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Arthur A. Dugoni School of Dentistry

Multidisciplinary Case Presentation

GABRIELLE WAINWRIGHT

EXCELLENCE DAY MAY 25, 2022

Patient History

Age: 62 Yo

Gender: Female

Initial Records: 9/3/2019

Tx Start: 12/15/2020

CC: Wants to align upper and lower teeth better and get missing #9 fixed, tooth "fell out" in 2018

Dental Hx: Pt sees DDS student at UOP

Medical Hx: No significant med hx

Shelia Cypress-Turner ,62, Initial 9/3/2019, Printed: 5/6/2022

University of the Pacific, Arthur A. Dugoni School of Dentistry, Department of Orthodontics.

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Pano

Generalized moderate periodontal bone loss
UR1 has +1 mobility, UL2 has +2 mobility
Idiopathic osteosclerosis between LR6 and 7

FMX 5/6/2019

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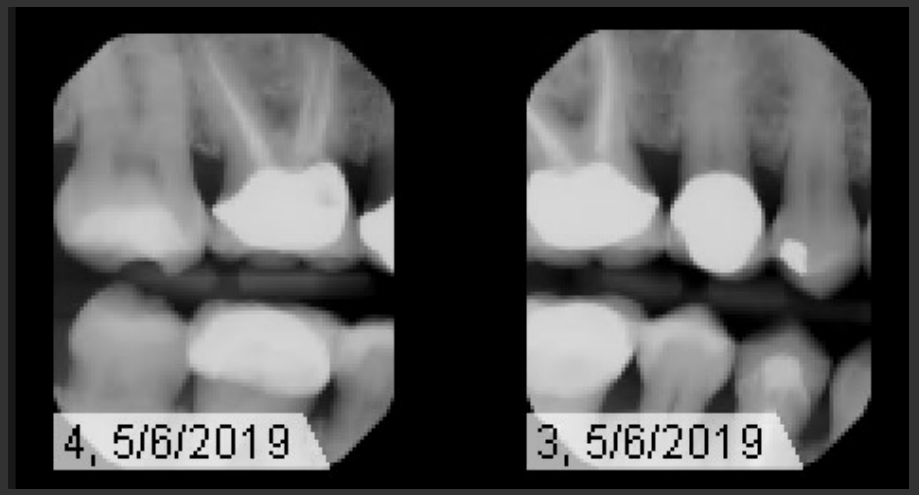

