

Perio-Pros Interdisciplinary Smile Reconstruction Case Report

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UOP AEGD 2023-2024

Introduction

- UOP AEGD current resident
- Treat wide variety of patients in clinical outpatient and hospital OR setting including:
 - Patients with disabilities
 - Medically complex patients awaiting transplants
 - Patients with all-on-4s
- Teach in predoctoral oral surgery clinic, special care clinic
- Graduated from University of Pennsylvania School of Dental Medicine, class of 2023



Pt: R.C. M82 #1216327

CC: “I think I need implants. My upper right bridge fell off around a year ago and my upper front tooth cracked off a big section also around a year ago. I have a plastic crown on #8 and I keep biting my lower right lip with #7,8 after the bridge failed, but my main concern is the upper right bridge and #9.”

PMH: HTN, HLD

Meds: atenolol, amlodipine, lisinopril HCl, atorvastatin

Pt denies smoking, alcohol, recreational drugs

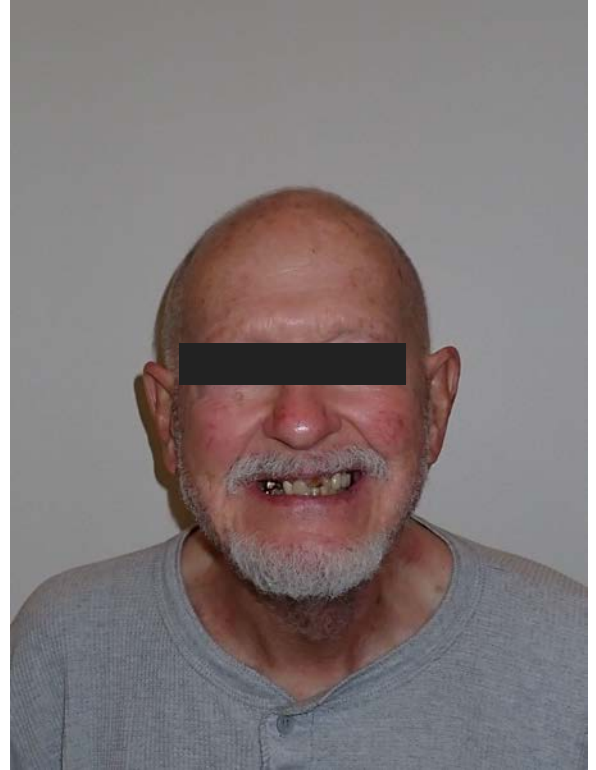
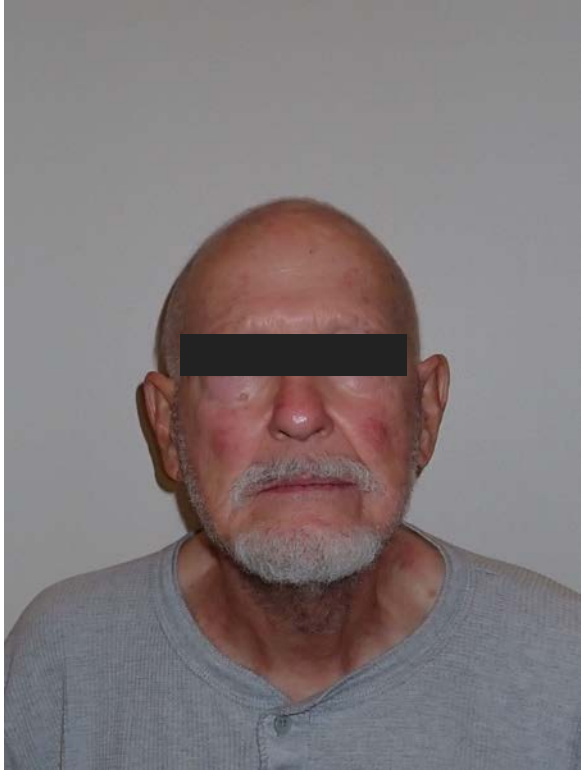
PDH: heavily restored dentition, pt reports that the #4-6 bridge was restored in 1990s and was getting progressively “looser” and broke off in 2023

NKDA



Dental History cont.

