

Oral Rehabilitation

for a Patient with Amelogenesis Imperfecta and Autism

Cierra Randall

D20306

Patient Information

- 31 year old male
- CC: “I have temporary and want permanent teeth”
- Patient first presented in emergency but was interested in becoming a patient of record to receive comprehensive treatment
- Father was willing to take care of finances on a payment plan
- Patient concerns: mostly concerned with function and controlling disease, less concerned about esthetics

Medical and Dental History

- Medical History: Amelogenesis Imperfecta, Autism, Depression, GERD, Irritable Bowel Syndrome
- Medications:
 - **Prilosec** (proton pump inhibitor) for GERD
 - **Mirtazapine** (alpha 2 antagonist) for depression
 - **Flonase** (nasal corticosteroid) for seasonal allergies
- Dental History: Moderately restored at UCSF (root canals, fillings, temporary crowns), has been in temporaries/build ups for 5-6 years
 - Patient's father stated that UCSF suddenly said he owed \$7-8K which he could not handle financially. He also reported being referred to UOP by Western Dental.
- Allergies: Seasonal, NKDA
- Habits: ~1-2 alcoholic beverages a week, marijuana daily
- Social History: Lives with his parents, attends group therapy

Amelogenesis Imperfecta and Treatment Modifications

- Amelogenesis Imperfecta is a rare, often hereditary defect in enamel development that frequently results in sensitivity and poor esthetics (yellow-brown appearance)¹
 - Often associated with negative social outcomes¹
 - Four types¹:
 - Type I: Hypoplastic
 - Type II: Hypomaturation
 - Type III: Hypocalcification
 - Type IV: Mixed hypomaturation and hypoplastic in combination with taurodontism
- Ideal approaches to patients with AI include early diagnosis and treatment as well as frequent recalls to prevent early carious destruction or continuous occlusal wear²
 - “Prosthetic full-mouth reconstruction is indicated for all patients suffering from AI to prevent further attrition and destruction of the teeth and to avoid loss of vertical dimension”²
- Early prosthetic intervention in patients with severe amelogenesis imperfecta has been shown to increase oral health-related quality of life (OHRQoL)¹

Autism and Treatment Modifications

- “Autism spectrum disorder (ASD) is characterized by impairments in social interaction and communication, restricted patterns of behavior, and unusual sensory sensitivities.”³

Modifications:

- Establish a routine⁴
 - Appointments were made at the same time on the same day each week
 - Worked with the same floor faculty at each appointment
- Minimize feelings of anxiety and uncertainty
 - Explained plans for appointments and each procedure beforehand (similar to “tell-show-do”)⁴
- Take breaks when needed
 - Checked in on the patient frequently to ensure he was not feeling overwhelmed
- Modify sound and light exposure⁴
 - Modified my tone to be softer and more calming
 - Limited direct exposure to the bright overhead light

