# Comprehensive Care Project

Airel Harte

# Medical Assessment

| Patient's Description |
| --- |
| Age: 64<br>Age Class: Adult<br>Race: Hispanic<br>Gender: Female<br>BMI = 34.8kg/m² (obese) |

| Medical Precautions |
| --- |
| Hypothyroidism<br>High Blood Pressure<br>Penicillin Allergy |

| Vitals |
| --- |
| BP: 138/88 mm Hg<br>P: 64 bpm<br>R: 18 bpm<br>T: 96.5<br>SpO2: 96% |

| ASA Status |
| --- |
| ASA II |

***No Special Needs**

| Medications | Dosage | Directions | Dental effects | Adverse Reactions |
| --- | --- | --- | --- | --- |
| Levothyroxine | 50 mg | 1x each morning | N/A | Increased blood pressure, fatigue |
| Metoprolol | 50 mg | 1x each morning | N/A | fatigue |
| HydroCHLOROthiazide | 25 mg | 1x each morning | Orthostatic hypotension | N/A |
| Ramipril | 20 mg | 1x each morning | Orthostatic hypotension | fatigue |
| Potassium Chloride | 8 mg | 1x day with meal | N/A | N/A |

*No Local Anesthetic/Vasoconstrictor precautions suggested

# Periodontal Assessment

**Before Treatment**

Right (Buccal) view
Anterior view
Left (Buccal) view
Palatal view
Right (Palatal) view
Palatal view
Left (Palatal) view
Right (Lingual) view
Lingual view
Left (Lingual) view
Lingual view

**After Treatment**

Right (Buccal) view
Anterior view
Left (Buccal) view
Palatal view
Right (Palatal) view
Palatal view
Left (Palatal) view
Right (Lingual) view
Lingual view
Left (Lingual) view
Lingual view