- Perio disease dx: plaque induced gingivitis
- Caries disease dx: low caries risk, no active caries
 - ATP on 1/24/2024: 1401, pH of resting saliva: 7
- Occlusion
 - Stable posterior stops
 - Deep bite, excessive overbite
 - No limited opening
 - Overjet 2 mm, Overbite 4mm
 - Angles classification: Class 2 on L and undeterminable on R, Molar classification: Class 1 on R and Class 2 on L
 - Slight loss of anterior VDO due to attrition
- Habits: severe bruxism
 - Pt could not tolerate maxillary nightguard due to gag reflex
- COE 1/24/24, last prophy December 2023 with outside dentist
- Good oral hygiene





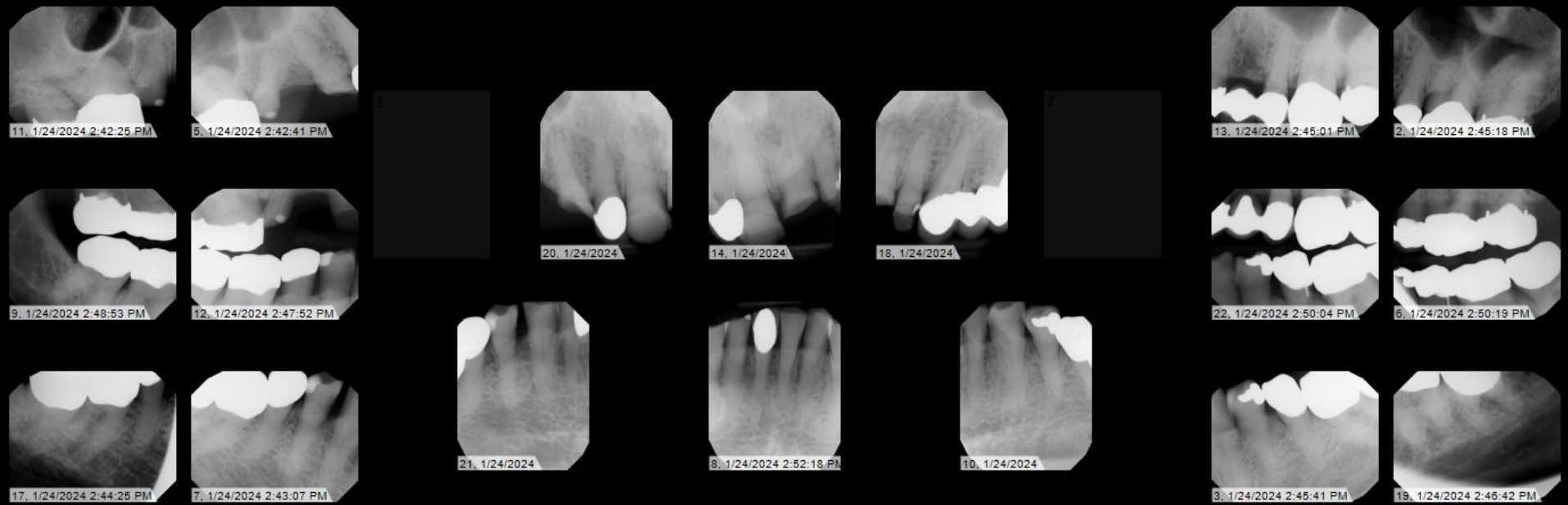


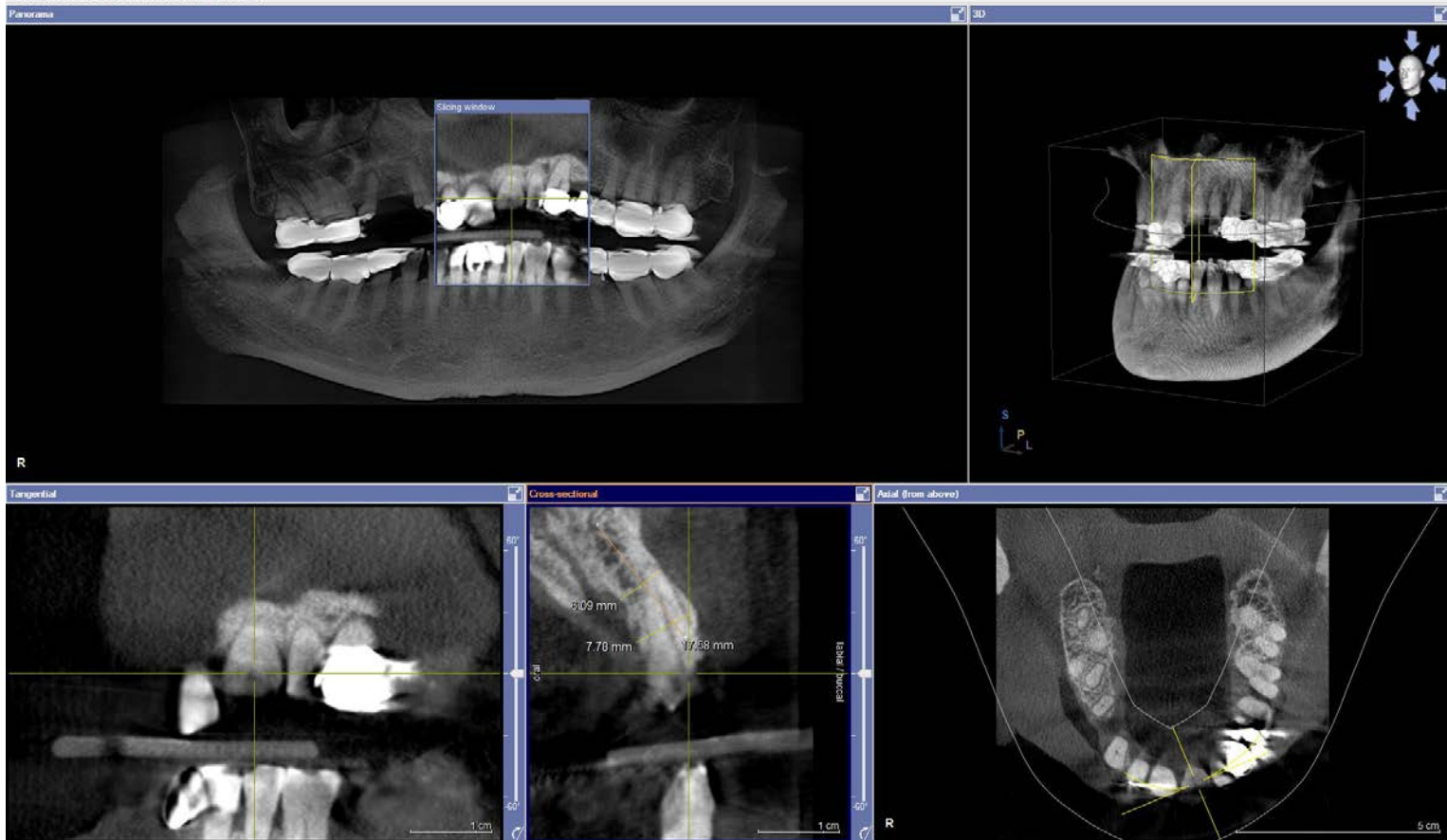


EHR - Chart / Tx History - Chisick, Richard (1216327)

