ECHO IDAHO

Oral Health in Primary Care

Integrating Oral Health Into Medical Decision Making

9/16/2025

Jennifer Wheeler, Idaho Oral Health Alliance

Melody Weaver, PhD, FNP-BC, FAANP, Clinical Associate Professor, Idaho State University, School of Nursing

KC Esplin, DDS, MS, Periodontist, Periodontal Health Specialists of Idaho

Jaimie Erickson, DMD, General Dentist, Palouse Pediatric Dentistry and Community Health Associates of Spokane

University of Idaho
School of Health and Medical Professions

Project ECHO

Idaho Oral Health Alliance (IOHA)

Vision: Optimal oral health for Idahoans

Mission: To lead collaborative efforts to bring optimal oral health to Idahoans through education, advocacy, and program development

We do this by partnering with organizations including:

- University of Idaho ECHO, Idaho Community Health Care Association, American Academy of Pediatrics- Idaho Chapter, Head Start, Idaho State Dental Association, Idaho State University, Idaho Dental Hygienists' Association, Idaho Oral Health Program, Idaho Oral Health Network, insurers, Delta Dental of Idaho, MCNA, and others

Key Initiatives-

- Medical-dental collaborations/leading oral health integration into primary care settings
- Addressing the prevention of early childhood caries and providing oral health education to caregivers of children ages 0-5

Our hope for this series:

You will:

- Better understand how oral health and whole health are connected
- Glean insight and education on why and how oral health could be incorporated into your practice
- Understand the importance of screening, prevention, and caring for your patients and their mouths
- Understand that *you don't need to diagnose*—just **look**, educate, and refer

A little data on periodontal disease (PD), also called gum disease:

- **Diabetes:** People with PD have a risk of diabetic neuropathy that is three times higher than those without gum disease
- **Heart disease:** People with PD have a 28% higher risk of heart attack; childhood oral infections may be a modifiable risk factor for adult cardiovascular disease
- **Stroke:** Those with PD have more than double the risk of a stroke resulting from posterior circulation disease
- **Pregnancy:** Evidence has linked PD with adverse pregnancy outcomes, including preeclampsia, preterm delivery, and low birthweight. **NOTE: Oral healthcare during pregnancy is *safe and recommended***
- **HPV/oral cancer:** HPV is believed to cause 70% of oropharyngeal and oropharynx cancers
- **Ties to other conditions:** Alzheimer's/dementia, kidney disease, blood pressure, pneumonia

Resource: CareQuest Institute for Oral Health: Mouths Matter More Than You May Know

Impacts Beyond the Mouth

Growing evidence connects a healthy mouth with a healthy body. Here are some examples showing why oral health is about much more than a smile:

High Blood Pressure

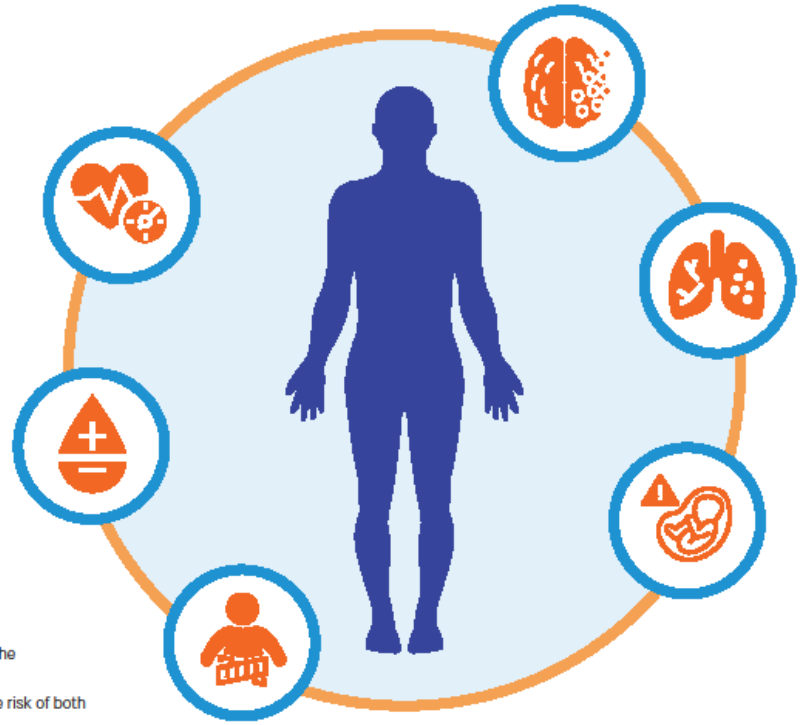
- Putting off dental care during early adulthood is linked to an increased risk of having high blood pressure.[1]
- Patients with gum disease are less likely to keep their blood pressure under control with medication than are those with good oral health.[2]