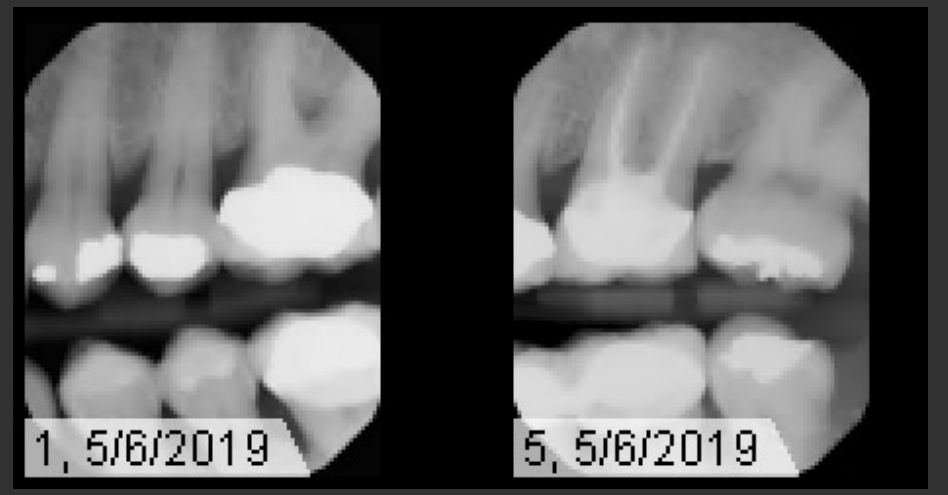

Perio chart 5/6/2019

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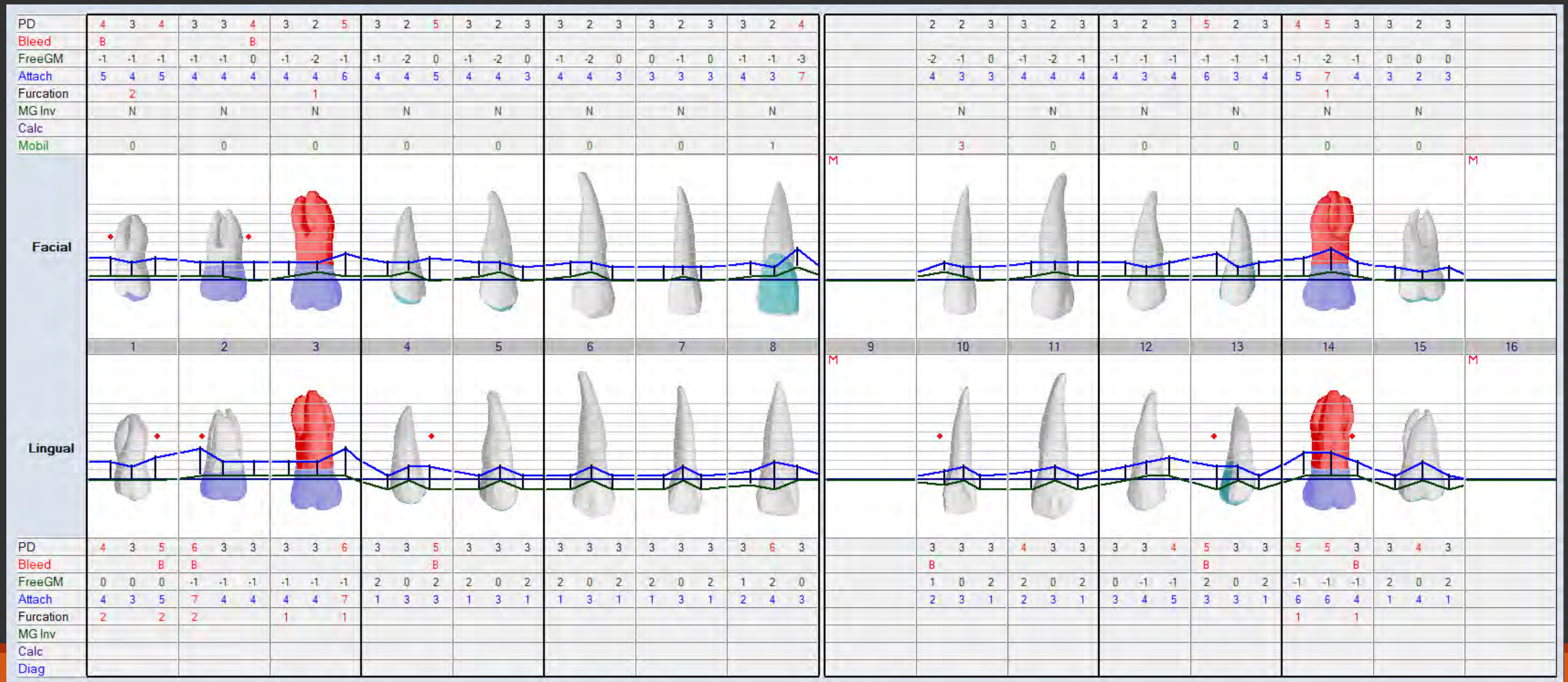

Perio chart 5/6/2019

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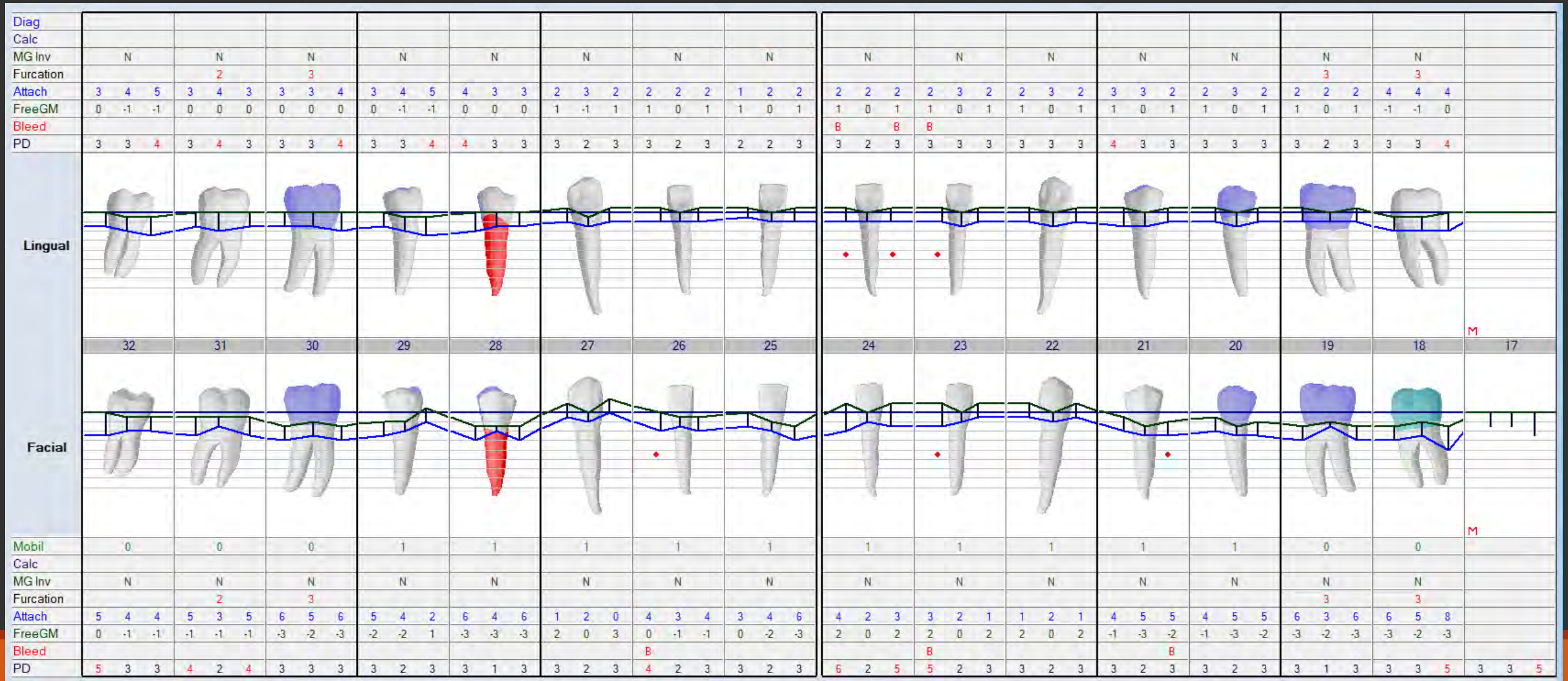