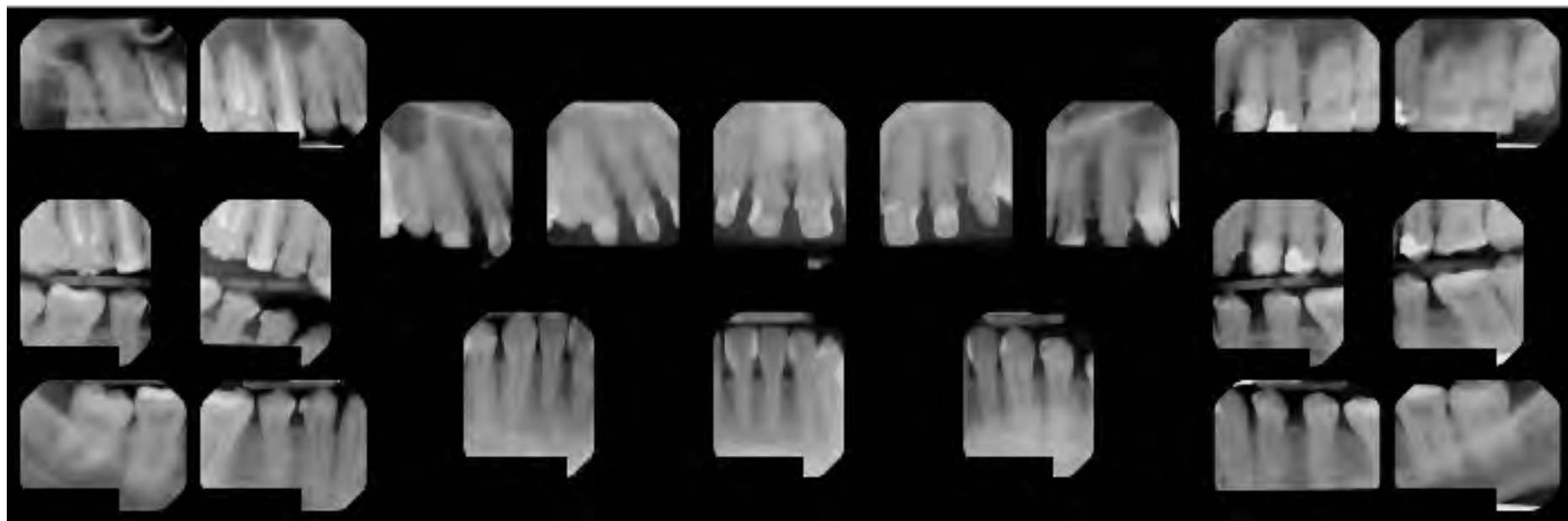
Intraoral Photographs



Intraoral Photographs



FMX



Periodontal Charting - Mandibular

																Diag
																Calc
																MG Inv
																Furcation
	2 2 2	2 3 2	2 1 2	2 1 2	0 1 1	1 1 1	1 1 1	1 1 2	2 1 1	2 2 1	1 2 2	3 2 3	2 2 2	1 2 2		Attach
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	0	0	0	0	0	1	1	1	0	0	0	0	0	0		Mobil
																Calc
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	2 1 2	2 2 1	2 3 1	0 2 0	1 1 0	0 1 2	2 1 1	1 1 2	1 1 1	1 1 0	0 2 1	2 2 1	1 1 2	2 1 0		Attach
	1 1 1	2 0 1	1-1 2	2 0 2	2 1 2	2 1 1	1 1 1	1 1 1	1 1 1	1 0 2	2 0 1	1 0 1	1 1 1	0 1 2		FreeGM
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	3 2 3	4 2 2	3 2 3	2 2 2	3 2 2	2 2 3	3 2 2	2 2 3	2 2 2	2 1 2	2 2 2	3 2 2	2 2 3	2 2 2		PD

Periodontal Findings

- Pocket depth range: 1-5 mm
- Plaque Index: 1.2 (Fair)
- Class I Mobility on 24, 25, 26
- Brushes with conventional toothbrush 2x daily (varied timing in the morning and before bed), no flossing

- Etiology: Bacterial plaque, poor oral hygiene, poor restorative margins
- Diagnosis: Stage I Grade B periodontitis
- Prognosis: Good with improved oral hygiene, frequent recalls, and improved restorative margins

Caries Risk Assessment

- High-Extreme Caries Risk
 - Etiology: Active carious lesions, high bacterial load, defective restorations, enamel defects, slight medication-induced xerostomia
- ATP reading: 3349
- Saliva pH: 7 or above
- Saliva present but less copious than normal

CAMBRA Products to Prescribe:

- Disease Control:
 - CTX4 (CariFree Treatment Rinse), MI Paste
- Maintenance Phase:
 - CTX3 (CariFree Maintenance Rinse)



Dental Findings - Problems List

Maxillary

- 1: Partially erupted, non-functional
- 2: Small DL cusp fracture/wear
- 3: RCT, access fill, heavy O wear
- 4: RCT, build up
- 5: Lost restoration, recurrent decay
- 6: Pain, large build up, recurrent decay
Dx: Pulp necrosis with symptomatic apical periodontitis
- 7: Build up, temporary crown
- 8: Build up, temporary crown
- 9: Build up, temporary crown
- 10: Build up, temporary crown
- 11: Build up, temporary crown
- 12: Poor RCT, large build up, extensive recurrent decay, short root
Dx: Non-restorable carious tooth
- 13: MO amalgam - catches
- 14: DOL composite - significant wear
- 15: O ICDAS 3
- 16: Partially erupted, non-functional

Mandibular

- 17: Missing
- 18: NSF
- 19: Build up - M open margin
- 20: DO composite - void/inadequate condensation
- 21: MO composite
- 22: ML composite
- 23: MF composite
- 24: F composite
- 25: M, D composites
- 26: NSF
- 27: NSF
- 28: DO composite - overhang
- 29: MO composite, distal D1
- 30: O composite - O open margin, severe wear
- 31: NSF
- 32: Missing

Ideal Treatment Plan^{5,6,7,8}

- Urgent Care

- 6 RCT, post, build up

- Disease Control

- OHI, Prophy, ITE
- CTX4, MI paste
- 12 extraction
- 15 O composite
- 29 DO composite

- Restorative

- Phase 1

- 7 layered zirconia crown
- 8 layered zirconia crown
- 9 layered zirconia crown
- 10 layered zirconia crown

- Phase 2

- 4 layered zirconia crown
- 5 layered zirconia crown
- 6 layered zirconia crown

- Restorative (continued)

- Phase 3

- 11-13 layered zirconia bridge

- Phase 4

- 3 monolithic zirconia crown
- 30 monolithic zirconia crown

- Phase 5

- 14 monolithic zirconia crown
- 19 monolithic zirconia crown

- Phase 6

- Smooth lower anterior composites

- Maintenance

- Occlusal guard
- 4 month prophy recall
- CTX3, MI paste

Alternative Treatment Plans

- Alternative Treatment Plan #1:
 - 12 implant + zirconia crown instead of 11-13 bridge
 - All other treatment remains the same
- Alternative Treatment Plan #2:
 - 6 extraction instead of 6 RCT, post, build up
 - Restore with 6 implant + zirconia crown
 - All other treatment remains the same
- Alternative Treatment Plan #3:
 - 6 extraction instead of 6 RCT, post, build up
 - Restore with 5 – 7 zirconia bridge
 - All other treatment remains the same
- Alternative Treatment Plan #4:
 - No treatment

Mid-Treatment Photographs



Mid-Treatment Photographs



Before → After (mid-treatment)



Treatment Remaining:

- 14 monolithic zirconia crown
- 19 monolithic zirconia crown
- Smooth lower anterior composites
- Occlusal guard

References

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Thank you