

New York City College of Technology
Department of Dental Hygiene
DEN 2300 Case Presentation

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12/09/2019

Patient profile

- Mrs. N. is a 55-year-old Caucasian female.
- Middle-class, lives in the city with her husband and two sons. Patient does not have dental insurance and only goes to the dental office when it is an emergency.
- Her last dental treatment was in 2017. Tooth filling was done at this time.
- Pt. was raised in country with dental services available but reports that she has anxiety of dental treatment, has never used dental hygiene services, and has never cleaned her teeth.
- No radiographic exposure in her lifetime.
- Pt. states that she brushes her teeth 2 times per day with a powered toothbrush, uses whitening toothpaste; flosses sometimes after meals and does not use oral rinses.

Chief Complaints

- Patient states: “I am so scared when I come to dental office but I want to examine my teeth, to find out my current oral health status.”
- Mrs. N would like to get her teeth cleaned and whitened because she feels that something is stuck between her teeth and that they are yellow.
- She also states that her maxillary left molar has sensitivity to cold and sweet.

Health History Overview

- Blood pressure: 107/76, pulse-73, ASA -II
- Medical conditions: Hypertension diagnosed 3 years ago and anxiety of dental treatment. Pt. states that she fainted 7 years ago when she experienced pain.
- Current medication: Bisoprolol 2.5mg, 1 tab./day. (Pt. reported that dose of medicine has been decreased by the doctor 3 months ago because her blood pressure drops very low sometimes.

Explanation of Conditions (Hypertension)

- Hypertension is an abnormal elevation of arterial blood pressure. It has been called the “silent killer” because one third of people who have it do not have symptoms.
- Normal BP reading is <120 (systolic), <80 (diastolic);
Prehypertension: 120-139/80-89; Stage I: 140-159/90-99; Stage II: >160/>100.
- There are two types of hypertension: 90% of hypertension is primary or essential. The causes are still unclear. A combination of factors that may play a role are: Tobacco use, overweight, hereditary, age (over 40), sex, race, diet, environment, etc.

Explanation of Conditions (Hypertension)

- Secondary hypertension: Several conditions may cause it: Renal artery obstructions, pyelonephritis, hyperthyroidism, diabetes, medications (decongestants, steroids), alcohol abuse, etc.
- Symptoms of hypertension can include: Headaches, shortness of breath, nose bleeds, chest pain, blood in the urine, etc.

<https://www.healthline.com/health/high-blood-pressure-hypertension>

https://www.onhealth.com/content/1/high_blood_pressure_hypertension

Explanation of Conditions (Dental Anxiety and Fear)

- Anxiety is a feeling (an emotion) of worry, nervousness, unease.
- Almost 75% of US adults experience some degree of dental fear.
- Patients are so fearful of receiving dental treatment that they avoid dental care at all costs.
- Dental anxiety can arise due to multiple factors, such as previous negative or traumatic experience, especially in childhood, vicarious learning from anxious family members or peers.

Some symptoms of anxiety are: muscle tightness, sweating of the palms of hands, holding things tightly, blushing, etc.

Esther M. Wilkins “Anxiety and Pain Control” *Clinical Practice of The Dental Hygienist*. 12th edition.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4790493/>

How the Condition is Managed (Hypertension)

- Goals for management of hypertension is to achieve and maintain diastolic pressure at a level below 80 mmhg by: developing a healthy diet (fruits,vegetables, whole grains, reduce sodium intake), increasing physical activity, managing stress, elimination of tobacco and alcohol use.
- Medications used to treat hypertension include: Beta-blockers, diuretics, ACE inhibitors, calcium channel blockers, alpha-2 agonists.
- In this case, to manage hypertension, Mrs. N does not use tobacco or alcohol, tries to eat healthy food and takes the medication Bisoprolol (beta-blocker) prescribed by her physician.
- <https://www.healthline.com/health/high-blood-pressure-hypertension>
- https://www.onhealth.com/content/1/high_blood_pressure_hypertension

How Condition is Managed (Dental Anxiety)