Diabetes

- Untreated gum disease makes it harder for people with diabetes to manage their blood glucose levels.[3]
- Diabetes raises the risk of developing gum disease by 86%.[4]

Obesity

- Brushing teeth no more than once per day was linked with the development of obesity.[5]
- Frequent consumption of sugar-sweetened drinks raises the risk of both obesity[6] and tooth decay among children[7] and adults.[8]



Dementia

- Having 10 years of chronic gum disease (periodontitis) was associated with a higher risk of developing Alzheimer's disease.[9]
- Researchers report that uncontrolled periodontal disease "could trigger or exacerbate" the neuroinflammatory phenomenon seen in Alzheimer's disease.[10]

Respiratory Health

- Research shows that improving oral hygiene among medically fragile seniors can reduce the death rate from aspiration pneumonia.[11]
- Patients with ventilator-associated pneumonia (VAP) who engaged in regular toothbrushing spent significantly less time on mechanical ventilation than other VAP patients.[12]
- Improving veterans' oral hygiene reduced the incidence of hospital-acquired pneumonia (HAP) by 92%, preventing about 136 HAP cases and saving 24 lives.[13]

Adverse Birth Outcomes

- Gum disease among pregnant women is associated with preterm births, low birthweight babies and preeclampsia, a pregnancy complication that can cause organ damage and can be fatal.[14]

CareQuest Institute for Oral Health.

Sources

1. Oreskovic, NM et al. (2017). Oral health status and longitudinal cardiometabolic risk in a national sample of young adults. Journal of the American Dental Association, 148(12), 930-938.
2. Pietropaoli D, et al. Poor Oral Health and Blood Pressure Control among US Hypertensive Adults: Results from the National Health and Nutrition Examination Survey 2009 to 2014. Hypertension. 2018 Dec; 72(6): 1365-1373. Müller F. Oral Hygiene Reduces the Mortality from Aspiration Pneumonia in Frail Elders. Journal of Dental Research. 2015 Mar; 94(3 Suppl.): 14S–16S.
3. Preshaw PM, Bissett SM. Periodontitis and diabetes. British Dental Journal. 2019; 227: 577–584; Teeuw W.J, et al. Effect of periodontal treatment on glycemic control of diabetic patients: A systematic review and meta-analysis. Diabetes Care. 2010 Feb; 33(2): 421-427.
4. Baranowski M.J, et al. Diabetes in dental practice-review of literature. Journal of Education, Health and Sport. 2019; 9(2), 264-274
5. Furuta M, et al. (2020). Longitudinal associations of toothbrushing with obesity and hyperglycemia. Journal of Epidemiology, JE20190165.
6. Luger M, et al. Sugar-Sweetened Beverages and Weight Gain in Children and Adults: A Systematic Review from 2013 to 2015 and a Comparison with Previous Studies. Obesity Facts. 2017; 10(6): 674-693.
7. Bleich SN, Vercammen KA. The negative impact of sugar-sweetened beverages on children's health: an update of the literature. BMC Obesity. 2018; 5(6).
8. Bernabé E, et al. Sugar-sweetened beverages and dental caries in adults: a 4-year prospective study. Journal of Dentistry. 2014; 42(8): 952-958.
9. Chen CK, et al. (2017). Association between chronic periodontitis and the risk of Alzheimer's disease: a retrospective, population-based, matched-cohort study. Alzheimer's Research & Therapy. 9(1), 56.
10. Teixeira FB, et al. Periodontitis and Alzheimer's Disease: A Possible Comorbidity between Oral Chronic Inflammatory Condition and Neuroinflammation. Frontiers in Aging Neuroscience. 2017 Oct; 9:327
11. Müller F. Oral Hygiene Reduces the Mortality from Aspiration Pneumonia in Frail Elders. Journal of Dental Research. 2015 Mar; 94(3 Suppl.): 14S–16S.
12. de Lacerda Vidal CF, et al. Impact of oral hygiene involving toothbrushing versus chlorhexidine in the prevention of ventilator-associated pneumonia: a randomized study. BMC Infectious Diseases. 2017 Feb 27; 17(1): 173.
13. Munro S, Baker D, 2018. Reducing missed oral care opportunities to prevent non-ventilator associated hospital acquired pneumonia at the Department of Veterans Affairs. Applied Nursing Research, 2018; 44: 48-53.
14. Daalderop LA, et al. Periodontal Disease and Pregnancy Outcomes: Overview of Systematic Reviews. Journal of Dental Research Clinical and Translational Research. 2018; 3(1): 10–27.