Lateral Ceph

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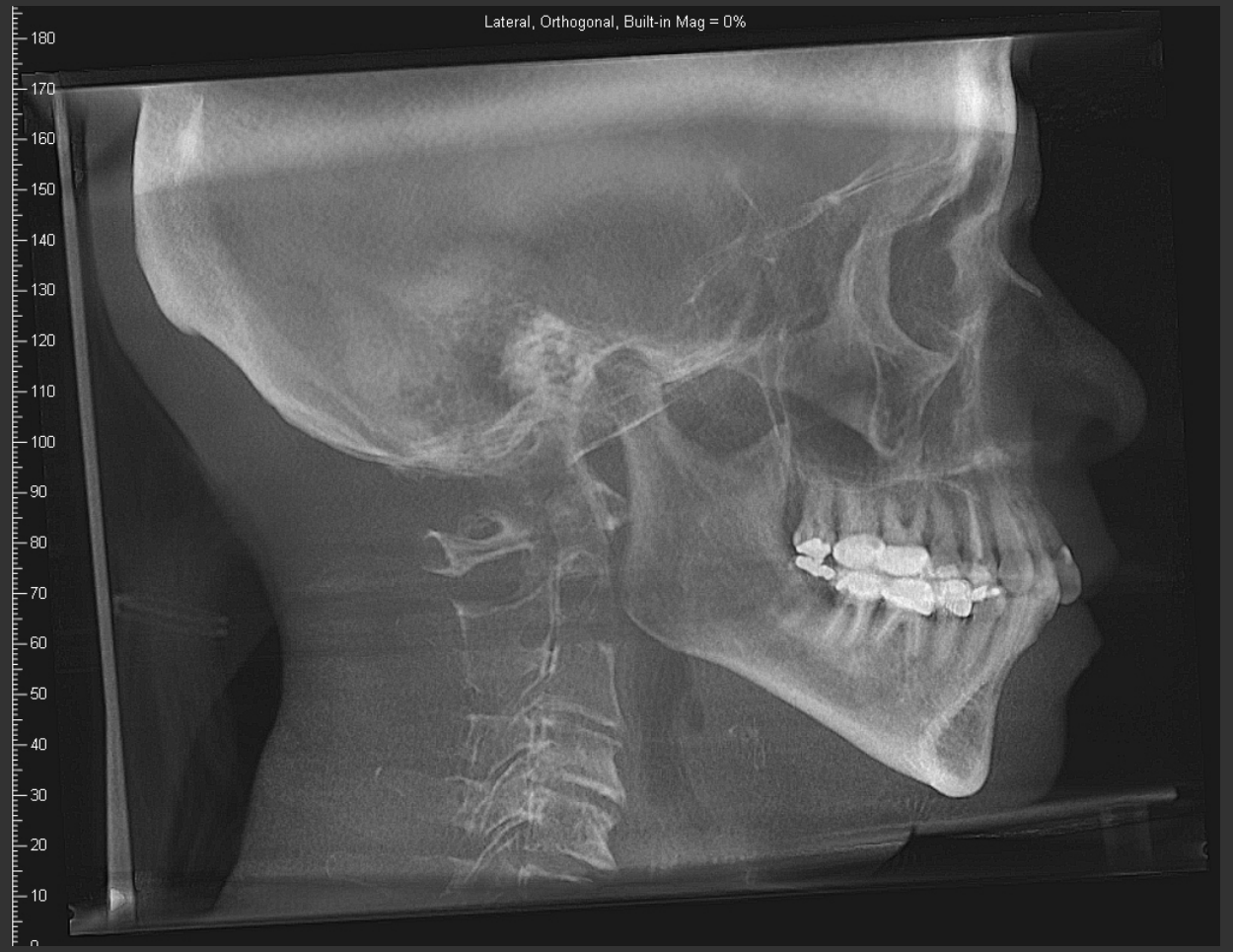