- Broadly dental anxiety can be managed by psycho-therapeutic interventions, pharmacological interventions or combination of both.
- A good patient-dental hygienist relationship is crucial for the management of anxiety. Communication strategies (trust building) are very important. For example, patients should be encouraged to ask questions about the treatment, and should be kept completely informed about what is to be done before starting the procedure and also during the procedure.
- Benzodiazepines (valium) are the most commonly prescribed anti-anxiety drugs.
- Nitrous-oxide sedation

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4790493/>

Dental Hygiene Management of Hypertension

- Dental professional should consider that most of the antihypertensive drugs have severe side effects, such as: dry mouth, taste alteration, gingival enlargement, orthostatic hypotension, delayed healing, gingival bleeding, etc.
- There are some contraindications that dental hygienist should be aware of; for example: Beta-blockers interactions with NSAID can lead to decreased antihypertensive effects. Caution is required when administering local anesthetics or other applications, ie, gingival retraction cord, with epinephrine. However, local anesthesia with vasoconstrictor is permissible but limit dosage-1 or 2 carpules.
- In this case: Bisoprolol is a cardioselective Beta-blocker and does not cause orthostatic hypotension. Moreover, anesthetic with vasoconstrictor can be safely used.
- DH should measure BP prior to every appointment.

Dental Hygiene Management of Dental Anxiety

- Dental professionals should consider that dental anxiety and nervousness can cause the patient's blood pressure to rise. Thus, it is important to create a safe, positive and caring atmosphere during a dental appointment for the hypertensive patient.
- In this case DH should know that Beta-blocker also used to treat anxiety. Taking Beta-blocker with valium (Diazepam) may help increase the effectiveness of the Benzodiazepine (antianxiety agent).

https://www.medicinenet.com/beta-blockers_vs_valium/article.htm#what_is_the_difference_between_beta_blockers_and_valium

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5074706/>

Haveles,B. Pharmacology for the Dental Hygienist, 7th Edition.

Wynn et al.Lexicomp. Drug Information Handbook for Dentistry, 24th Edition.

COMPREHENSIVE
ASSESSMENTS

Radiographs



Summary of clinical findings

- Extraoral/Intraoral Examination: There were no significant findings.
- Occlusion: Class I, overjet- 4mm, overbite- 6%.
- Deposits: Generalized, heavy, supra and subgingival calculus.

Dental Charting

- Resin based composites on teeth: # 1MO, #2DO, #3MO, #12L, # 15(O), #18(O), #20(O), #31(O).
- Missing teeth: #14,16,17,18,29,30,32.
- Generalized attrition of anterior teeth.

Caries Risk Assessment

		Low Risk (0)	Moderate Risk (1)	High Risk (10)	Patient Risk
Contributing Conditions					
I.	Fluoride Exposure (through drinking water, supplements, professional applications, toothpaste)	Yes	No		
II.	Sugary or Starchy Foods or Drinks (including juice, carbonated or non-carbonated soft drinks, energy drinks, medicinal syrups)	Primarily at mealtimes ✓		Frequent or prolonged between meal exposures/day	
III.	Caries Experience of Mother, Caregiver and/or other Siblings (for patients ages 6-14)	No carious lesions in last 24 months	Carious lesions in last 7-23 months	Carious lesions in last 6 months	10
IV.	Dental Home: established patient of record, receiving regular dental care in a dental office	Yes	No		1
General Health Conditions					
I.	Special Health Care Needs*	No	Yes (over age 14)	Yes (ages 6-14)	
II.	Chemo/Radiation Therapy	No		Yes	
III.	Eating Disorders	No	Yes		
IV.	Smokeless Tobacco Use	No	Yes		
V.	Medications that Reduce Salivary Flow	No	Yes		1
VI.	Drug/Alcohol Abuse	No	Yes		
Clinical Conditions					
I.	Cavitated or Non-Cavitated (incipient) Carious Lesions or Restorations (visually or radiographically evident)	No new carious lesions or restorations in last 36 months	1 or 2 new carious lesions or restorations in last 36 months	3 or more carious lesions or restorations in last 36 months	
II.	Teeth Missing Due to Caries in past 36 months	No		Yes	10
III.	Visible Plaque	No	Yes		1
IV.	Unusual Tooth Morphology that compromises oral hygiene	No	Yes		
V.	Interproximal Restorations - 1 or more	No	Yes		1
VI.	Exposed Root Surfaces Present	No	Yes		
VII.	Restorations with Overhangs and/or Open Margins; Open Contacts with Food Impaction	No	Yes		
VIII.	Dental/Orthodontic Appliances (fixed or removable)	No	Yes		
IX.	Severe Dry Mouth (Xerostomia)	No		Yes	
TOTAL:					24

Patient Instructions: go to the dentist to treat existing caries, regular dental hygiene visits, home-care, oral rinses with fluoride

*Patients with developmental, physical, medical or mental disabilities that prevent or limit performance of adequate oral health care by themselves or caregivers.