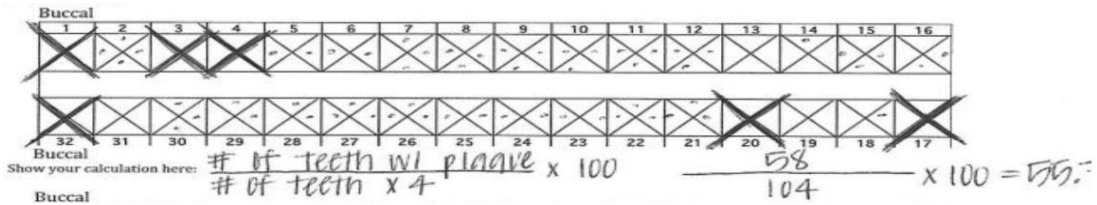
# Periodontal Assessment

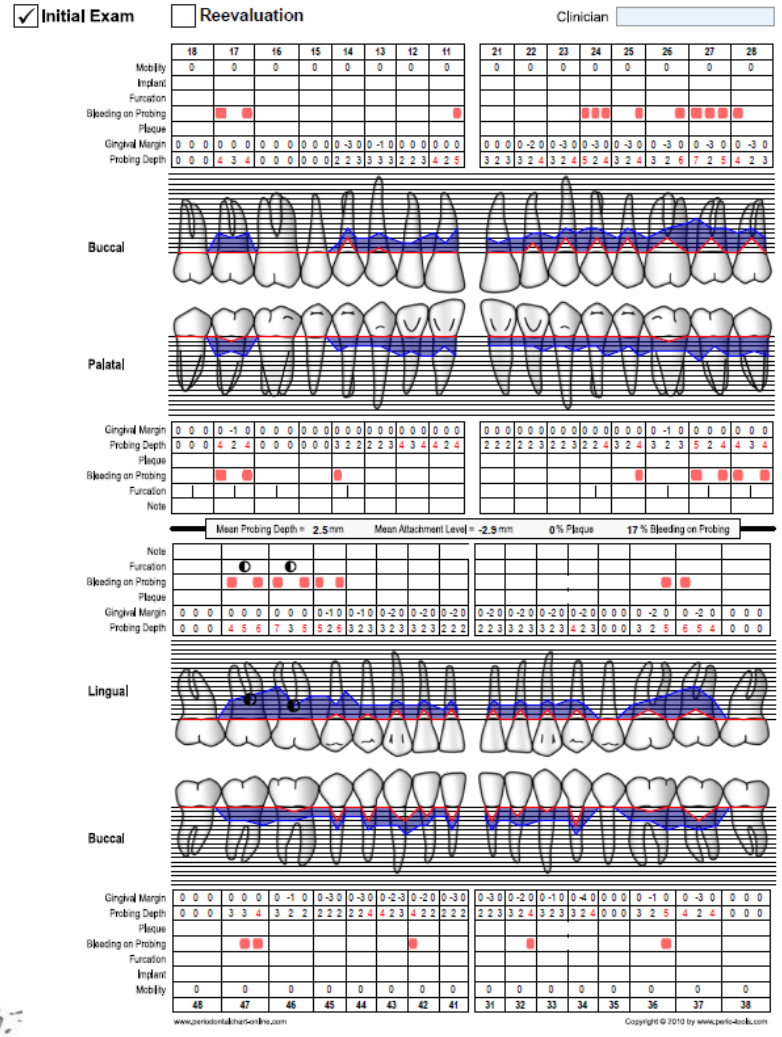
## Generalized Stage II, Localized Stage III, Grade: B

WLA Calculus Code: Generalized 4-Medium, Localized 5-Medium Heavy LRQ

### Initial Assessments

EO/IO: WNL
TMJ Assessments: Deflection to the right, asymptomatic popping on left side
Occlusion: Right Canine: Class III
Right Molar: Unidentifiable due to missing #3
Left Canine: Cass II
Left Molar: Class I
Probing: Generalized 2-3mm pockets with localized 4-7mm pockets
Recession: Generalized 2-3mm of recession with localized 4mm
CAL: Generalized 3-4mm with localized 5-7mm
PI: 55.7%
MBI: 17%
MGI: N/A
Mobility: Class I: #18
Missing #1, #3, #4, #17, #20, #32
Attrition on the maxillary anterior teeth and the maxillary first premolars
Attrition on the mandibular anterior teeth
Worn enamel cusps on mandibular premolars and molars
Abfraction: #5, #11-13, #21, #28
Retained root tip #13
Fractures present on the ML surface of #16 and the L surface of #31



# Radiographic Interpretation

Generalized horizontal bone loss

Localized vertical bone loss between #9/#10, #13/#14, #14/#15, #18/#19

Generalized widening of PDL

Mesial drift of #18 and #19 due to missing #20

Cratered bone defect on space of #20

#11 MFL Caries

Generalized 1:2 Crown-to-root ratio

Localized 1:1 Crown-to root ratio on #8, #14, #15, #23-26

Furcation Involvement: Class II on the lingual aspect of #18/19 and the buccal aspect of #30/31

Visible radiographic evidence of subgingival calculus

# Treatment Plan & Prognosis

## Assessment

**Appt. 1**

Vitals
Medical Assessment
EO/IO
FM Probing
FM Exploring
Intra Oral Photos
Plaque Index
CAMBRA/OHI
Gave 3-day diet journal

## ULQ SRP

**Appt. 2**

Vitals
Medical Assessment
EO/IO
Reassessment
20% Benzocaine
3% Mepivicaine, no epi.
- PSA, 0.9mL
- AMSA, 1.4mL

ULQ SRP, Hand Scale
OHI

## LLQ SRP

**Appt. 3**

Vitals
Medical Assessment
EO/IO
Reassessment
20% Benzocaine
3% Mepivicaine, no epi.
- IA, 1.5mL
- Lingual Block, 0.3mL
- Buccal Block, 0.3mL

