease, Catheter ablation, An implantable cardioverter defibrillator (ICD) is a pacemaker -like device that continually monitors the heart.

(4) Brignole, Michele. "Diagnosis and treatment of syncope." *Heart (British Cardiac Society)* vol. 93,1 (2007): 130-6. doi:10.1136/hrt.2005.080713

DENTAL HYGIENE MANAGEMENT

- If there is suspicion of this condition careful history taking and meticulous physical exam in order to tease out the etiology of recurrent syncope (5).
- Maintain patient calmed.
- Keep good airway.
- Do not let patients stay in the same position for long periods of time. And advise them to get up slowly.
- Advice patient to eat well prior to appointment.

(5) Krawinthawong, K., Majkut, K., Khalid, N., Ferreira, S., & Mehdirad, A. (2017). Neurogenic Orthostatic Hypotension As An Unexpected Etiology Of Recurrent Syncope Obscured By Atrial Flutter. *Journal Of The American College Of Cardiology*, *11*(69), 2290.

https://www.dentalcare.com/en-us/professional-education/ce-courses/ce391/syncope

TOBACCO USE

- Is the single most prevalent cause of disease and premature death in the world (6).
- As years of use accumulate, so does the systemic and oral effects of all forms of tobacco. Life expectancy is shortened.
- Chemical compounds in tobacco can be categorized as a carcinogen, respiratory toxicant, reproductive or developmental intoxicant and an addictive (6).
- Smoking influences every system of the body: aggravates and accelerates the development of atherosclerosis and is a major risk factor for coronary heart disease. Major cause of chronic obstructive pulmonary disease (COPD) (6).

TOBACCO USE (CONT'D)

- May affect treatment and therapeutic outcomes for plaque-induced gingivitis (6).
- Increased rate and severity of periodontal destruction.
- Increased bone loss, attachment loss and pocket depths.
- Increased tooth loss from periodontal causes (6).

- (6) Wilkins, E. M., & McCullough, P. A. (1989). *Clinical practice of the dental hygienist* (Vol. 235, pp. 297-298). Lea & Febiger.

TREATMENT – TOBACCO CESSATION

METHODS FALL INTO TWO CATEGORIES:

Self-help intervention: Go cold turkey. Consider changing life style including exercise and diet modifications.

- Reduce number of daily tobacco exposures.
- Select over the counter (OTC) nicotine replacement patches, gum or lozenges. Join a family member or friend in the tobacco cessation effort.