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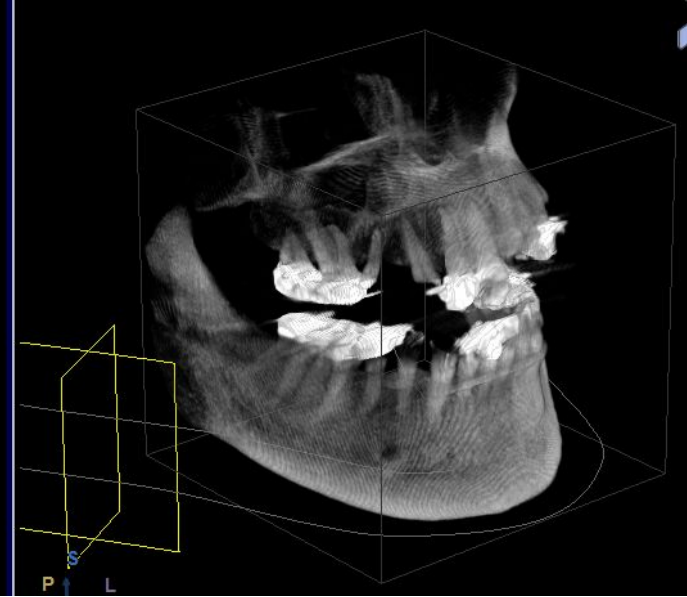
EMX 1/24/2024