LLQ SRP, Hand Scale
OHI

## LRQ SRP

**Appt. 4**

Vitals
Medical Assessment
EO/IO
Reassessment
20% Benzocaine
3% Mepivicaine, no epi.
- IA, 1.5mL
- Lingual Block, 0.3mL
- Buccal Block, 0.3mL

LRQ SRP, Hand Scale
& Magnetostrictive
OHI

## URQ SRP

**Appt. 5**

Vitals
Medical Assessment
EO/IO
Reassessment
20% Benzocaine
3% Mepivicaine, no epi.
- Supraperiosteal, 0.6mL
- AMSA, 1.4mL

URQ SRP, Hand Scale
OHI

## Re-evaluation

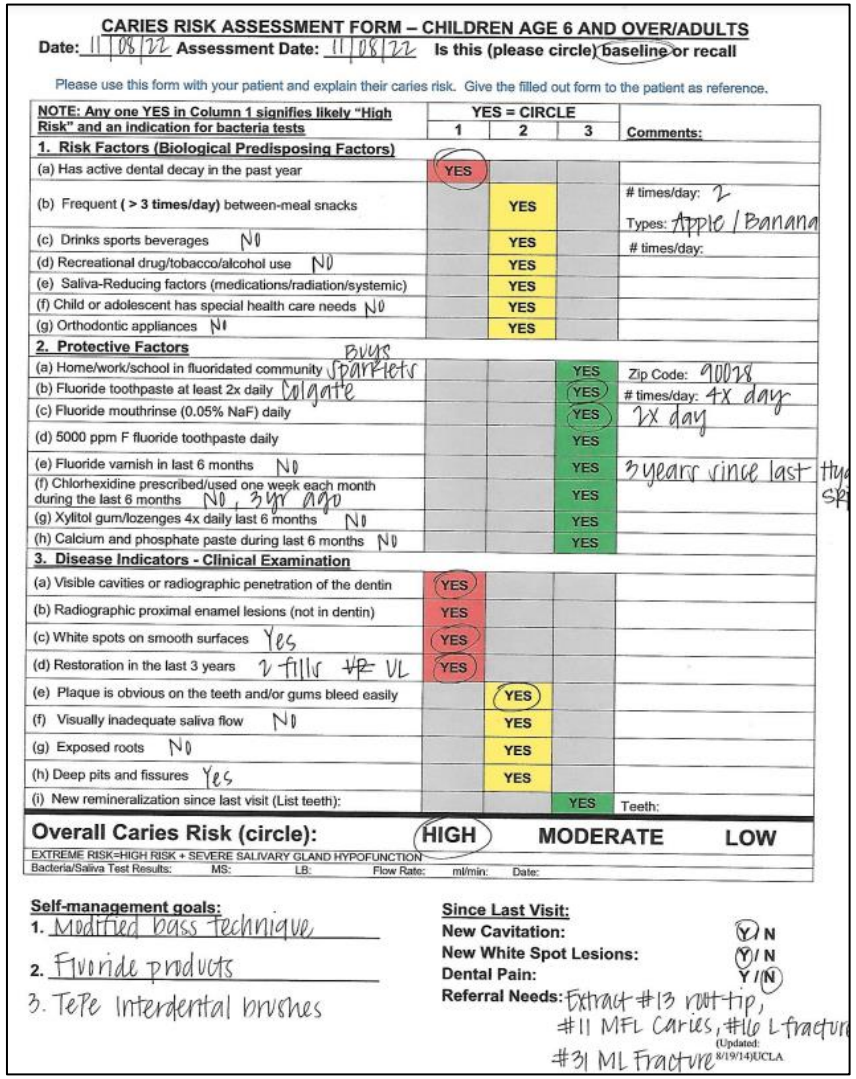
**Appt. 6**

Vitals
Medical Assessment
EO/IO
Periodontal Assessment
Evaluate need for Arestin
IntraOral Photos
Plaque Index
De-Plaque, Hand Scale
Polish
Fluoride Varnish
OHI

**Prognosis:** Poor

**What I will do differently:** I will use the ultrasonic scaler at each appointment to facilitate removal of tenacious calculus and reduce scaling time as well as to improve patient comfort.