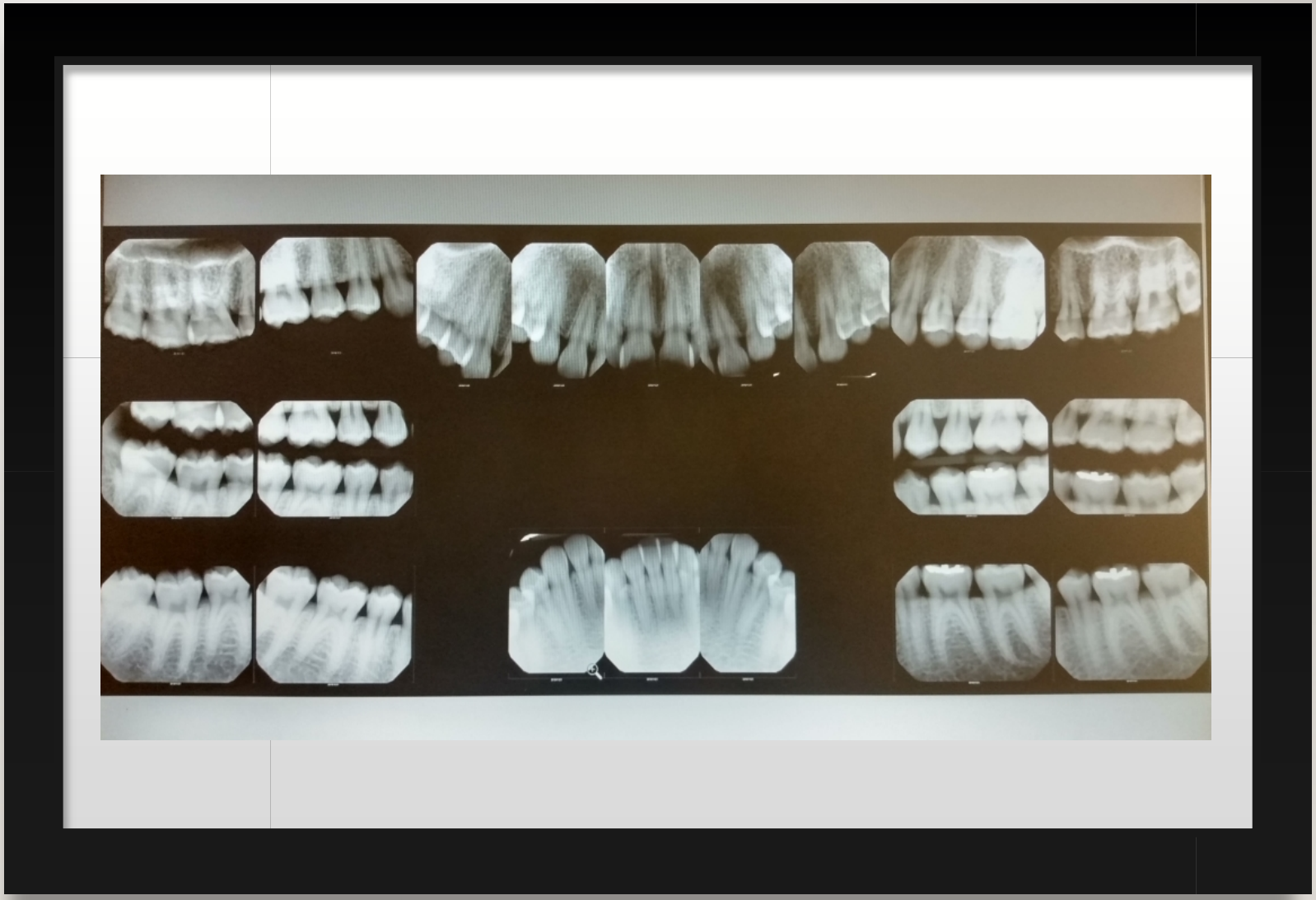
Assisted strategies: Counseling: problem solving and skills training.

Pharmacotherapies: Bupropion, Varenicicle, Nicotine gum, Nicotine inhaler.

Wilkins, E. M., & McCullough, P. A. (1989). *Clinical practice of the dental hygienist* (Vol. 235, pp. 297-298). Lea & Febiger.