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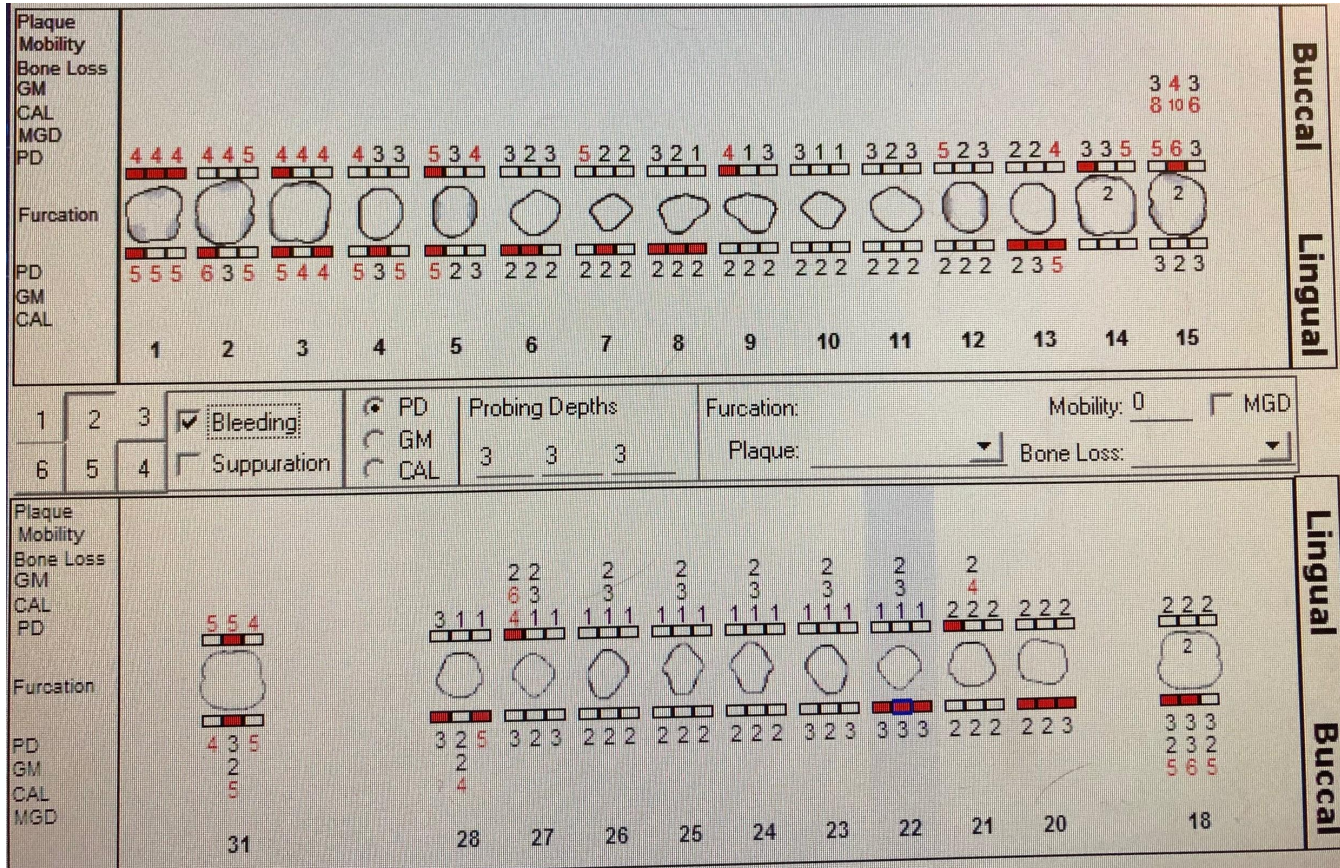
Clinical evidence of caries: Decay noted on the teeth #3MB, #8M, #9M, #15M.