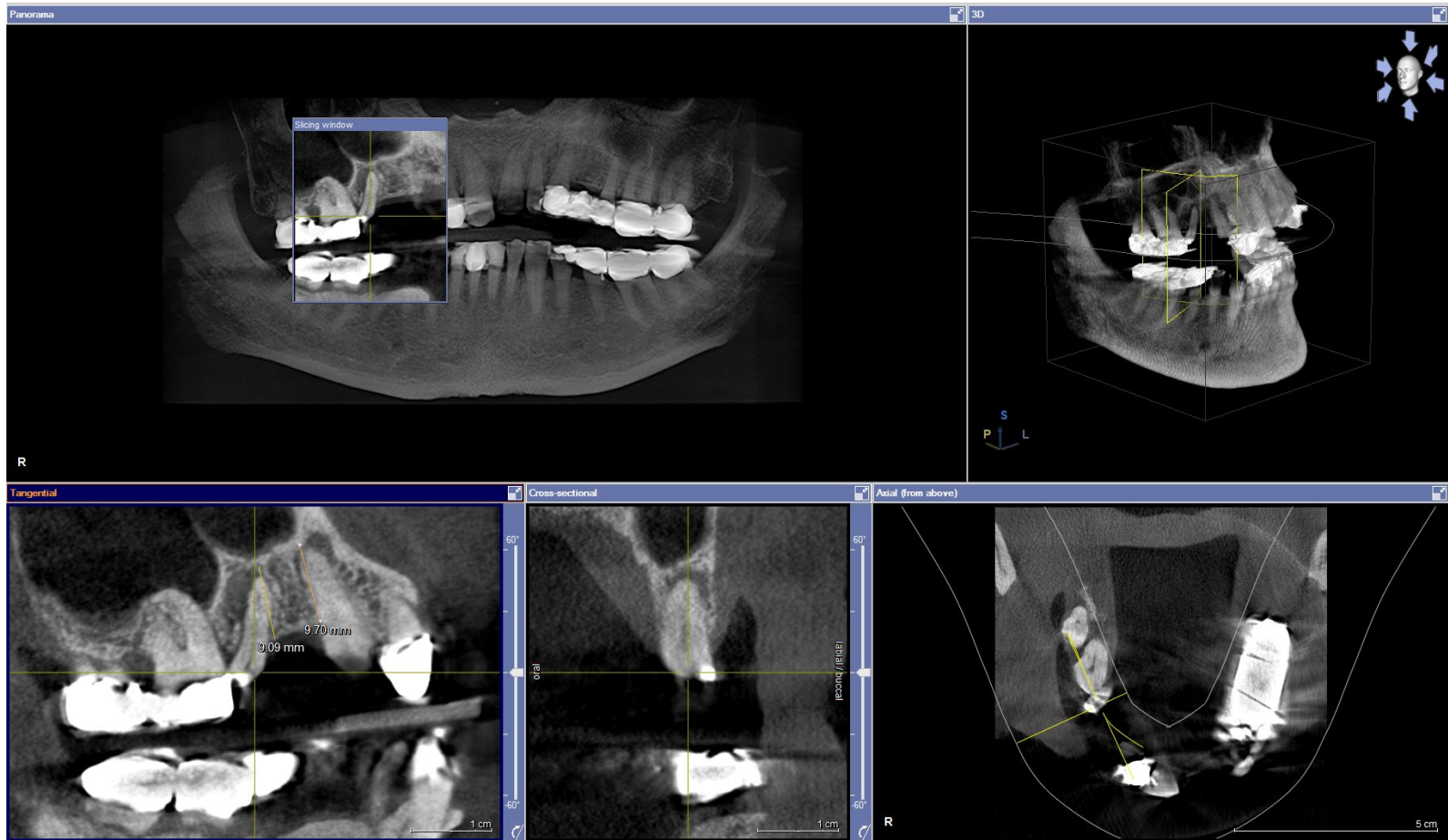


CBCT taken 1/30/2024

#9 B-L alveolar crest: thinnest area 6.09 mm near apex of #9



#4,6 root tips - contraindicated for immediate implant placement due to difference in root angulation → proceed with EXT, GBR, then CBCT evaluation prior to #4, 6 implant placement



#4,6 proximity to right maxillary sinus (~9 mm from alveolar crest to sinus membrane), pt may need sinus lift prior to implant placement

Assessment

#4-6 Missing FDP, #4,6,9 root tips, #10 severe attrition:

- Hard Tissue
 - Adequate bone width and height
 - Moderate risk to right maxillary sinus
- Soft Tissue
 - #4 posterior implant not in esthetic zone
 - #6 delayed implant and #9 immediate implant in esthetic zone
 - Patient has high smile line, canted to the right
 - Maxillary anterior gingival height asymmetry: #9, 10, 11 gingival height is apical to #7, 8 (may need pink porcelain added to #9 implant crown)

Treatment Options

- No treatment
- UA stayplate (patient does not want to attempt this due to severe gag reflex)
- FDP #8-10 (need to remove #8 emax crown), Implant FDP #4-6
- **Crown #10, Single implant #9 + implant bridge #4-6 (2 implants) + mandibular nightguard** - pt chose this due to easier cleansibility of #9 single implant crown and to avoid removing #8 emax crown

Plan

- First EXT #4, 6, 9 and GBR #4, 6 and immediate implant placement #9 fixture with cover screw and GBR (Nobel Active RP 4.3 x 11.5 mm, backup implant NobelActive RP 4.3 x 13 mm)
 - Need to engage ~2 mm of native bone at apex
- Plan for #9 second stage surgery ~3 months after day of surgery after assessing osseointegration
- 4-5 months after GBR date, take new CBCT with radiographic guide and implant surgery #4 and #6 fixture (both Nobel Active RP 4.3 x 11.5 mm, backup implant Nobel Active RP 5.0 x 11.5 mm and RP 5.0 x 10 mm) with healing abutment if primary stability + torque ~35 Ncm achieved
- Plan for second stage implant surgery if needed
- ~4 months, evaluate for implant restoration #4-6 implant bridge and #9 implant crown
- F/u with CAMBRA + 6 mo recalls (frequently check implant crown occlusion), reinforce need to wear nightguard daily

Treatment Phasing Sequence

Ext #9 with immediate implant placement + GBR and #4, 6 EXT + GBR with Dr. Huynh

- Radiographs of parallel pin, placement with cover screw or healing abutment
- Photos of surgery parallel pin and site post placement

#4,6 implant placement with Dr. Huynh

- Radiographs of parallel pin, placement with cover screw or healing abutment
- Photos of surgery parallel pin and site post placement

1 week #9 implant, #4, 6 GBR post op and schedule f/u as needed, #10 core buildup

- Plan for #9 implant second stage surgery ~3 months after day of surgery and crown prep #10
- #9 crown scan/final Impression ~4 mo after day of surgery along with #10 crown scan/final Impression


1 week #4, 6 implants post op and schedule f/u as needed

- Plan for implant second stage surgery ~3 months after day of surgery and then #4-6 FDP scan/final impression ~4 mo after day of surgery


1 Recommended drill sequences based on bone quality. Drill data are stated in mm and the drill diameters listed within brackets denote widening of cortex only.