COMPREHENSIVE ASSESSMENTS

RADIOGRAPHS



SUMMARY OF CLINICAL FINDINGS

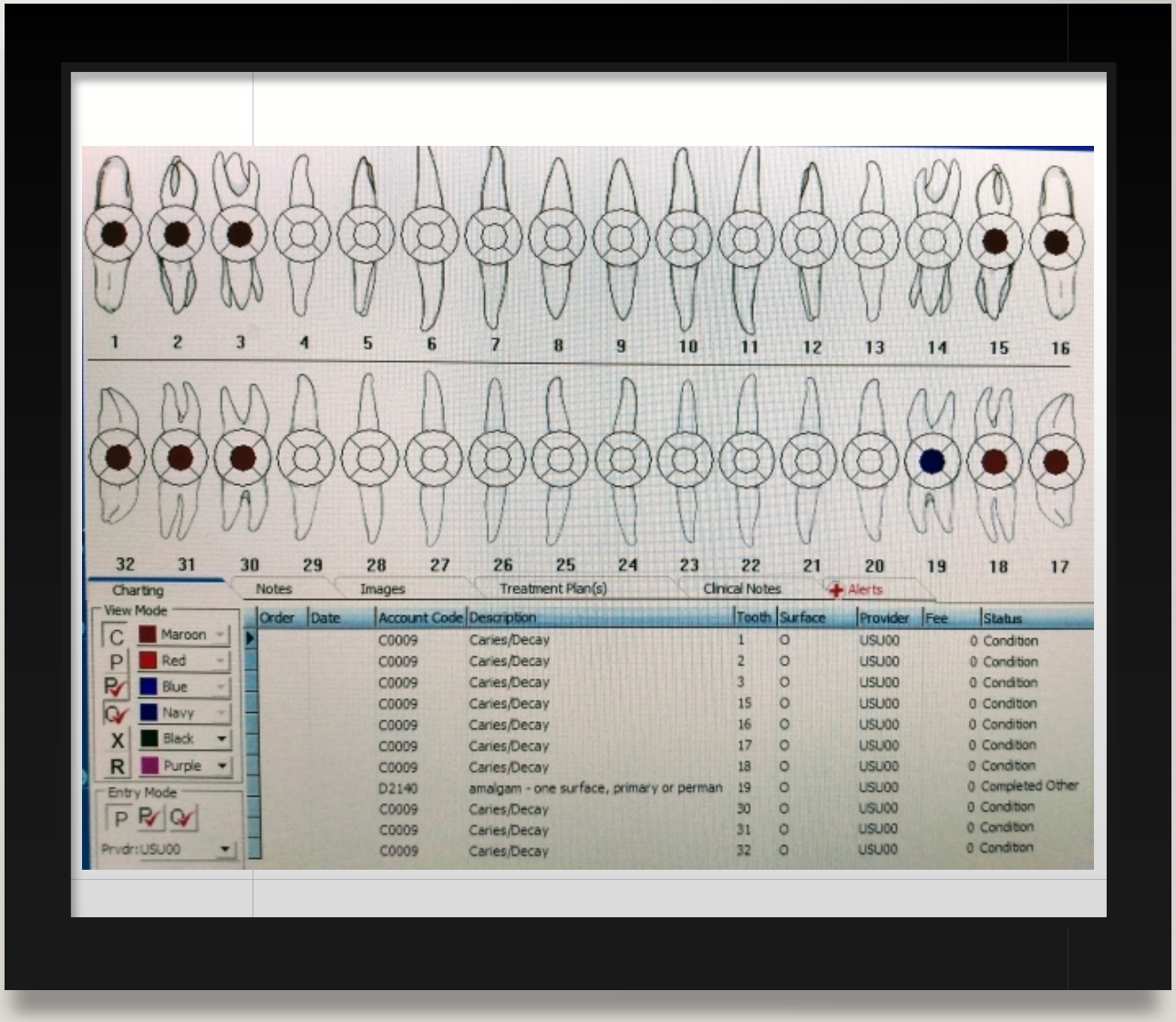
- Intraoral/extraoral: Enlarged, movable nodule on left side of posterior cervical chain (patient was recuperating from a cold). Lesion was only palpable during the first visit.
- Maxillary frenum piercing and lingual piercing.
- Tonsils were removed.
- Bilateral linea alba, slightly white coated tongue.
- Asymptomatic slight clicking of TMJ.

SUMMARY OF CLINICAL FINDINGS CONT'D

- Class I of occlusion bilaterally.
- 3mm overjet, 30% overbite.
- Generalized heavy subgingival and moderate supragingival calculus accumulation.
- Localized extrinsic stains, especially on occlusal surfaces of posterior teeth.