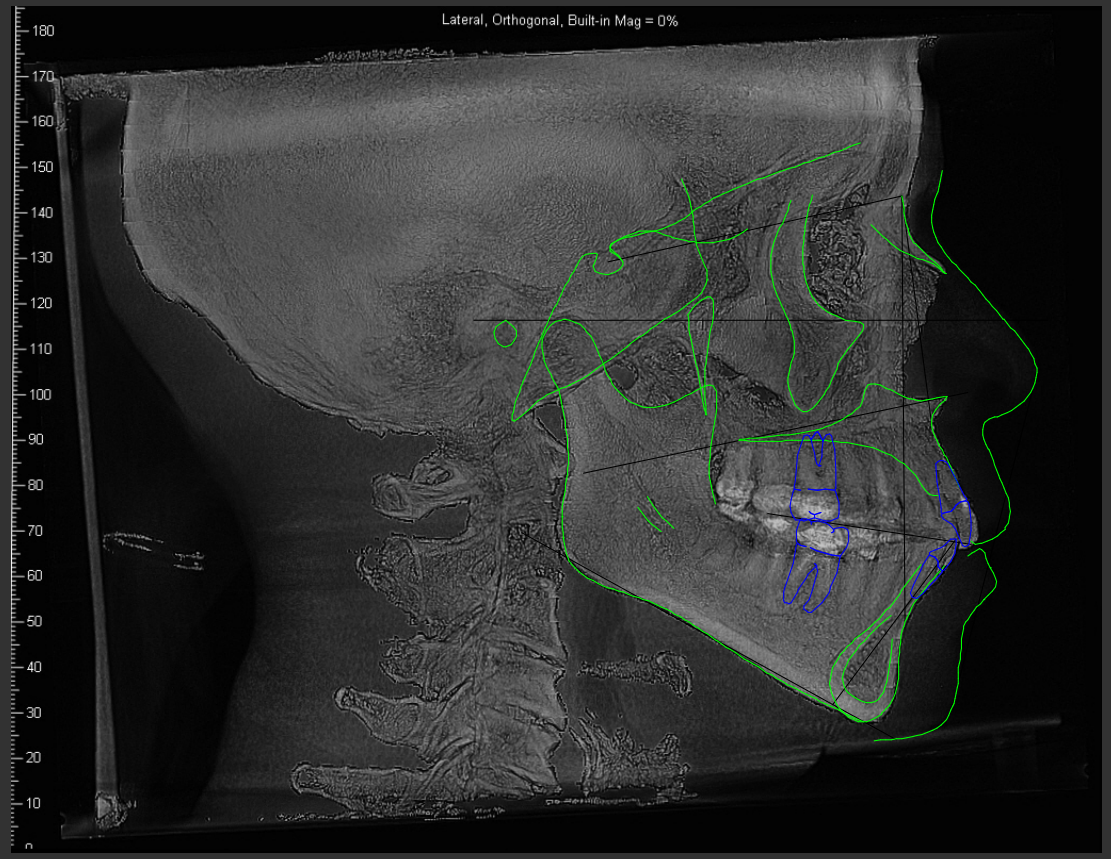
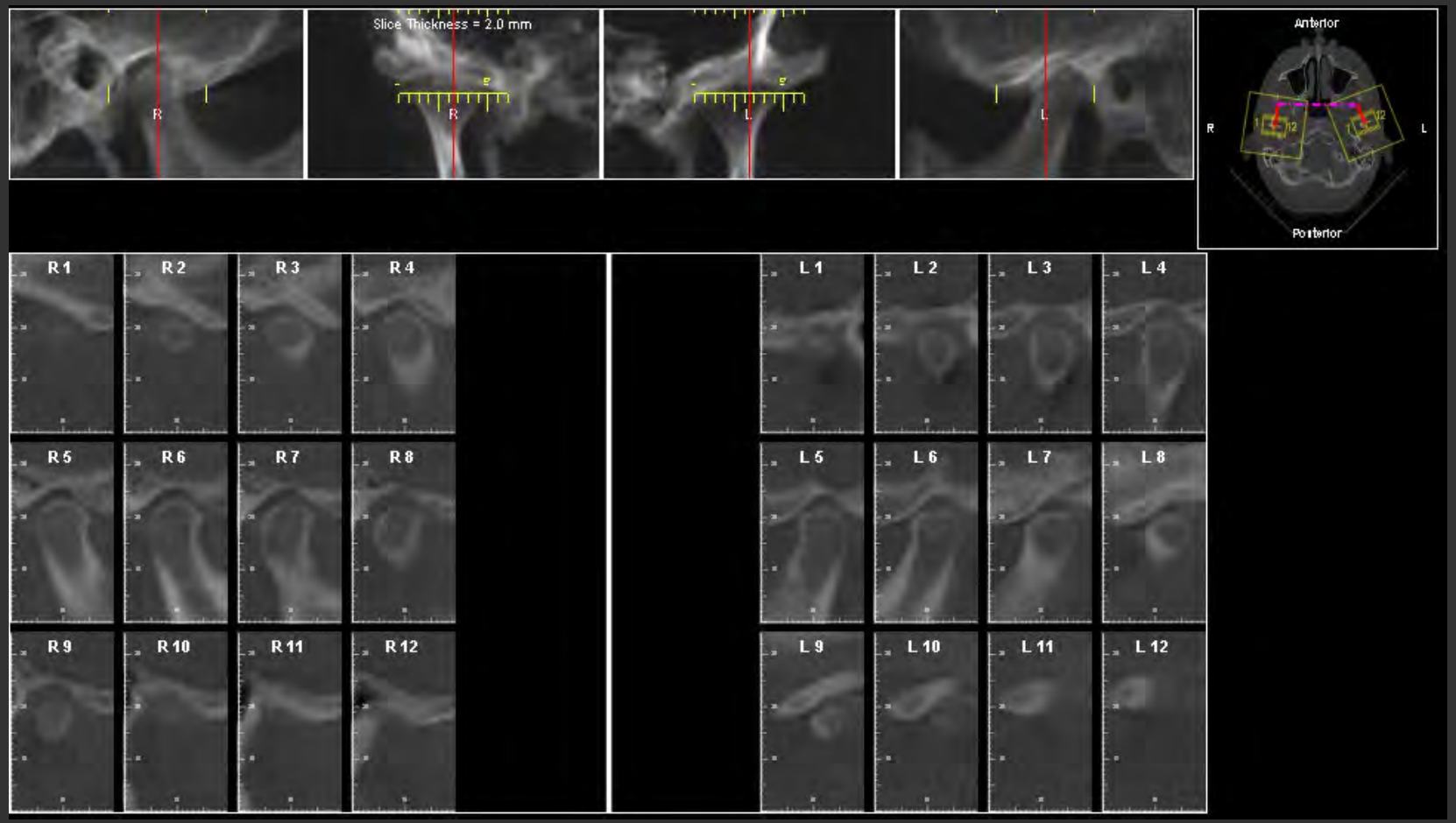