Implant diameter	Soft Bone Type IV	Medium Bone Type II-III	Dense Bone Type I
Ø 3.0	1.5	2.0	2.0 2.4/2.8
Ø 3.5	2.0 (2.4/2.8)	2.0 2.4/2.8 (2.8/3.2)	2.0 2.4/2.8 2.8/3.2
Ø 4.3	2.0 2.4/2.8 (2.8/3.2)	2.0 2.4/2.8 3.2/3.6	2.0 2.4/2.8 3.2/3.6 (3.8/4.2)
Ø 5.0	2.0 2.4/2.8 3.2/3.6	2.0 2.4/2.8 3.2/3.6 3.8/4.2	2.0 2.4/2.8 3.2/3.6 3.8/4.2 (4.2/4.6)
Ø 5.5	2.0 2.4/2.8 3.2/3.6 (3.8/4.2)	2.0 2.4/2.8 3.2/3.6 3.8/4.2 4.2/4.6 (4.2/5.0)	2.0 2.4/2.8 3.2/3.6 3.8/4.2 4.2/5.0 Screw Tap

Drilling must proceed at high speed (max. 2000rpm for Twist Step Drills) under constant and profuse external irrigation by sterile saline at room temperature.



Implants




NobelActive RP

Length mm	8.5	10	11.5	13	15	18
Ø 4.3mm	35223	34131	34132	34133	34134	35219

Cover screw not included
Platform 3.9 mm
Abutment interface 3.4 mm


Drills

Precision Drill 36118




Twist Drills


Ø 2 x 7-10 mm 32296
Ø 2 x 7-15 mm 32297
Ø 2 x 10-18 mm 32299



Twist Step Drills


Ø 2.4/2.8 x 7-15 mm 32261
Ø 2.4/2.8 x 10-18 mm 32262
Ø 2.8/3.2 x 7-15 mm 34638
Ø 2.8/3.2 x 10-18 mm 34639
Ø 3.2/3.6 x 7-15 mm 32264
Ø 3.2/3.6 x 10-18 mm 32265
Ø 3.8/4.2 x 7-15 mm 32276
Ø 3.8/4.2 x 10-18 mm 32277