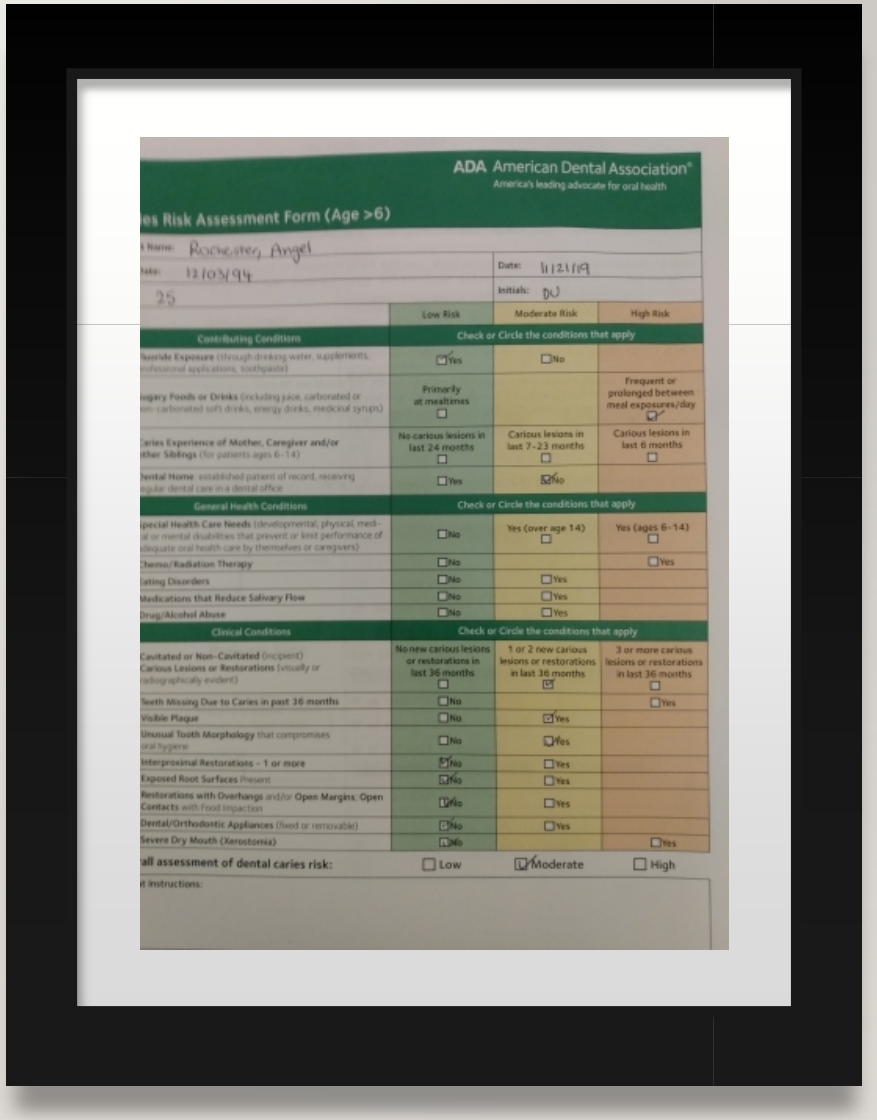
DENTAL CHARTING

- Class I amalgam restoration on #19.
- Moderate crowding on mandibular incisors.



CARIES RISK ASSESSMENT

CLINICAL EVIDENCE OF CARIES: DECAY NOTED ON #1, 2, 3, 15, 16, 17, 18, 30, 31 AND 32



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

es Risk Assessment Form (Age >6)

Name: Rochester, Angel
Date: 11/21/19
Initials: DW

	Low Risk	Moderate Risk	High Risk
Contributing Conditions	Check or Circle the conditions that apply		
oride Exposure (through drinking water, supplements, professional applications, toothpaste)	☑ Yes	☐ No	
gary 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 ☑
aries Experience of Mother, Caregiver and/or ther 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 ☐
ental Home established patient of record, receiving gular dental care in a dental office	☐ Yes	☒ No	
General Health Conditions	Check or Circle the conditions that apply		
pecial 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) ☐
hemo/Radiation Therapy	☐ No		☐ Yes
ating Disorders	☐ No	☐ Yes	
Medications that Reduce Salivary Flow	☐ No	☐ Yes	
Drug/Alcohol Abuse	☐ No	☐ Yes	
Clinical Conditions	Check or Circle the conditions that apply		
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 ☐
Teeth Missing Due to Caries in past 36 months	☐ No		☐ Yes
Visible Plaque	☐ No	☑ Yes	
Unusual Tooth Morphology that compromises oral hygiene	☐ No	☐ Yes	
Interproximal Restorations – 1 or more	☑ No	☐ Yes	
Exposed Root Surfaces Present	☑ No	☐ Yes	
Restorations with Overhangs and/or **Open Margins**; **Open Contacts** with Food Impaction	☐ No	☐ Yes	
Dental/Orthodontic Appliances (fixed or removable)	☐ No	☐ Yes	
Severe Dry Mouth (Xerostomia)	☐ No		☐ Yes