Cephalometric Analysis



Group/Measurement	Value	Norm	Std Dev	Dev Norm
Skeletal-Sagittal jaw relationship				
SNA (°)	84.7	81.0	4.0	
SNB (°)	77.7	77.7	3.4	
ANB (°)	6.9	2.9	2.7	
Wits Appraisal (mm)	-0.7	-1.0	1.0	
Pog - NB (mm)	-2.9	1.9	1.4	
Skeletal-Vertical jaw relationship				
FH - SN (°)	12.7	7.0	3.0	
Occ Plane to SN (°)	21.3	14.7	3.8	
MP - SN (°)	41.7	32.1	5.5	
FMA (MP-FH) (°)	29.0	23.9	4.5	
Anterior Face Height (NaMe) (mm)	116.4	122.7	6.4	
Upper Face Height (N-ANS) (mm)	45.5	55.3	3.2	
Lower Face Height (ANS-Gn) (mm)	76.1	64.5	4.4	
LFH/TFH (ANS-Me:N-Me) (%)	61.7	55.0	3.0	
Dental				
Stm-l (mm)	0.7	2.0	2.0	
Interincisal Angle (U1-L1) (°)	126.9	130.0	6.0	
U1 - NA (°)	9.0	22.8	5.7	
U1 - NA (mm)	4.0	4.3	2.7	
U1 - SN (°)	93.7	102.8	5.5	
L1 - NB (°)	37.1	25.3	6.0	
L1 - NB (mm)	11.3	4.0	1.8	
IMPA (L1-MP) (°)	97.7	90.0	7.0	
FMIA (L1-FH) (°)	53.3	64.8	8.5	
Soft tissue				
Vertical Face Height Ratio (%)	80.2	100.0	25.0	
Upper Lip to E-Plane (mm)	1.4	-6.0	2.0	
Lower Lip to E-Plane (mm)	2.6	-2.0	2.0	
H-Angle (Pg'UL-Pg'Na') (°)	19.2	10.0	4.0	

TMJ


Slice Thickness = 2.0 mm
R
R
L
L
Anterior
Posterior
R
L
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12

Radiology Report

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DENTITION:
- ⇒ The patient is missing tooth #9.
- ⇒ Anterior vertical overlap is excessive.

