

Pediatric Dental Care in Uninsured Patients: *Exploring Alternative Treatment Options*

DENT ECHO

**Pediatric Dental Care in Uninsured
Patients:
Exploring Alternative
Treatment Options**

presented by



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No Conflict of Interest

Course Objectives

- Assessing patient's caries risk by using a Caries Risk Assessment and establishing a prevention plan
- Become familiar with AAPD Guidelines
 - First Dental Home
 - Oral hygiene recommendations
 - Silver Diamine Fluoride
 - Interim Therapeutic Restorations
- Hall Crowns

This presentation will focus on patients in primary or early mixed dentition

We have time at the end for questions

Pediatric Dental Care In Uninsured Patients

Little to no treatment performed

- Cost of care
- Rural Setting
- Lack of providers offering services at a discounted fee
- Not able to qualify for Medicaid and cannot afford dental insurance
- Upon initial exam, child may have extensive dental needs
 - **May have to delay definitive treatment until insurance or finances can be obtained**
 - **Emergency extractions**

What Do We Want to Do?

- **Identify and Intervene Early**
 - An Ounce of Prevention is Worth a Pound of Cure
 - Think about treating caries as a chronic disease
- **Be familiar with AAPD Guidelines**
- **What can be done to delay caries progression?**

Know Your Patient

- What to ask?
 - Current oral hygiene
 - Brushing
 - When?
 - How often?
 - Fluoridated toothpaste?
 - Food habits
 - What do we eat and drink?
 - Frequency?
 - Eating after brushing before bedtime?
 - Medical history
 - Special Health Care Needs (SHCN)
 - Dietary restrictions
 - Difficulties maintaining OH
 - Medications
 - Xerostomia

Know Your Patient (continued)

- Parents
 - Socioeconomic Status
 - Dental History
 - How much tx have they had in the past?
 - Thoughts/perspectives on dental health
- What to Look For?
 - Plaque
 - Xerostomia
 - Tooth defects
 - Caries
 - White spot, cavitated, recurrent caries, abscess
 - Existing dental treatment
 - Restorations, extractions, space maintainers


Caries Risk Assessment

1. Fosters the treatment of disease process instead of treating the outcome of the disease
2. Allows an understanding of the disease factors for a specific patient and aids in individualizing preventive discussions
3. Individualizes, selects, and determines frequency of preventive and restorative treatment for a patient
4. Anticipates caries progression and stabilization

American Academy of Pediatric Dentistry. Caries-risk assessment and management for infants, children, and adolescents. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:266-272




CRA 0 to less than 3 years of age



CARIES RISK ASSESSMENT TOOL

FACTOR	LOW	MODERATE	HIGH
Caries Activity	None	Within 24 months	Within 12 months
Demineralized areas	No white spots	1 white spot	> 1 white spot
Family History – Mother	No decay	Low caries rate	High caries rate
Family History – Father	No decay	Low caries rate	High caries rate
Family History – Siblings	No caries activity	Low caries rate	High caries rate
Presence of plaque, gingivitis	None	Moderate	Visible plaque on anterior teeth
Fluoride exposure	Optimal	Low to optimal	Low
Sugar consumption (including bottle or sippy cup use)	With meals only	1-2 between meals	> 3 between meals
Dental home	Established	Irregular use	None
Special conditions			Enamel hypoplasia Special needs patient Impaired salivary flow

First Dental Home


 TEXAS Department of State Health Services
 EF08-12880 Rev-1108

CRA 3-5 years of age



Caries Risk Assessment Tool

Patient Name _____
 Age _____ Date of Visit _____
 Dentist Signature _____

Factor	Low	Moderate	High
Caries Activity	None	Within 24 months	Within 12 months
Demineralized areas	No white spots	Inactive white spot	Active white spots
Parent/Primary Caregiver	No decay	Low caries rate	High caries rate
Family History – Siblings	No caries activity	Low caries rate	High caries rate
Presence of plaque, gingivitis	None	Moderate	Visible plaque on anterior teeth
Fluoride exposure	Optimal	Low to optimal	Low
Sugar consumption (including sippy cup use)	With meals only	1-2 between meals	> 3 between meals
Dental home	Established	Irregular use	None
Special conditions		Special needs patient	Enamel hypoplasia Impaired salivary flow