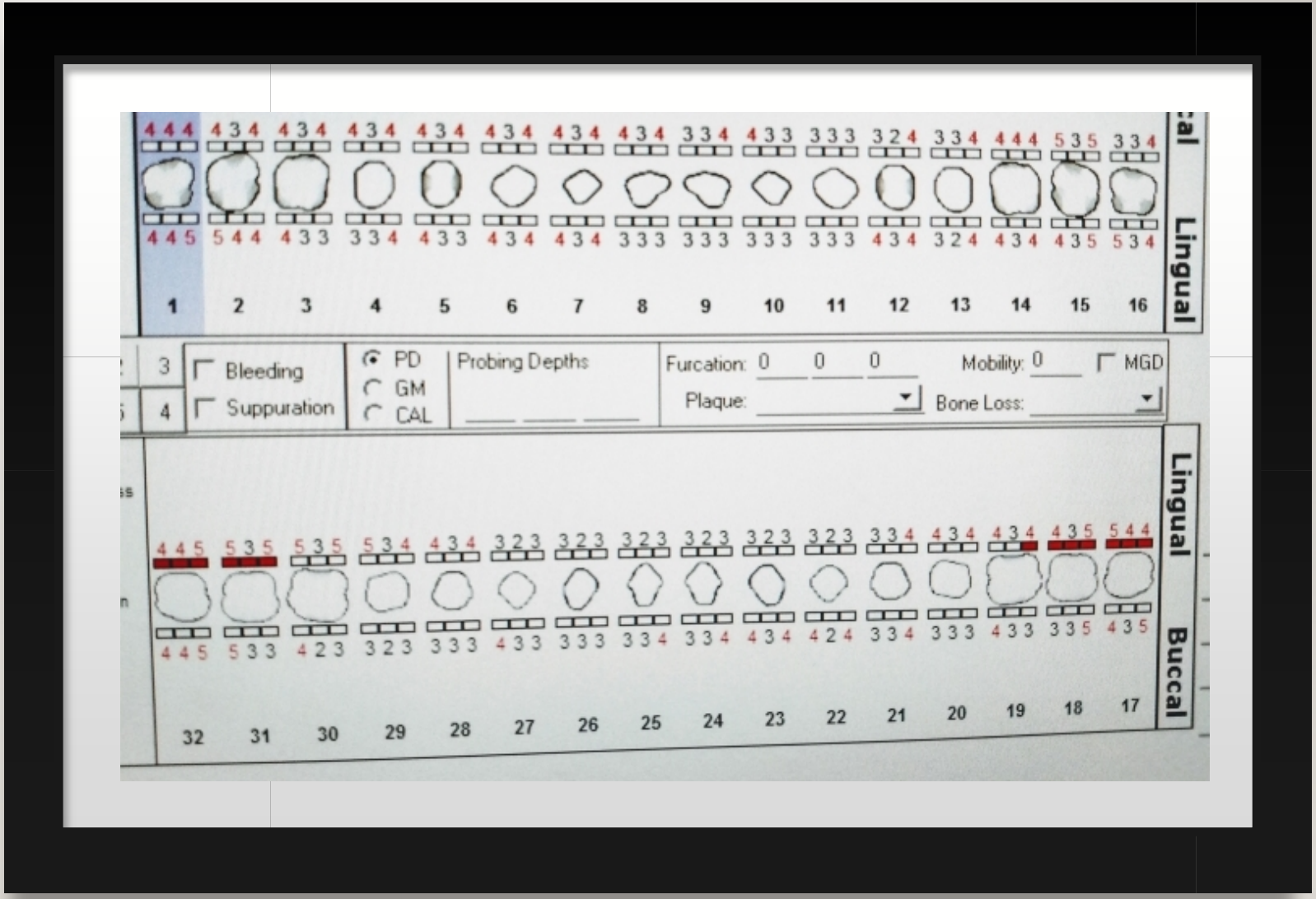
all assessment of dental caries risk: ☐ Low ☑ Moderate ☐ High

t Instructions:

GINGIVAL DESCRIPTION AND PERIODONTAL STATUS

- Gingiva is pigmented, stippled and firm in most areas. Generalized moderate marginal inflammation with localized bulbous gingivae, softer and erythematous tissue on mandibular anterior teeth.
- Generalized 3-4mm pocking depths with localized 5mm pocking depths and moderate bleeding upon probing.
- About 10% horizontal bone loss, especially around posterior teeth.
- No mobility and no furcations noted.