Suggested Citation:

CareQuest Institute for Oral Health. Impacts Beyond the Mouth. Boston, MA; June 2020. DOI: 10.35565/CQI.2020.4002

Why oral health integration is important:

- 98.7% of Idaho is considered a medical Health Professional Shortage Area (HPSA) and 95.7% of Idaho is considered a dental Health Professional Shortage Area (HPSA)
- In the seven Idaho counties without a Medicaid dentist, patients travel an average of 95 minutes to access dental care
- Two of the seven Idaho public health districts no longer have oral health programs which directly affects school-based prevention programs and pre- and peri-natal education
- Nearly half of U.S. adults 30 or older show signs of gum disease which, if left untreated, can lead to tooth loss
- Nearly 3 in 10 older adults who currently smoke have lost all their teeth, compared to about 1 in 10 older adults who never smoked

HPSA data source: https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/rural-health-and-underserved-areas
Travel time data: https://publicdocuments.dhw.idaho.gov/WebLink/DocView.aspx?id=19490&dbid=0&repo=PUBLIC-DOCUMENTS&cr=1
Economic data: https://www.cdc.gov/nccdphp/priorities/oral-disease.html

Why oral health integration is important:

- On average, over 34 million school hours are lost because of unplanned emergency dental care
- Almost $46 billion is lost in productivity in the U.S. because of untreated oral disease
- In 2017, there were 2.1 million emergency room visits for dental emergencies
- By age 9, half of children have had cavities in their primary (baby) or permanent teeth
- 1 in 10 adolescents aged 12 to 19 have at least one untreated cavity
- An American Academy of Pediatrics study found that about 85% of toddlers had at least one visit to a primary care provider while only 20% saw a dental care provider

HPSA data source: https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/rural-health-and-underserved-areas
Travel time data: https://publicdocuments.dhw.idaho.gov/WebLink/DocView.aspx?id=19490&dbid=0&repo=PUBLIC-DOCUMENTS&cr=1
Economic data: https://www.cdc.gov/nccdphp/priorities/oral-disease.html
AAP: https://publications.aap.org/pediatrics/article-abstract/115/4/906/67570/Estimated-Impact-of-Competing-Policy?redirectedFrom=fulltex t

Thank you for participating in this series

Contact Information for the Idaho Oral Health Alliance

- ***Jennifer Wheeler, Executive Director***
- ***(208) 994-9058***
- ***Email: jwheeler@idahooralhealth.org***
- ***IOHA Website: www.idahooralhealth.org***

Next Up:

Melody Weaver, PhD, FNP-BC,
FAANP, Clinical Associate Professor,
Idaho State University, School of Nursing