Overall assessment of child's dental caries risk: Low Moderate High



Age 3 through 5 years



CRA 6-20 years of age



Patient Name _____

Age _____ Date of Visit _____


Dentist Signature _____

Caries Risk Assessment Tool

Factor	Low	Moderate	High
Caries Activity	None	Incipient lesion	≥1 cavitated lesion
Demineralized areas	No white spots	Inactive white spot	Active white spots
Restorations or missing teeth due to caries	None	1 or 2 restorations within last 36 months	3 or more restorations or extracted tooth in last 36 months
Parents, primary caregiver/siblings (ages 6-14)	None	Low caries rate	High caries rate
Presence of plaque, gingivitis	None	Moderate	Heavy
Fluoride exposure	Optimal	Low to optimal	Low
Sugar consumption	With meals only	1-2 between meals	> 3 between meals
Dental home	Established	Irregular use	None
Special conditions		Dental/orthodontic appliance Special needs patient Drug/alcohol abuse Eating disorders	Enamel hypoplasia Impaired salivary flow Recent immigrant

Overall assessment of the dental caries risk: Low Moderate High

Ages 6 through 20 years



Caries Management

- Multifactorial
 - Age
 - Behavior
 - Number of caries
 - Size of caries
 - Caries risk
 - Access to care
 - Finances or geographic location
 - Delaying caries progression until definitive treatment can be performed

3 Part Plan

1. Identify risk factors and form a prevention plan (chronic disease management)

- Caries risk assessment
- Dietary recommendations
- Oral hygiene
- Fluoride varnish

2. Active surveillance

- Frequent recalls to assess interventions and monitor progress
- 3 month would be a good place to start

3. Minimum Intervention

- Fluoride varnish
- Silver diamine fluoride (SDF)
- Interim Therapeutic Restoration (ITR)
- Hall crown

American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Unique challenges and treatment options. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:94-5.



Prevention Plan

- **FIRST DENTAL HOME: Establishing a dental home within 6 months of first tooth or by first birthday**
- Based on Caries Risk Assessment
- Dietary Recommendations
- Oral Hygiene
- Fluoride varnish



CARIES RISK ASSESSMENT TOOL

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First Dental Home

 TEXAS
Department of State
Health Services
EF08-12880 Rev-1108

Dietary Recommendations

- Breastfeeding up to 12 months of age
 - Avoid on demand and nocturnal breastfeeding
- Introduce plain, fluoridated water around 6 months of age
- No fruit juice before age one
- Avoiding added sugars in the diet of children less than age 2
- There's a lot more

“Unfortunately, many parents do not adhere to evidence based dietary recommendations for their children”

American Academy of Pediatric Dentistry. Policy on dietary recommendation for infants, children, and adolescents. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:96-100

American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Consequences and preventive strategies. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:90-3