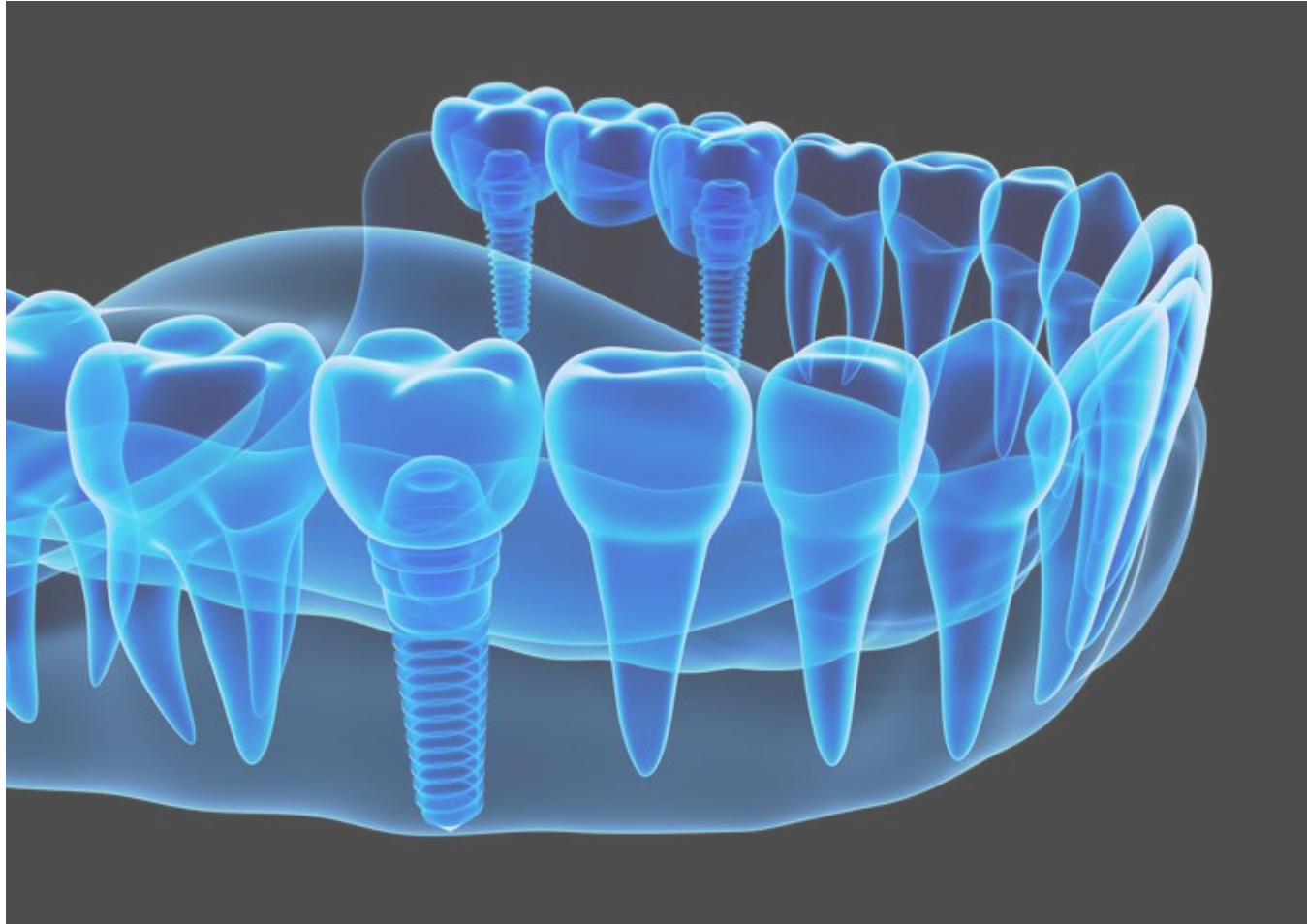
Drill Stops

Ø 2 mm	33063
Ø 2.8 mm	33064
Ø 3.2 mm	33077
Ø 3.6 mm	33084
Ø 4.2 mm	33081



2.0

Patient: R.C. #1216327
Resident: Katherine Chen
Perio Attending: Dr. Huynh
Restorative Attending: Dr. Wong
Surgery date: TBD



NobelActive

Internal conical connection, textured collar

High primary stability even in demanding situations

NobelActive's unique implant design helps to achieve high primary stability in demanding situations, such as soft bone or extraction sockets. This enables immediate implant placement and Immediate Function where it might otherwise be challenging.

Natural-looking esthetics

The back-tapered coronal design and built-in platform shifting are designed to optimize bone and soft tissue volume.

Adjustment of implant position during placement

Reverse-cutting flutes with drilling blades on the apex enable experienced clinicians to adjust the implant position during placement for an optimized restorative orientation, particularly in extraction sites.

Access to innovative restorative solutions

Take advantage of innovative solutions available only for the internal conical connection, such as the cement-free NobelProcera ASC (angulated screw channel) Abutment and the FCZ (full-contour zirconia) Implant Crown.

Strong conical connection

The advanced internal conical connection with hexagonal interlocking offers high mechanical strength.

Enhanced osseointegration

Unique oxidized TiUnite surface maintains implant stability during the critical healing phase through fast bone formation and promotes long-term success.