Noted caries lesions were confirmed by radiographs.

Gingival Description and Periodontal Status

- Periodontal status based on the gingival assessment and FMS is: Generalized, active, type -III periodontitis.
- Gingiva is pink, stippled on anterior areas and moderately inflamed on molar areas- no interdental papilla, slight redness.

Periodontal Charting



Periodontal Charting

- 2-3 mm gingival recession on teeth # 28, 31 and 3-4 mm on teeth # 15,16.
- Generalized (1-2mm) recession on mandibular, lingual anterior teeth.
- Furcation involvement (grade II) on teeth #15B and #18L.
- 4-6 mm periodontal pockets on posterior teeth.
- Generalized, moderate BOP.

Dental Hygiene Diagnosis

- Risk for caries: Patient at a high risk for caries due to multiple, current caries lesions, poor oral hygiene, heavy calculus, exposed root surfaces and antihypertensive medication that might reduce salivary flow.
- Periodontal Diagnosis: Type III, active, generalized periodontitis due to: 4-6 mm probe depth, moderate BOP, localized recession, grade II furcation noted on buccal of #15 and lingual of #18, radiographic evidence of moderate bone loss.

Dental Hygiene Care Plan

Treatment Plan

Visit 1: <u>11/04/19</u> (Date)	Visit 2: _____ (Date)	Visit 3: _____ (Date)	Visit 4: _____ (Date)
Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input checked="" type="checkbox"/> Interdental Aid <u>Florsicg</u> <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____	Patient Education: <input checked="" type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____	Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input checked="" type="checkbox"/> Rinse _____	Patient Education: <input type="checkbox"/> TB manual <input type="checkbox"/> power assisted <input type="checkbox"/> Interdental Aid _____ <input type="checkbox"/> Toothpaste _____ <input type="checkbox"/> Rinse _____
Radiographs: Digital <input checked="" type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input checked="" type="checkbox"/> Quadrant(s) <u>6, 7, 8</u> <input type="checkbox"/> Whole Mouth	Radiographs: Digital <input checked="" type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input type="checkbox"/> Quadrant(s) <u>7, 8</u> <input type="checkbox"/> Whole Mouth	Radiographs: Digital <input type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input type="checkbox"/> Quadrant(s) <u>7, 8</u> <input type="checkbox"/> Whole Mouth	Radiographs: Digital <input type="checkbox"/> FMS <input type="checkbox"/> BWS (V/H) <input type="checkbox"/> Pan Debridement: <input type="checkbox"/> Quadrant(s) _____ <input type="checkbox"/> Whole Mouth
Pain Management: <input type="checkbox"/> Topical <input checked="" type="checkbox"/> Oraqix <input checked="" type="checkbox"/> Local Anesthesia Coronal Polish: <input type="checkbox"/> Engine <input type="checkbox"/> Air Polisher: Agent _____	Pain Management: <input checked="" type="checkbox"/> Topical <input checked="" type="checkbox"/> Oraqix <input type="checkbox"/> Local Anesthesia Coronal Polish: <input checked="" type="checkbox"/> Engine <input type="checkbox"/> Air Polisher: Agent _____	Pain Management: <input checked="" type="checkbox"/> Topical <input type="checkbox"/> Oraqix <input checked="" type="checkbox"/> Local Anesthesia Coronal Polish: <input checked="" type="checkbox"/> Engine <input type="checkbox"/> Air Polisher: Agent _____	Pain Management: <input type="checkbox"/> Topical <input type="checkbox"/> Oraqix <input type="checkbox"/> Local Anesthesia Coronal Polish: <input type="checkbox"/> Engine <input type="checkbox"/> Air Polisher: Agent _____
Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____	Other: <input checked="" type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____	Other: <input checked="" type="checkbox"/> Topical Fluoride: <u>Varnish</u> <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealant(s): _____ <input type="checkbox"/> Impressions _____	Other: <input type="checkbox"/> Topical Fluoride: _____ <input type="checkbox"/> Arestin: _____ <input type="checkbox"/> Sealants: _____ <input type="checkbox"/> Impressions _____