Dietary Recommendations

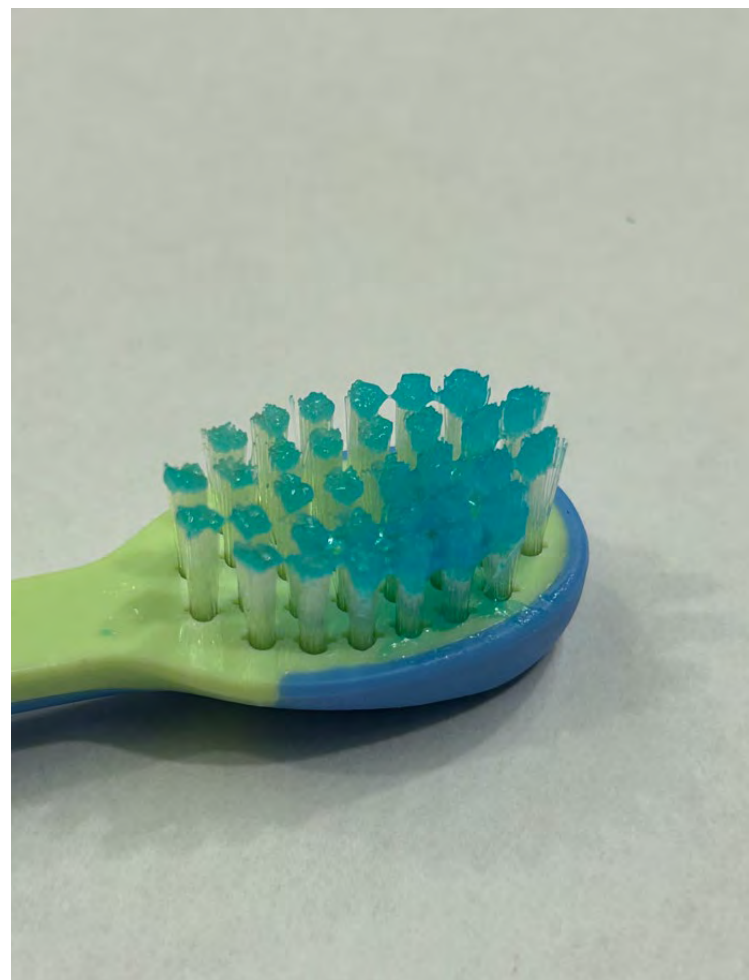
- **Work with parent/caregiver towards realistic and attainable goals**
- Cut back sugary foods and drinks to mealtimes only
- Water in between meals
- Nothing to eat or drink after brushing before bedtime

Oral Hygiene

- Brushing twice per day for two minutes
- Nothing to eat or drink after brushing before bedtime
- Parent/caregiver should assist in toothbrushing
- Fluoridated toothpaste
 - Smear for ages less than three years of age
 - Pea sized three to six years of age

American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Consequences and preventive strategies. The Reference Manual of Pediatric Dentistry. Chicago, Ill: American Academy of Pediatric Dentistry; 2022:90-3

Amount of Toothpaste



Fluoride Varnish

“The recommended professionally-applied fluoride treatment for children at risk for ECC who are younger than six years of age is five percent sodium fluoride varnish”

Once caries become cavitated, consider other options (SDF, ITR, Hall crowns)

American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): Consequences and preventive strategies. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:90-3



Minimum Intervention

Cavitated Lesions

- SDF
- ITR
- Hall crowns

Silver Diamine Fluoride (SDF)

- 38% silver diamine fluoride
 - 4-5% fluoride in a colorless liquid
 - pH of 10
 - Exact mechanism is unknown
 - Fluoride acts on tooth structure
 - Silver is antimicrobial
- Successfully used outside the US for many years
- *****Discolors demineralized and cavitated tooth surfaces*****
 - **Permanently discolors clothing, countertops, etc.**
 - **Temporarily stains soft tissue**
- More effective at arresting caries than fluoride varnish
- More fluoride is retained compared to other fluoride delivery methods
- Does not reduce adhesion of resin or GI materials
- Greatest chance of arrest on maxillary anterior teeth and buccal/lingual smooth surfaces

American Academy of Pediatric Dentistry. Policy on the use of silver diamine fluoride for pediatric dental patients. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2022:72-5

SDF

- Indications

- High caries risk patients with anterior or posterior active caries lesions
- Cavitated caries lesions in individuals presenting with behavioral or medical management challenges
- Patients with multiple cavitated caries lesions that may not be all treated in one visit
- Difficult to treat cavitated dental caries lesions
- **Patients without access to or with difficulty accessing dental care**
- Active cavitated caries lesions with **no clinical signs of pulp involvement**

- Contraindications

- Patient with allergy to silver compounds
- Teeth with clinical signs of pulpal involvement

Crystal YO, Marghalani AA, Ureles SD, et al. Use of silver diamine fluoride for dental caries management in children and adolescents, including those with special health care needs. *Pediatr Dent* 2017;39(5):E135-145.