SINUSES: Paranasal sinuses are clear and well-aerated with normal-appearing cortical borders. The nasal septum, conchae, and soft tissue structures in the nasal cavity are within normal limits, occupying an appropriate amount of space. The ostiomeatal complexes are patent bilaterally.

C-SPINE: Cortical borders, trabeculation, and intervertebral dimensions appear to be within age-appropriate normal limits.

TMJ: Osseous structures of the right and left temporomandibular joints appear to be within normal limits. Condyles exhibit normal size and shape with normal contours and cortication. The condyle-fossae spatial relationships are within normal concentric range. Radiographic visualization of TMJ hard-tissue structures in this case does not reveal an appearance consistent with TMJ-related pain or irregularities, noting that CBCT does not reliably portray joint soft-tissue status and cannot rule out contributory factors such as muscular conditions, articular soft-tissue displacement, or parafunctional activity should TMD symptoms be present.

ALVEOLAR BONE: A well-defined, non-expansile, irregularly-shaped density displaying periphery with a short transition zone against surrounding bone is present between the root apices of teeth #30 and 31. Buccal and lingual cortical borders are intact with normal contours and continuity. This density is consistent with idiopathic osteosclerosis (dense bone island) and, in the absence of symptoms, does not require treatment, nevertheless, recommend comparison with available previous images and with future, routinely-acquired images.
There appears to be generalized moderate periodontal bone recession. Periodontal evaluation is recommended.

OTHER: A small, faint intracranial midline mineralization, located superior and posterior to sella, is consistent with physiologic calcification of the pineal gland/habenula. The pineal gland produces melatonin which affects quality and duration of sleep. It has been suggested in the literature that calcification of the pineal gland may reduce melatonin production.

IMPRESSIONS

- ➢ Airway analysis: the dimensions of the nasopharynx and oropharynx, with the patient in an upright position, displaying a minimal cross-sectional area of approximately 102mm², are considered slightly subnormal, and could indicate a risk for the presence or development of sleep disordered breathing caused by airway size. Breathing disorders can be multifactorial, including the presence of loose or swollen soft tissues, poor muscle tone, and radiographically invisible inflammation, all of which may contribute to airflow resistance. Radiographic imaging with the patient in an upright position does not account for the possible narrowing of the airway with the patient in a supine position during sleeping.

Dental Diagnosis and Tx Plan

Perio:

Generalized chronic moderate to severe periodontitis

Tx Plan:

Pt placed on periodontal maintenance (SPT)

#18 BO composite filling

#21 O composite filling

Pt cleared to begin orthodontic treatment in November 2020

#9 Implant placement when cleared by ortho

Problem List

AP

Skeletal
- Class II, combination of prognathic maxilla and retrognathic mandible

Dental
- Right M/C : Class I
- Left M/C : Class I
- OJ : 3.4 mm
- Interincisal angle: WNL
- Upper incisor: Retroclined
- Lower incisor: Proclined

Vertical

Skeletal
- Hyperdivergent

Dental
- OB: 5.4 mm
- COS: Moderate

Transverse

Skeletal
- WNL

Dental
- Upper coincident with facial
- Lower 2 mm off to left

Soft tissue/ Esthetics

- Convex profile
- Dolicocephalic
- Longer lower facial height
- Competent lips
- Lips protruded relative to E line
- Acute nasolabial angle

Function

- Pt miss UL8 and LL8
- Missing UL1
- TMJ WNL

Alignment

- Mx: Mild crowding
- Mn: Moderate crowding

Goals

AP

Skeletal
- Accept / maintain

Dental
- Maintain CI I M/C
- Achieve 2-3 OJ mm
- Accept slightly upright upper incisors
- Accept mild lower incisor proclination

Vertical

Skeletal
- Accept / maintain

Dental
- Achieve 2-3 mm OB by leveling COS and intruding lower incisors

Transverse

Skeletal
- Accept / maintain

Dental
- Arch development
- Achieve coincident midlines

Soft tissue/ Esthetics

- Maintain soft tissue

Function

- Develop UL1 space for implant

Alignment

- Resolve U/L crowding with IPR

Treatment Plan

Invisalign, Non EXT

1. Bond attachments prn
2. Align U/L incisors with IPR and arch development
3. Maintain posterior buccal occlusion
4. Prog CBCT + refinement
5. Refer to DDS for UL1 implant placement
6. Restore implant with crown
7. Retention

2 week changes to slow rate of tooth movement considering patient's periodontal diagnosis