# CAMBRA



**CARIES RISK ASSESSMENT FORM – CHILDREN AGE 6 AND OVER/ADULTS**

Date: 11/08/22 Assessment Date: 11/08/22 Is this (please circle) baseline or recall

Please use this form with your patient and explain their caries risk. Give the filled out form to the patient as reference.

| NOTE: Any one YES in Column 1 signifies likely "High Risk" and an indication for bacteria tests | YES = CIRCLE 1 | 2 | 3 | Comments: |
|---|---|---|---|---|
| **1. Risk Factors (Biological Predisposing Factors)** | | | | |
| (a) Has active dental decay in the past year | YES | | | |
| (b) Frequent ( > 3 times/day) between-meal snacks | | YES | | # times/day: 2 Types: Apple / Banana |
| (c) Drinks sports beverages NO | | YES | | # times/day: |
| (d) Recreational drug/tobacco/alcohol use NO | | YES | | |
| (e) Saliva-Reducing factors (medications/radiation/systemic) | | YES | | |
| (f) Child or adolescent has special health care needs NO | | YES | | |
| (g) Orthodontic appliances NO | | YES | | |
| **2. Protective Factors** | | | | |
| (a) Home/work/school in fluoridated community Buys Sparkletts | | | YES | Zip Code: 90028 |
| (b) Fluoride toothpaste at least 2x daily Colgate | | | YES | # times/day: 4x day |
| (c) Fluoride mouthrinse (0.05% NaF) daily | | | YES | 2x day |
| (d) 5000 ppm F fluoride toothpaste daily | | | YES | |
| (e) Fluoride varnish in last 6 months NO | | | YES | 3 years since last Hy SP |
| (f) Chlorhexidine prescribed/used one week each month during the last 6 months NO, 3yr ago | | | YES | |
| (g) Xylitol gum/lozenges 4x daily last 6 months NO | | | YES | |
| (h) Calcium and phosphate paste during last 6 months NO | | | YES | |
| **3. Disease Indicators - Clinical Examination** | | | | |
| (a) Visible cavities or radiographic penetration of the dentin | YES | | | |
| (b) Radiographic proximal enamel lesions (not in dentin) | YES | | | |
| (c) White spots on smooth surfaces Yes | YES | | | |
| (d) Restoration in the last 3 years 2 fills VP= UL | YES | | | |
| (e) Plaque is obvious on the teeth and/or gums bleed easily | | YES | | |
| (f) Visually inadequate saliva flow NO | | YES | | |
| (g) Exposed roots NO | | YES | | |
| (h) Deep pits and fissures Yes | | YES | | |
| (i) New remineralization since last visit (List teeth): | | | YES | Teeth: |

**Overall Caries Risk (circle):** HIGH MODERATE LOW

EXTREME RISK=HIGH RISK + SEVERE SALIVARY GLAND HYPOFUNCTION

Bacteria/Saliva Test Results: MS: LB: Flow Rate: ml/min: Date:

**Self-management goals:**
1. Modified bass technique
2. Fluoride products
3. Tepe interdental brushes

**Since Last Visit:**
New Cavitation: (Y) N
New White Spot Lesions: (Y) / N
Dental Pain: Y / (N)
Referral Needs: Extract #13 root tip, #11 MFL Caries, #16 L fracture #31 ML Fracture

(Updated: 8/19/14)UCLA

**HIGH RISK**

1. Has active dental decay in the past year
2. Visible cavities or radiographic penetration of the dentin
   #11 MFL Caries
3. Restorations within the last three years
   2 fillings on the UL
4. Obvious plaque and calculus on the teeth

# Oral Hygiene Instructions

Methods were demonstrated to the patient using a Colgate tooth model. Patient was able to replicate demonstration to reflect understanding.

1

## Modified Bass Technique

Using soft bristled toothbrush, angle bristles at 45 degree angle into sulcus. Vibrate bristles in a short back and forth motion gently massaging the gingiva.  Recommended brushing 2x day.