SDF

Preparation

- Informed consent
 - **Informed consent with illustrations showing caregiver how the teeth will appear after application is recommended**
 - Caregivers also need to be aware that it can temporarily stain skin and permanently stain clothing
 - SDF may need to be reapplied in the future
- Universal precautions
- Operative intervention is not necessary
- Protect patient with bib and glasses
- Use appropriate isolation
- Use plastic dappen dish, SDF will corrode glass and metal
- Have a plastic waste bag to place items used after application

Crystal YO, Marghalani AA, Ureles SD, et al. Use of silver diamine fluoride for dental caries management in children and adolescents, including those with special health care needs. *Pediatr Dent* 2017;39(5):E135-145.

SDF Application

- Do not need to remove caries prior to application
- Gently dry lesion prior to application
- Dip microbrush in SDF, dab to remove excess, and apply to affected area for one minute*
- Gently dry area with compressed air for one minute*
- Remove excess SDF with gauze, cotton roll, etc.
- Try to keep area isolated for up to three minutes*

**if possible*

Crystal YO, Marghalani AA, Ureles SD, et al. Use of silver diamine fluoride for dental caries management in children and adolescents, including those with special health care needs. *Pediatr Dent* 2017;39(5):E135-145.

SDF

Post-op instructions

- Patients can eat or drink afterwards
- Patients can brush that evening
- They may notice a metallic or bitter taste
- If SDF stained soft tissue, it should go away in 2-14 days
- May need to re-apply SDF again at a later time
 - 3 month follow up?

Crystal YO, Marghalani AA, Ureles SD, et al. Use of silver diamine fluoride for dental caries management in children and adolescents, including those with special health care needs. *Pediatr Dent* 2017;39(5):E135-145.



Interim Therapeutic Restoration (ITR)

- Indications
 - Slow the progression of caries
 - Young patients
 - Uncooperative patients
 - Patients with SHCN
 - Traditional restorative dentistry cannot be performed right now
 - Partially erupted teeth
- Can help reduce levels of cariogenic bacteria*
 - Pretreatment levels may return after six months if no other treatment is performed
- May help reduce risk of caries on teeth adjacent to the ITR
- Technique
 - No local anesthesia needed
 - Caries removal
 - Hand or rotary instruments
 - Do not expose pulp
 - Caries free cavosurface margins
 - Restore with GI or RMGI
 - Make sure you have sufficient bulk to help prevent failure

Greatest success on single surface or small two surface lesions

- Maxillary anterior teeth if parents don't want SDF

American Academy of Pediatric Dentistry. Policy on interim therapeutic restorations (ITR). The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry



Hall Crown

- What is it?
 - Cementing a stainless steel crown (SSC) with glass ionomer cement over a carious primary molar
 - No caries removal
 - No local anesthetic
 - Carious lesion is entombed inside the crown
 - Superficial plaque layer of the lesion is compromised
 - Lesion is slowed down or arrested

Altoukhi DH, El-Housseiny AA. Hall Technique for Carious Primary Molars: A Review of the Literature. Dent J (Basel). 2020 Jan 17;8(1):11. doi: 10.3390/dj8010011. PMID: 31963463; PMCID: PMC7148518.

Hall Technique Indications

- Teeth with occlusal caries, non-cavitated, if the patient is unable to accept fissure sealant, partial caries removal or conventional restoration
- Teeth with proximal caries either cavitated or non-cavitated if the patient is unable to accept partial caries removal or conventional restoration

Altoukhi DH, El-Housseiny AA. Hall Technique for Carious Primary Molars: A Review of the Literature. *Dent J (Basel)*. 2020 Jan 17;8(1):11. doi: 10.3390/dj8010011. PMID: 31963463; PMCID: PMC7148518.