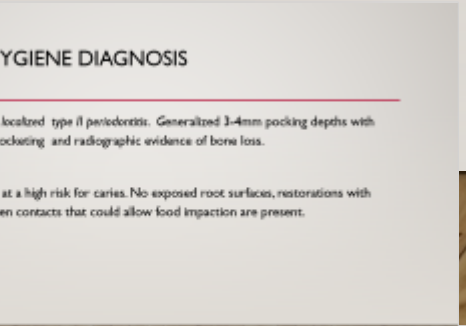
PERIODONTAL CHARTING



DENTAL HYGIENE DIAGNOSIS

- *Type I active with localized type II periodontitis.* Generalized 3-4mm pocking depths with localized 5mm pocketing and radiographic evidence of bone loss.

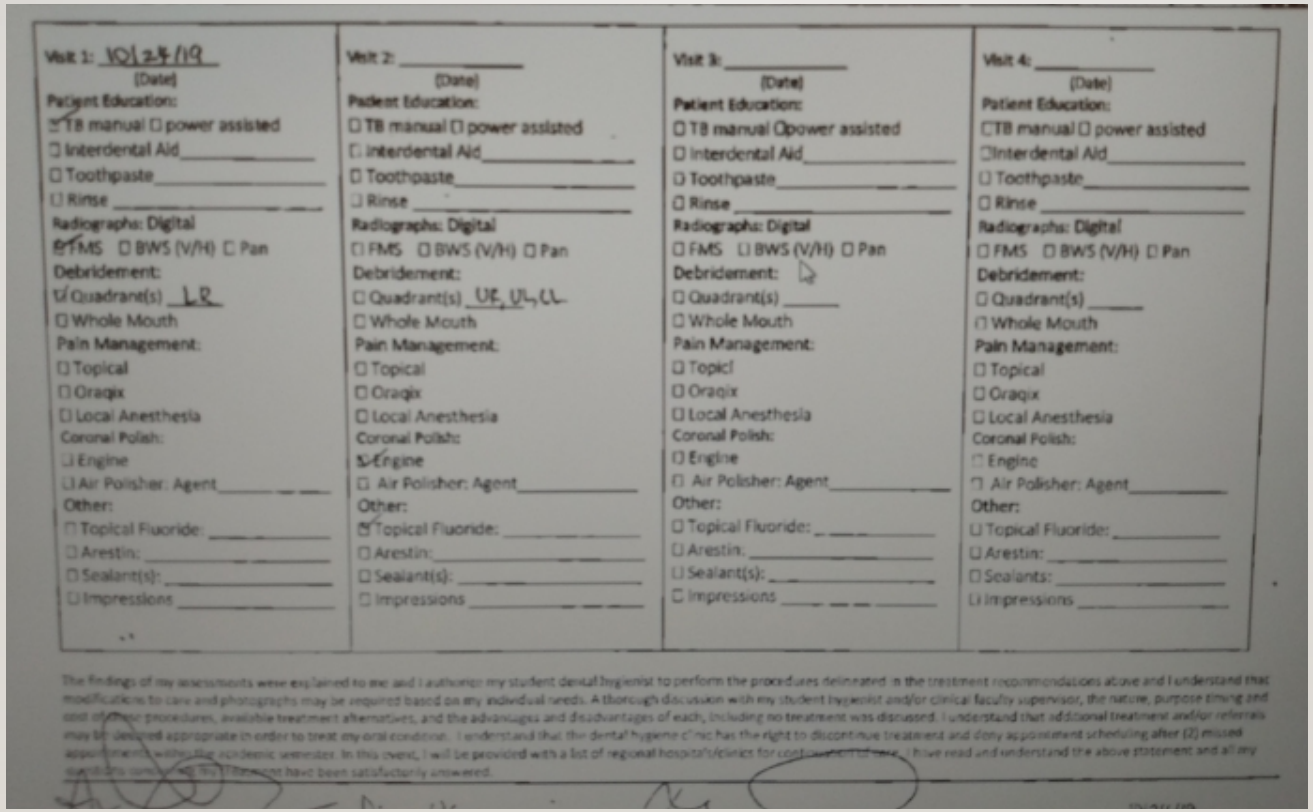
- Patient presents at a high risk for caries. No exposed root surfaces, restorations with overhangs or open contacts that could allow food impaction are present.