1

## C-Shaped Flossing

Insert floss in between the teeth in a gentle seesaw motion. Wrap floss closely around each proximal surface making a C-shape and move floss in up and down motion.  Recommended flossing at least 1x day.

2

## Proxabrush

Facilitates flossing in open embrasure spaces to remove plaque biofilm more efficiently. TePe samples were provided to patient in various sizes.

3

## End tuft brush

To assist the patient with reaching the distal surfaces of the most posterior teeth. (i.e. #2, #15, #18, #31) & Distal surfaces of teeth when adjacent teeth are missing. (i.e. #5, #12)

1/6

## Electric Toothbrush

Recommended to facilitate brushing, however, it was not economically feasible for the patient at the time. Therefore, modified bass technique was demonstrated using manual toothbrush. After the holiday break, patient was gifted a Sonicare toothbrush which helped to improve her overall oral health.

# Nutritional Counseling

- BMI = 34.8kg/m² (obese)
- Consumed in excess: Fat (72%)
  (20-35% is recommended)
  Carbohydrates (73%)
  (45-65% is recommended)
- Cariogenic Foods: Bread, Cereal, Rice, Pasta, Banana's, Mexican Gum
  Contains sugars, starch, & other artificial flavoring

Fermentable carbohydrates are cariogenic due to the sugar and/or sweeteners contained within the food that is absorbed by bacteria to produce acid.

Foods containing high-fructose corn syrup, fructose syrup, corn sugar, maize syrup, crystalline fructose, glucose syrup, and corn syrup solids.

## Nutritional Focus

Limit Carbohydrate intake
- Carbohydrates can trigger bacteria in the mouth to create acid that can harm the enamel surface of teeth. Excessive amounts of carbohydrate intake may lead to caries, especially when they are in the mouth for prolonged periods of time.

Substitute Canel's Mexican Gum for sugar free alternative
- Bacteria in the oral cavity metabolizes sugars to produce acids that cause demineralization. Substituting for Xylitol or Ice Breakers will not only protect the teeth from sugars that lead to acids, but it will stimulate salivary flow which helps prevent cavities.

Rinse with water after meals and snacks
- Counteracts acidity of foods to immediately remove food debris and sugar that can be left over after eating.

Consume sugar and starches (i.e., bread, pasta, rice) in moderation
- Limiting sugar and starches protects your teeth against plaque build up which causes inflammation and damage to the enamel surface of the teeth