Hall Technique Contraindications

- Teeth with signs or symptoms of irreversible pulpitis or infection
- Non-restorable teeth
- Severe caries with space loss
- Children who cannot cooperate with procedure

Altoukhi DH, El-Housseiny AA. Hall Technique for Carious Primary Molars: A Review of the Literature. Dent J (Basel). 2020 Jan 17;8(1):11. doi: 10.3390/dj8010011. PMID: 31963463; PMCID: PMC7148518

Hall Technique

- Place ortho separators, leave for five days
- Remove separators
- Select crown that gives ‘spring back’
 - Has resistance at height of contour but will seat
- Fill crown with glass ionomer cement
- Seat crown, have patient bite crown into place
- Remove excess cement
- After cement has completely set, remove any residual cement and floss interproximal contacts

Altoukhi DH, El-Housseiny AA. Hall Technique for Carious Primary Molars: A Review of the Literature. Dent J (Basel). 2020 Jan 17;8(1):11. doi: 10.3390/dj8010011. PMID: 31963463; PMCID: PMC7148518.

Hall Technique

Post-op instructions

- Patient may tell parent that the crown feels “high” or “hard”
 - Occlusion will equilibrate over time
- Refrain from sticky foods that could pull the crown off

Altoukhi DH, El-Housseiny AA. Hall Technique for Carious Primary Molars: A Review of the Literature. Dent J (Basel). 2020 Jan 17;8(1):11. doi: 10.3390/dj8010011. PMID: 31963463; PMCID: PMC7148518



Case 1 Presentation Discussion

Patient Introduction

Age: 10 year old currently

Gender: female

Chief complaint: “ My daughter has cavities and is coming to be treated for them” at time of treatment (9/17/20)

Review of medical & dental history

MEDICAL

- ASA I
- No known allergies
- No medications taken/prescribed

DENTAL

- Dental visits since age 13 months
- History of pacifier habit and ceased by age 3

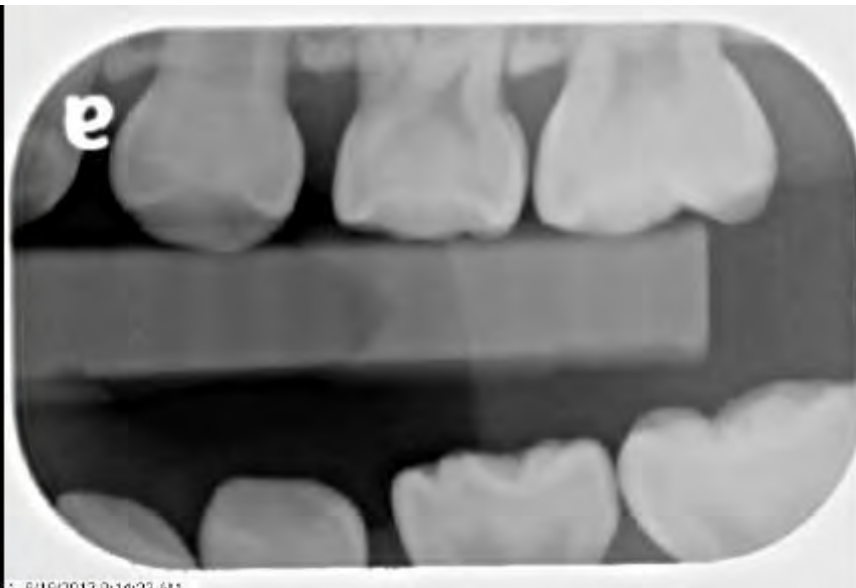
Operative Visit

Medical history reviewed: ASA I, No medications, No allergies

Vitals: B/P:126/70; P:74; Temp:97.8 F; Weight: 30kg; Height:125.2;
BMI: 19.1

Previous dental history: lesions noted on E,F,G (linguals) in 2016;
treatment with SDF on anterior teeth E,F,G (2016, 2017); Tooth I
(occlusal) began with cavitation.