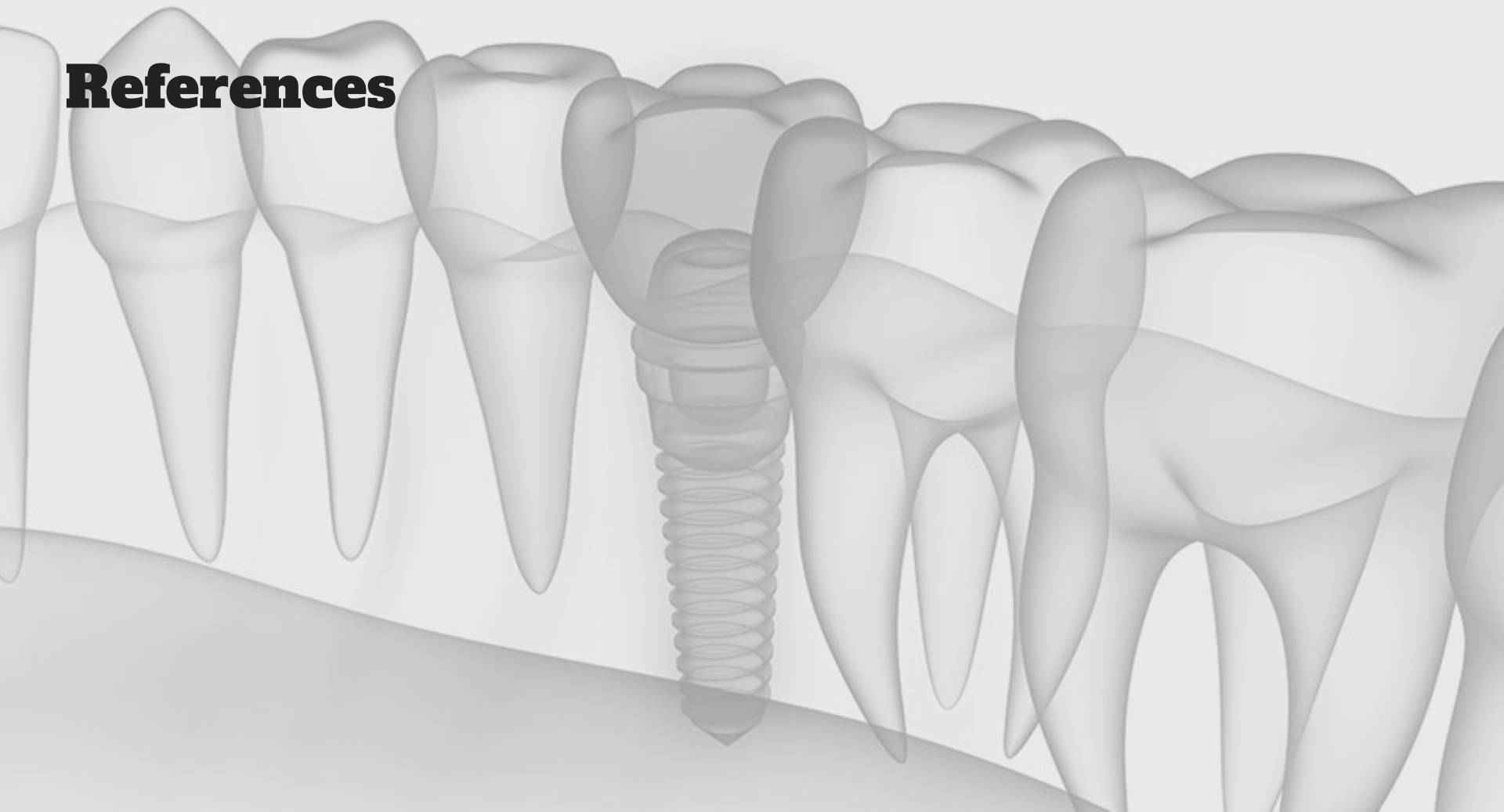


Reflection

- This case really demonstrated the importance of interdisciplinary treatment planning - it had elements of perio, pros, endo, oral surgery,

Special Thanks to my mentors: Dr. Allen Wong, Dr. Debra Woo, Dr. Quang Huynh, and the AEGD team in Union City!

References



Thank you!