# Referrals

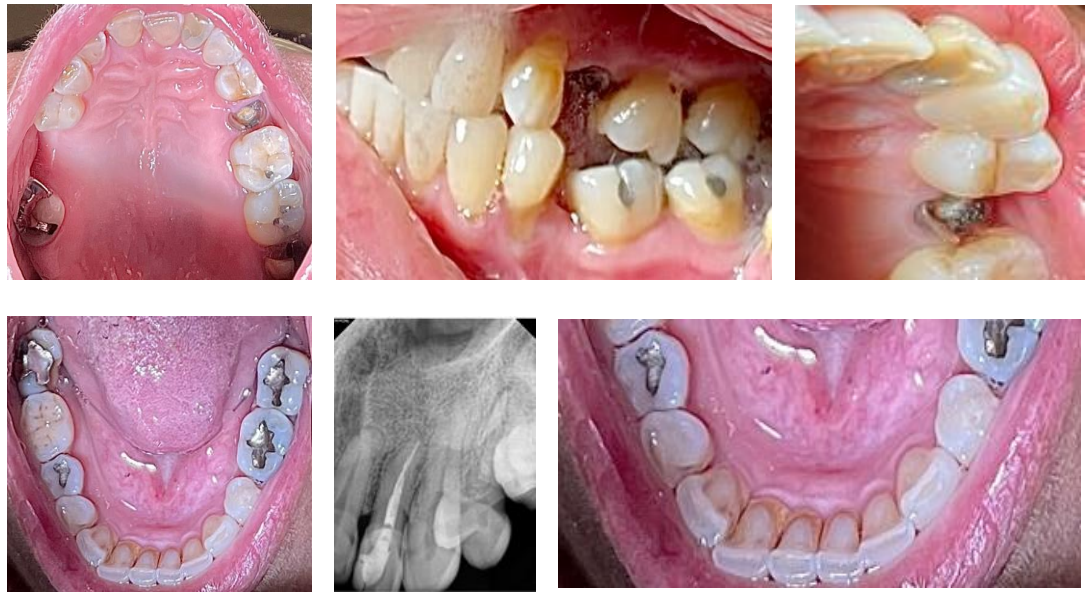
#11 MFL Caries

#13 Extract root tip

#16 L Fracture

#31 ML Fracture

Nightguard



# Re-evaluation

**Before Treatment**

Right (Buccal) view

Anterior view

Left (Buccal) view

Palatal view

Right (Palatal) view

Palatal view

Left (Palatal) view

Right (Lingual) view

Lingual view

Left (Lingual) view

Lingual view

**After Treatment**

Right (Buccal) view

Anterior view

Left (Buccal) view

Palatal view

Right (Palatal) view

Palatal view

Left (Palatal) view

Right (Lingual) view

Lingual view

Left (Lingual) view

Lingual view

# Re-evaluation

## Re-evaluation

EO/IO: WNL

Reduced pocket measurements by 1-2mm in generalized areas

PI: 35.4% (improvement of 20.3%)

MBI: 11% (6% improvement from her initial assessment)

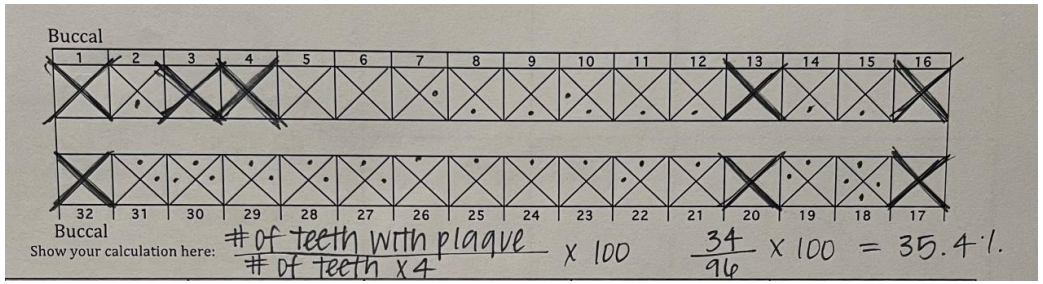
The gingiva still appeared slightly inflamed and edematous due to the presence of plaque. However, this is also likely due to the correlation of hypothyroidism and obesity with periodontal disease.