1st Radiographs:
8/18/2017



Radiographs: 9/6/2018



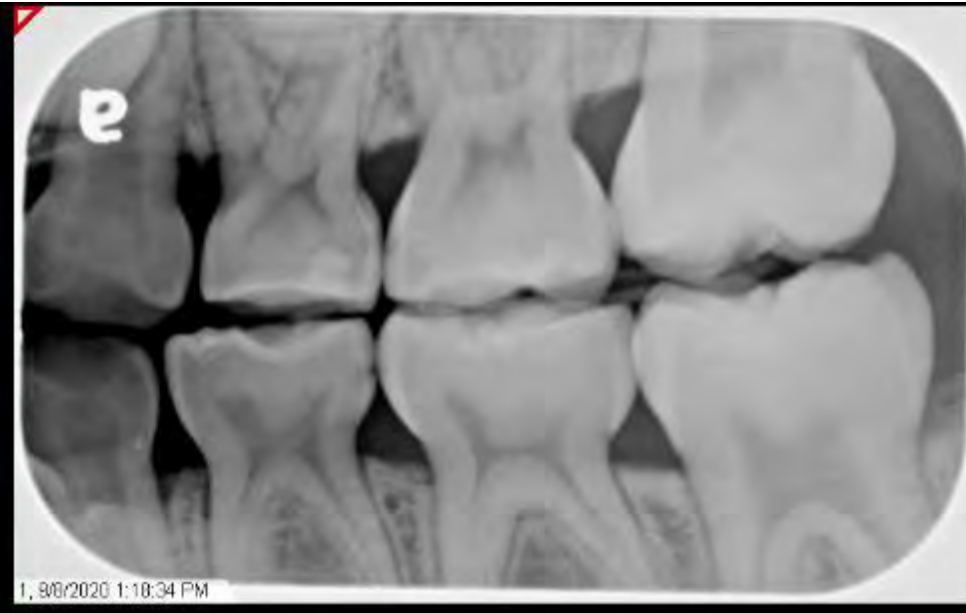
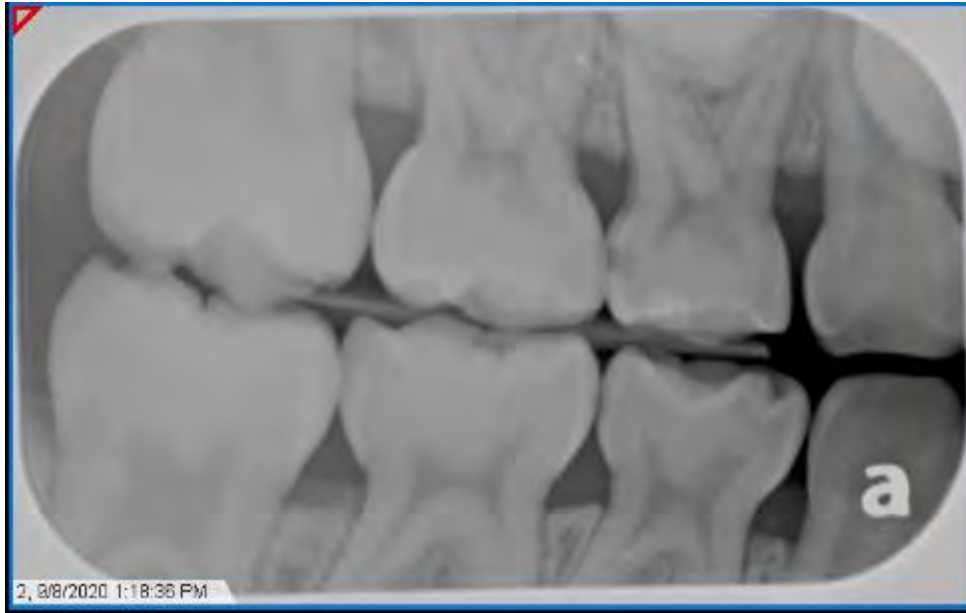
Radiographs: 3/12/2019