University of Idaho
School of Health and Medical Professions

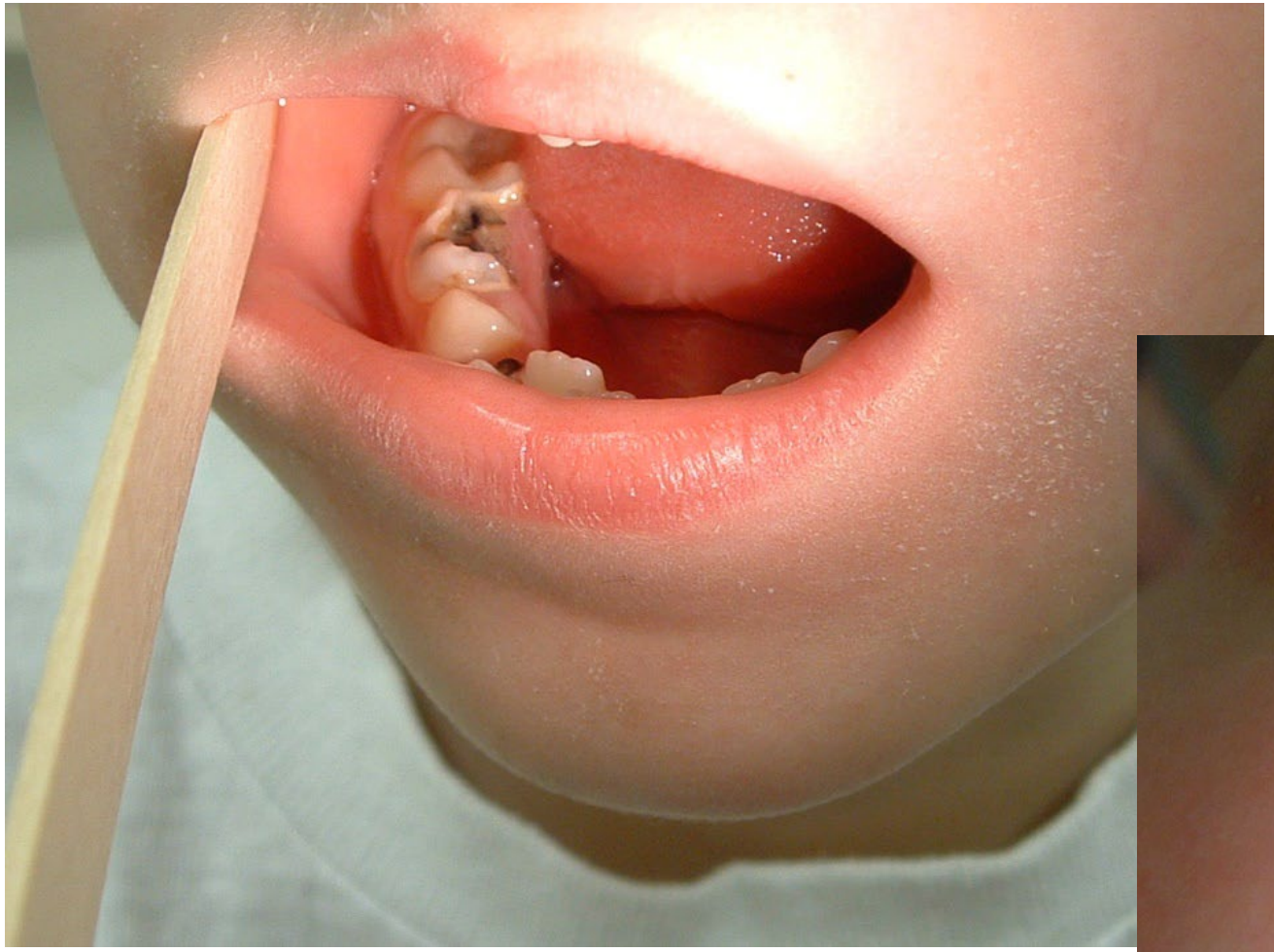
Project ECHO

Learning Objectives

- Increase awareness of potential sequelae from lack of oral health care
- Create a space for discussion of prevention & intervention
- Understand the importance of building partnerships to support success