Treatment Plan

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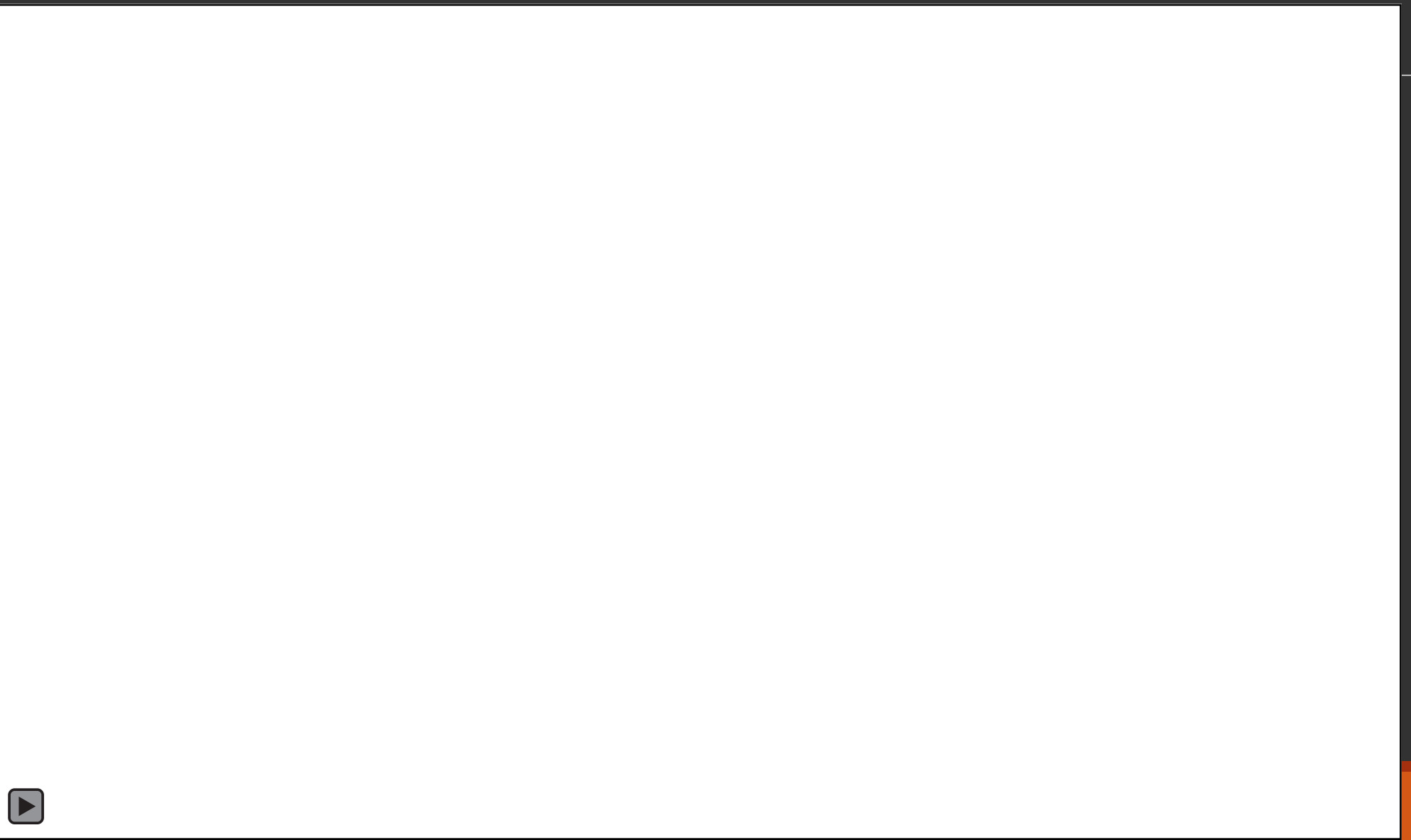

Treatment progress

Shelia Cypress-Turner ,64, Initial 11/4/2020, Printed: 5/6/2022

University of the Pacific, Arthur A. Dugoni School of Dentistry, Department of Orthodontics.