DENTAL HYGIENE CARE PLAN

- Oral hygiene instruction: Modified Bass toothbrushing and flossing methods.
- Dietary guidance.
- Smoking cessation counseling.
- Scale all quadrants with hand and ultrasonic instruments.
- Pain management: 2 carpules of Oraqix prior to debridement.
- Engine polish with medium grit due to moderate staining.
- Fluoride Varnish treatment.
- Have short breaks during treatment.

CONSENT FOR TREATMENT



Visit 1: 10/25/19 (Date)	Visit 2: _____ (Date)	Visit 3: _____ (Date)	Visit 4: _____ (Date)
Patient Education: ☑ TB manual ☐ power assisted ☐ Interdental Aid_____ ☐ Toothpaste_____ ☐ Rinse _____ Radiographs: Digital ☑ FMS ☐ BWS (V/H) ☐ Pan Debridement: ☑ Quadrant(s) LR ☐ Whole Mouth Pain Management: ☐ Topical ☐ Oraqix ☐ Local Anesthesia Coronal Polish: ☐ Engine ☐ Air Polisher: Agent_____ Other: ☐ Topical Fluoride: _____ ☐ Arestin: _____ ☐ Sealant(s): _____ ☐ Impressions _____	Patient Education: ☐ TB manual ☐ power assisted ☐ Interdental Aid_____ ☐ Toothpaste_____ ☐ Rinse _____ Radiographs: Digital ☐ FMS ☐ BWS (V/H) ☐ Pan Debridement: ☐ Quadrant(s) UL, UR, LL ☐ Whole Mouth Pain Management: ☐ Topical ☐ Oraqix ☐ Local Anesthesia Coronal Polish: ☑ Engine ☐ Air Polisher: Agent_____ Other: ☑ Topical Fluoride: _____ ☐ Arestin: _____ ☐ Sealant(s): _____ ☐ Impressions _____	Patient Education: ☐ TB manual ☐ power assisted ☐ Interdental Aid_____ ☐ Toothpaste_____ ☐ Rinse _____ Radiographs: Digital ☐ FMS ☐ BWS (V/H) ☐ Pan Debridement: ☐ Quadrant(s) _____ ☐ Whole Mouth Pain Management: ☐ Topicl ☐ Oraqix ☐ Local Anesthesia Coronal Polish: ☐ Engine ☐ Air Polisher: Agent_____ Other: ☐ Topical Fluoride: _____ ☐ Arestin: _____ ☐ Sealant(s): _____ ☐ Impressions _____	Patient Education: ☐ TB manual ☐ power assisted ☐ Interdental Aid_____ ☐ Toothpaste_____ ☐ Rinse _____ Radiographs: Digital ☐ FMS ☐ BWS (V/H) ☐ Pan Debridement: ☐ Quadrant(s) _____ ☐ Whole Mouth Pain Management: ☐ Topical ☐ Oraqix ☐ Local Anesthesia Coronal Polish: ☐ Engine ☐ Air Polisher: Agent_____ Other: ☐ Topical Fluoride: _____ ☐ Arestin: _____ ☐ Sealants: _____ ☐ Impressions _____

The findings of my assessments were explained to me and I authorize my student dental hygienist to perform the procedures delineated in the treatment recommendations above and I understand that modifications to care and photographs may be required based on my individual needs. A thorough discussion with my student hygienist and/or clinical faculty supervisor, the nature, purpose timing and cost of these procedures, available treatment alternatives, and the advantages and disadvantages of each, including no treatment was discussed. I understand that additional treatment and/or referrals may be required appropriate in order to treat my oral condition. I understand that the dental hygiene clinic has the right to discontinue treatment and deny appointment scheduling after (2) missed appointments without academic semester. In this event, I will be provided with a list of regional hospital/clinics for continuation of care. I have read and understand the above statement and all my questions (if any) have been satisfactorily answered.