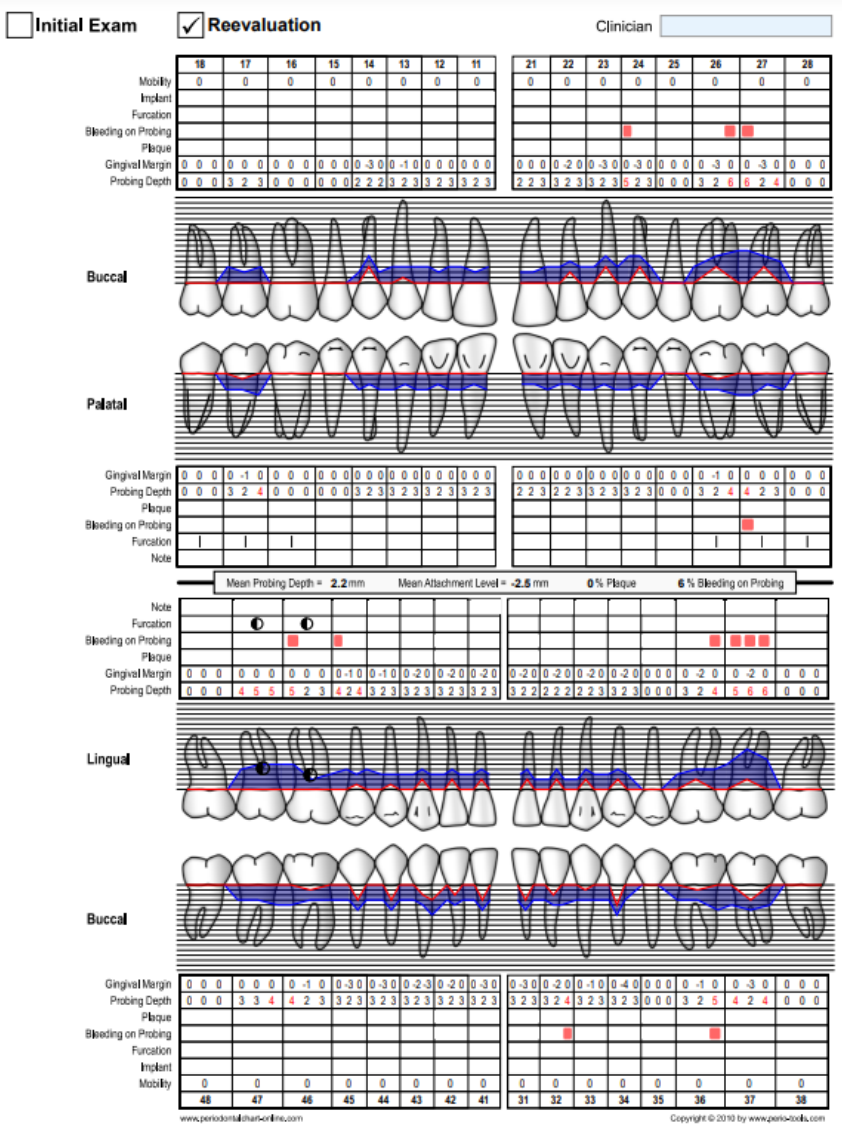
Retained root tip #13 and fractured tooth #16 had been extracted nearly two months prior to the re-evaluation appointment.

WLA Calculus Code: Light-2

**Patient Compliance**

FAIR: Given the interest taken by the patient to engage in her treatment planning and her efforts to follow through with oral hygiene recommendations.



# Interesting Experiences

## Education

Patient didn't understand why she had so much calculus

## Influence

Influence from others had an impact on her overall oral health

## Technique

Intraoral photos were shown to patient to demonstrate areas with supragingival calculus. Photos with disclosing solution were also used to demonstrate the amount of plaque present on the teeth.

Radiographs helped to show subgingival calculus deposits.

Brushing technique: Needs improvement! There was so much disorganized movement of the toothbrush.

## Main Contents

The patient always showed interest in improving her overall oral health. She was engaged in asking questions and was very comfortable during treatment.

Lack of understanding from others (her daughter) instilled doubts in her.

If the outside influence understood why recommendations were being made, it was easier to show support, thus easier for the patient to comply. Patient asked me to speak to her daughter which helped to improve her compliance and overall results.

# Research Articles

## Hypothyroidism

**Lowers vasoconstriction abilities resulting in increased bleeding and affects healing abilities**
Increased risk for infection due to decreased metabolic activity in fibroblasts
They are also at higher risk for heart disease

## High Blood Pressure

**People with periodontal disease are more likely to present with a 30-70% higher chance of hypertension.**
Bacteria associated with periodontal disease can lead to high blood pressure and other heart related conditions.

## Obesity

**Potential bidirectional relationship with periodontal disease**
Obesity can lead to an overgrowth of periodontal pathogens, inflammation and tissue damage.
Periodontal disease exacerbates the induction of pro-inflammatory adipokines/cytokines.