Radiographs: 9/26/2019



Radiographs: 9/8/2020



I Crown Technique



Hall Crown Technique



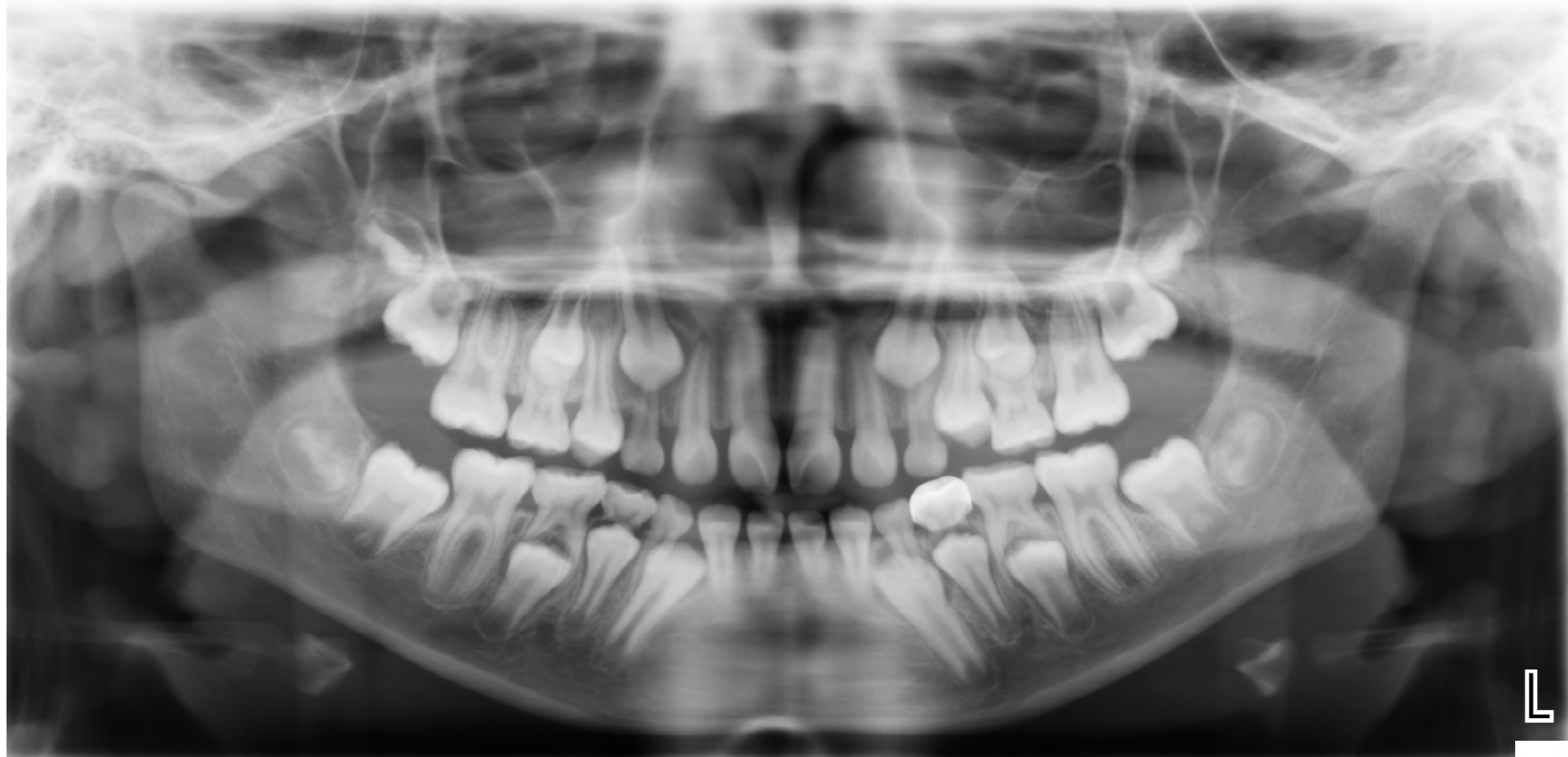
Radiographs Post-Op: 9/17/2020



Further post-radiographs



1st PANO 6/1/2023



L

Last bitewings: 6/1/2023



Case 2 Presentation Discussion

Patient Introduction

Age: 3 year old

Gender: female

Chief complaint: “ My daughter has cavities and holes”



1, 8/5/2022 9:45:51 AM



2, 8/5/2022 9:46:18 AM

SDF – ITR next- Hall crown or ??



Questions ?