IMPLEMENTATION OF TREATMENT

Due to the history of fainting spells and unknown etiology, it was required to make certain treatment modifications such as:

- Advised patient to eat well prior to appointment.
- Took careful and detailed medical history in order to tease out possible triggers or conditions that could precipitate the occurrence of syncope as well recurrence.
- Used strategies to maintain patient calmed during treatment.

IMPLEMENTATION OF TREATMENT (CONT'D)

- Assessed the patient's breathing and airway patency, and adjusted head and jaw position accordingly.
- Allowed patient to have short breaks during treatment. Advised patient to get up slowly.
- Care calls were made after each appointment to assess patient's condition after treatment.

IMPLEMENTATION OF TREATMENT

Visit 1.

Completed all assessments, formulated and explained treatment plan to patient and obtained signed consent. Preventive services:

- Oral self care instructions: Explained the cause and prevention of dental caries and periodontal disease. Effects of oral care procedures in the prevention of dental biofilm. Taught Modified Bass brushing method and flossing technique due to moderate biofilm accumulation, especially on interproximal areas, as well as heavy calculus accumulation. Recommended use of toothpastes containing stannous fluoride to prevent dental decay progression and over the counter fluoridated oral rinses.
- Discussed relationship of frequency of eating cariogenic foods to dental caries. Recommended replacement of sweetened beverages with plain water. Suggested the implementation of a meal schedule to reduce snack consumption during the day and opting for healthier options such as fresh vegetables.
- Scaled UL quadrant.

IMPLEMENTATION OF TREATMENT (CONT'D)

Visit 2. Mock board. Reviewed medical history. Scaled LL quadrant with hand and ultrasonic instruments.

Visit 3.

- Reviewed medical history and tissue previously scaled. Reviewed OHI. Instructed patient on flossing method due to biofilm accumulation on interproximal spaces.
- Discussed negative effects of smoking on periodontal tissues. such as increased rate and severity of periodontal destruction, increased bone loss, attachment loss and pockets depths, increased tooth loss from periodontal causes, and diminished immune response and impact on healing. Weakened response to conventional therapy.
- Discussed negative effects of metal tongue and frenum piercings: explained high risk of tooth fracture, abrasion and gingival recession by the continuous rubbing of a metal ball against hard and soft tissues.
- Scaled UR and LR quadrants with hand and power instruments. Engine polished with medium grit. Patient declined Fluoride treatment.

EVALUATION OF CARE OUTCOME - PROGNOSIS

Positive outcome of care.

- Gingival tissue achieved a healthier state. Generalized Moderate reduction of gingival inflammation and marginal erythema was noted.
- Good prognosis: Patient manifested desire to improve oral self care and good understanding of techniques taught. Progress was corroborated by lowered biofilm accumulation by the end of treatment. Patient also mentioned having initiated small dietary changes by making more conscious/healthier food and beverage choices.
- Patient stated having lowered smoking frequency from about 8 cigarettes a day to 4-6 daily and was considering quitting smoking, which seemed impossible at the beginning of treatment.

CONTINUED CARE RECOMMENDATIONS

- Re-care interval of 4 months in order to observe patient's progress and implementation of oral hygiene care instructions given as well as dietary recommendations.

REFERRALS

- Patient was referred to dentist for evaluation of suspicious carious lesions.

https://www.nydailynews.com/life-style/health/new-tooth-treatment-heal-cavities-article-1.3936616

FINAL REFLECTION

What went right?

Excellent prognosis. Mrs. A exhibited interest in improving her oral health and maintaining it. She was eager to learn oral hygiene strategies and mentioned being able to implement methods taught. Improvement of tissue previously scaled was noted.

Instruments used to complete debridement were appropriate. At the end of treatment Mrs. A. was committed to scheduling the suggested re-care appointments. She was proud of having taken the fist step towards oral health improvement and was aware of the importance of dental hygiene in her overall wellbeing.

More time could have been spent discussing smoking cessation with the patient and the negative effects of tobacco use such as the increased rate and severity of periodontal destruction. However, during the last visit, Mrs. A. expressed she had lower her tobacco consumption. The patient was willing, not only to quit smoking but to continue making new efforts to achieve the best possible oral health.