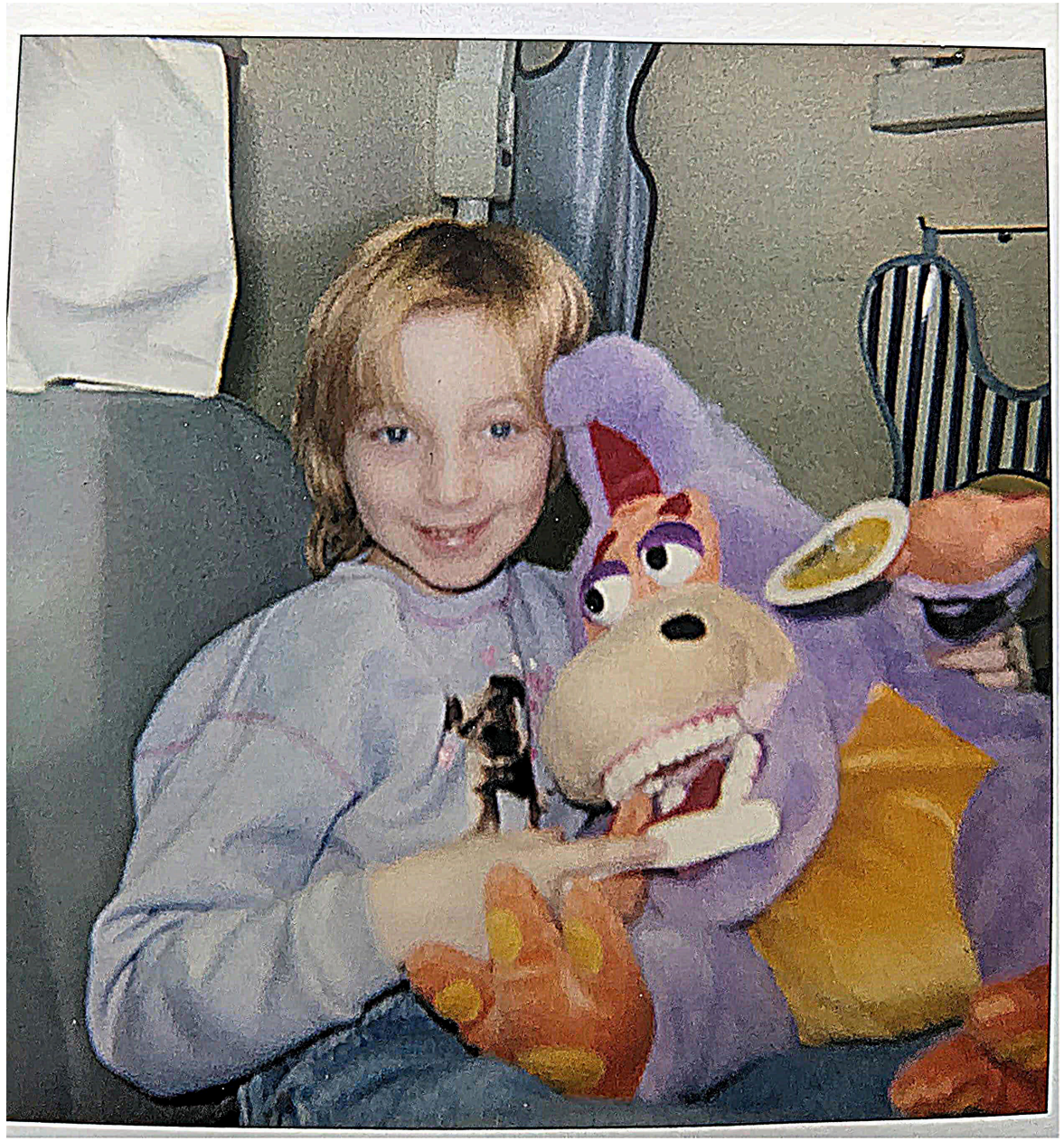
Access to Care

45-60 miles to town
in either direction



Sequlae of Untreated ECC

- Failure to thrive
- Speech delays
- Chronic pain
- Poor sleep patterns
- Poor school performance
- Poor self-esteem



Key Points

- Quarterly fluoride varnish clinics successful
  - Decreased incidence of ECC by 50%
  - Billable visits for primary care clinicians
- Build a coalition to support access to care
  - Partnerships with
    - RDH who participated in quarterly clinics
    - dentist in “town”
    - county commissioners for funding
    - community seniors for “wrangling” families

References

- Berger, C., et al. (2014). An oral health program for children. *The Nurse Practitioner*, 39(2), 48-53.
- Clark, M.D., et al. (2014). Fluoride use in caries prevention in the primary care setting. *PEDIATRICS*, 134(3), 626-633.
- Love, L, et al. (2024). Oral health knowledge, attitudes and learned clinical skills in pediatric medicine residents and nurse practitioner students: A pre-post design. *Healthcare*, 12, 1801, 1-12.
- Matthew, M.G., et al. (2022). Evaluation of factors influencing the Oral Health-related Quality of Life among children with Early Childhood Caries: A cross-sectional study. *The Journal of Contemporary Dental Practice*, 23(9), 936-943.