Implementation (Treatment Plan)

- Preventive Services. Oral self-care Instructions:
- Visit- I: Education about the causes of periodontal disease, importance of oral hygiene and regular teeth cleaning. Explained benefits of flossing. Introduced proper flossing technique for the better cleaning of interproximal areas.
- Visit-II: Introduced proxy brush as an alternative for flossing for the open embrasures.
- Visit III: Recommended Colgate Sensitivity toothpaste due to increased sensitivity on the scaled teeth and exposed root surfaces.
- Visit IV: Reviewed flossing techniques. Recommended Listerine Total Care oral rinse (twice a day) against periodontal pathogens. 5% fluoride varnish application for caries prevention and for decreasing sensitivity. Instructions were given after application: eat only soft foods day of treatment, no brushing for 4-6h, avoid hot beverages for the rest of the day.

Implementation- treatment Continued

- Debridement/Performed: For the management of pain and patient's anxiety, Oraqix- 2 carpules were administered on each visit. Heavy calculus was scaled with ultrasonic (FSI-100, FSI-1000, thin sert) and hand instruments (#135 scaler, anterior sickle scaler, anterior gracey 1/2 , posterior 11/12, 13/14). Engine polishing was done.
- The calculus was very tenacious and was too hard to remove. Due to the patient's dental anxiety, it took more time than was planned (to explain every step of treatment, to build trust and to keep a patient calm). PS.

Evaluation of Care-Outcome of care-Prognosis

- Gingiva looked healed, less inflamed, with less redness, after scaling from each previous visit. Based on the plaque scores, home care was improved after each visit.
- At the last visit, after finishing all treatment, there was a big difference in the teeth appearance; teeth looked whiter, healthier, without calculus, and gingival tissue was less inflamed.
- It is obvious that the patient fully understood the outcomes of a periodontal disease. She became aware of the importance of home care and periodontal health.
- Because it was the patient's first time cleaning her teeth and she had anxiety, my first goal was to establish trust in order to show her that the dental treatment was not as scary as she expected and convince her to come every 4 to 5 months for teeth cleaning. This goal was hopefully met.

Referrals

- Referrals were given to patient for:
- Caries treatment: #3MB, #8M, #9M, #15M.
- For the periodontal treatment: Full mouth evaluation.
- Patient said that she wanted to find a dentist and a periodontist herself.

ADULT REFERRAL FORM

A copy of this original form has been placed in the patient's electronic record.

Date: 11/25/19

Dear Doctor,

A student, under faculty supervision, at the **Dental Hygiene Clinic** at the New York City College of Technology has performed a periodontal and oral disease risk assessment on:
~~_____~~

The patient is being referred to you for consultation and treatment in the following areas:

- Caries: #3MB, #8M, #9M, #15M
- Restorative Care: _____
- Oral Pathology: _____
- Oral Surgery: _____
- Periodontal Disease: Full mouth evaluation
- Elevated Blood Pressure: 1st reading: _____ 2nd reading: _____
- Other: _____

Thank you,
Dental Hygiene Student: I. Lorashvili
Attending Faculty: ~~_____~~

Continued care Recommendations

- 3-4 month recare interval was recommended to this patient to maintain periodontal health.

Final Reflection

It was a good experience for me to manage a patient with a very heavy calculus and dental anxiety. I successfully convinced her that the treatment was not as scary as she expected it to be and that she had to come in to clean her teeth regularly to maintain her health.

However, finishing her treatment took more time than I expected. Calculus was very tenacious and hard to remove, and probably needed more experience than I have at this time to remove it in one visit. Our required procedure, especially the assessment part of it, was too lengthy for a first-time patient to handle. For example, I spent four hours – almost all of the third visit – to clean only one quadrant just so that it could be approved by the faculty, although I planned to finish all of her treatment by that time. It was uncomfortable for my patient who needed a good first experience to overcome the fear of the procedure.

Overall, the patient was still happy about her clean teeth, and I promised her that if she came every 4 to 6 months to clean her teeth, the process would be easier and faster. I was able to establish trust between my patient and I hope to have proved to her the importance of oral health while helping her to overcome her dental anxiety.