Shelia Cypress-Turner ,64, Progress 6/1/2021, Printed: 5/6/2022

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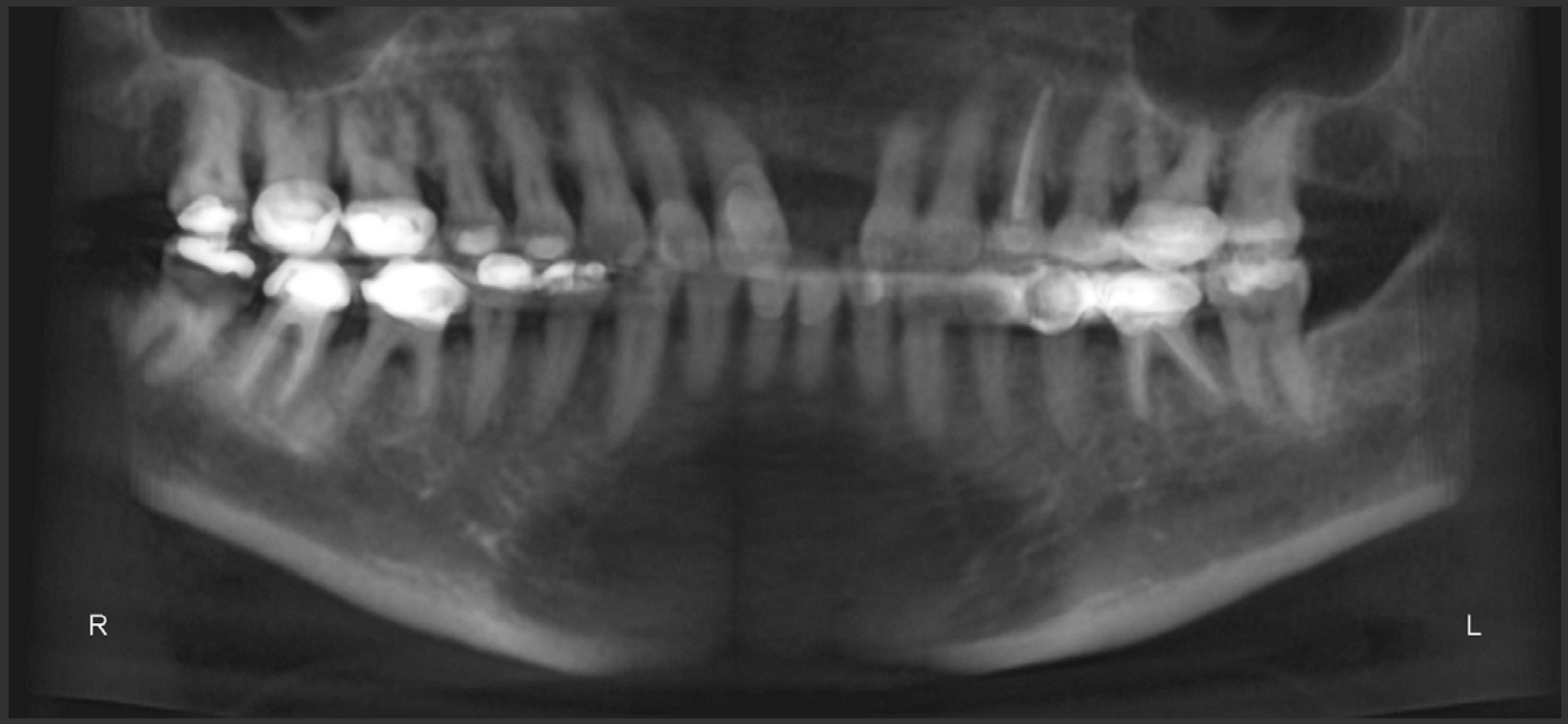
Shelia Cypress-Turner ,64, Case Refinement 10/12/2021, Printed: 5/6/2022

10/12/2021
Progress CBCT



Refinement #1

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Treatment Summary

Current treatment time: 1 Y 5 Mo

Pt is currently on 1st set of refinement trays.

On 3/1/22, Dr. Gonzalez and DDS student placed UL1 implant (Straumann). During placement, root surfaces of UR1 and UL2 were root planed. A bone graft was placed on the facial of UL1 implant and a resorbable membrane was placed over the top of the bone graft and sutured with a continuous mattress technique. The tissue was released, stretched, and sutured to help improve the periodontal prognosis of UR1 and UL1.

After implant delivery, delivered patient's refinement trays in ortho. As implant is healing we are finishing and detailing with the refinement trays.

Once ortho is complete, will refer patient back to DDS for placement of implant crown.

Thank you

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OKU Sutro Excellence Day Project Cover Sheet

(ONE Cover Sheet per project)

Project Title: Multidisciplinary Case Presentation

Award Category: Residents - Orthodontics

List names of all contributors to this project:

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8. Enter your abstract text here (300 word max) :

The aim of this case report is to present the successful orthodontic management of an adult female patient with anterior crowding, Stage III Grade B Periodontitis, and a missing #9. The patient began orthodontic treatment after she was cleared to start treatment by the periodontal faculty and was placed on supportive periodontal therapy recalls. Her orthodontic treatment plan involved treatment with clear aligners (i.e. Invisalign) in order to perform slow, controlled movements and to facilitate oral hygiene. The patient's first set of trays resolved a majority of her crowding with a combination of arch development and IPR, and the space was maintained for a #9 implant. After the patient completed her first set of trays, which took 10 months, the orthodontic resident referred her to the main clinic for evaluating for implant placement. A Straumann implant was placed at the #9 site and a bone graft was placed on the facial of #9 at the time of implant placement. A resorbable membrane was placed over the top of the bone graft and sutured. While waiting for the implant to osseointegrate, the patient began a second set of refinement Invisalign trays to resolve the remaining minor crowding. Currently, the patient is still in her second set of trays, and the implant crown will be placed when her orthodontic treatment is completed.

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