## Low Potassium Levels

**Increases blood pressure and periodontal inflammation**
Works with magnesium to ensure blood isn't too acidic (will take calcium from bones and teeth)
Low levels = decay and periodontal disease

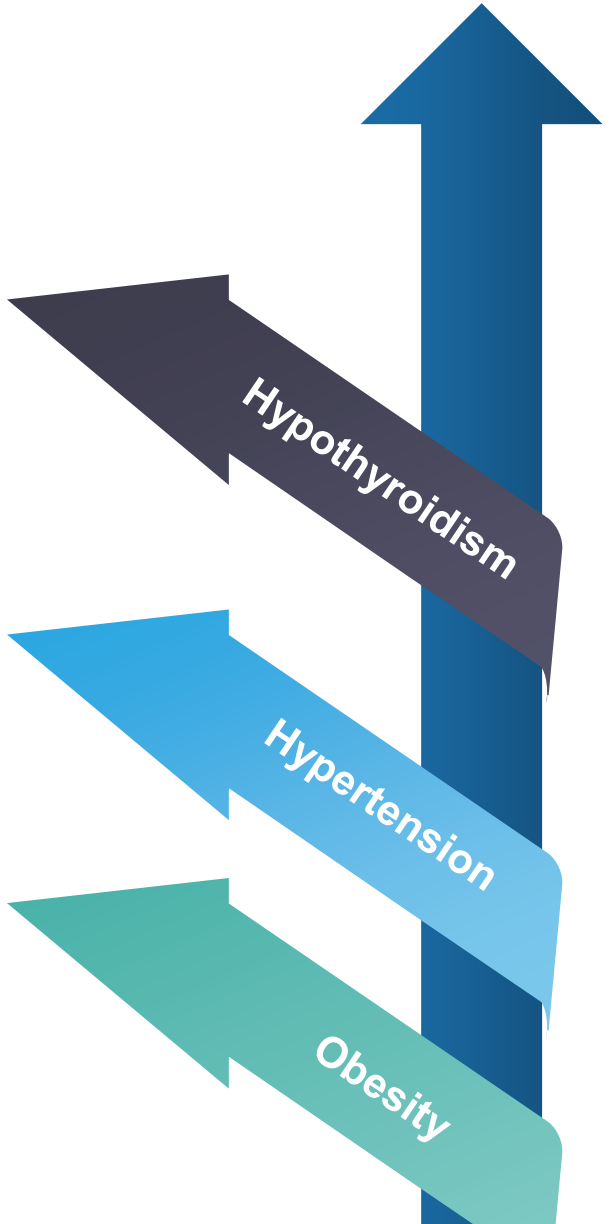
# References


Allbritten, J. R. (2018). How dental hygienists can help patients with thyroid disease. *RDHmag.com.* Retrieved March 9, 2023, from https://www.rdhmag.com/pathology/public-health/article/16408931/how-dental-hygienists-can-help-patients-with-thyroid-disease

Baiju, C., Gupta, G., Joshi, K., Kaur, P., Gupta, N. D., & Virmani, R. (2021). Proximal Relationship Between Hypothyroidism and Periodontitis: "A Clinical Representation". *University Journal of Dental Sciences*, *7*(2),109-112. Retrieved February 13, 2023, from https://ujds.in/index.php/ujds/article/view/455

Del Pinto, R., Landi, L., Grassi, G., Sforza, N. Cairo, F., Citterio, F.,Paolantoni, G., D'Aiuto, F. Ferri, C., Monaco, A., Pietropaoli, D. (2021). Hypertension and periodontitis: A joint report by the Italian Society of Hypertension (SIA) and the Italian Society of Periodontology and Implantology (SIdP). *Springer*. 28: 427-438. Retrieved February 14, 2023, from https://link.springer.com/content/pdf/10.1007/s40292-021-00466-6.pdf

Provinciali, L. S., & Fabri, G. M. C. (2023). The bidirectional relationship between obesity and periodontal disease – A narrative review. *Brazilian Journal of Health Review*. *6*(1), 702-714. Retrieved February 13, 2023, from https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/56176

# THANK YOU

WLAC Dental Hygiene Class of 2023