Note: All photos courtesy of presenter w/ parental consent

Next Up:

Jaimie Erickson, DMD,

Palouse Pediatric Dentistry and
Community Health Associates of Spokane

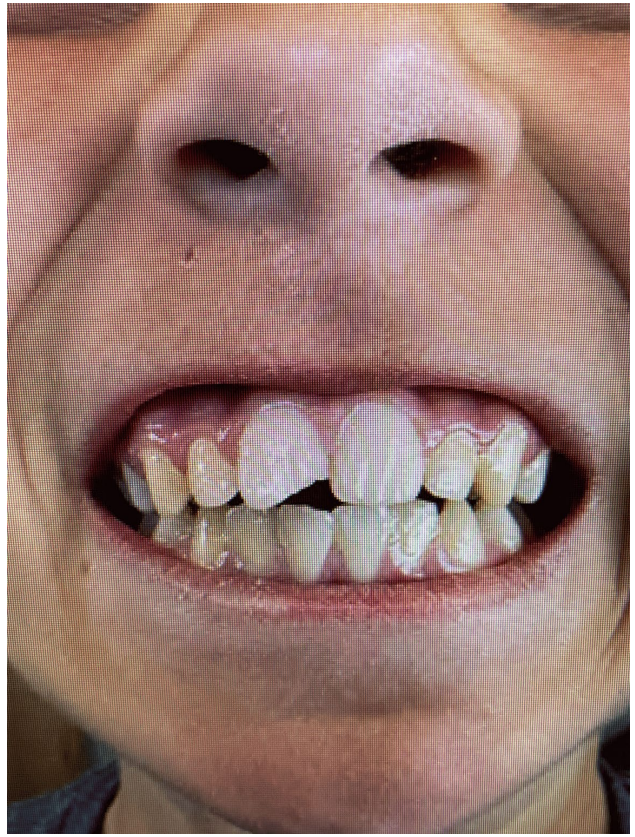
KC Esplin, DDS, MS, Periodontist,

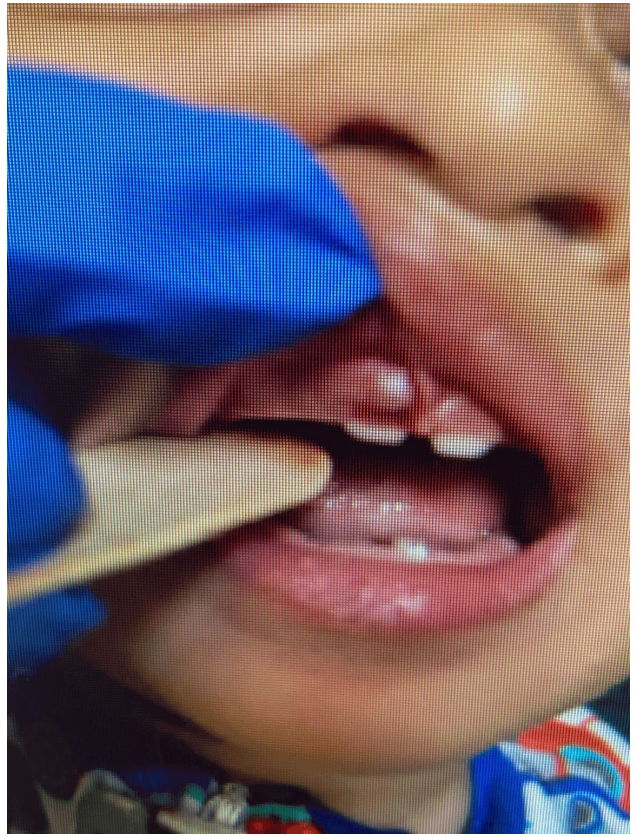
Periodontal Health Specialists of Idaho

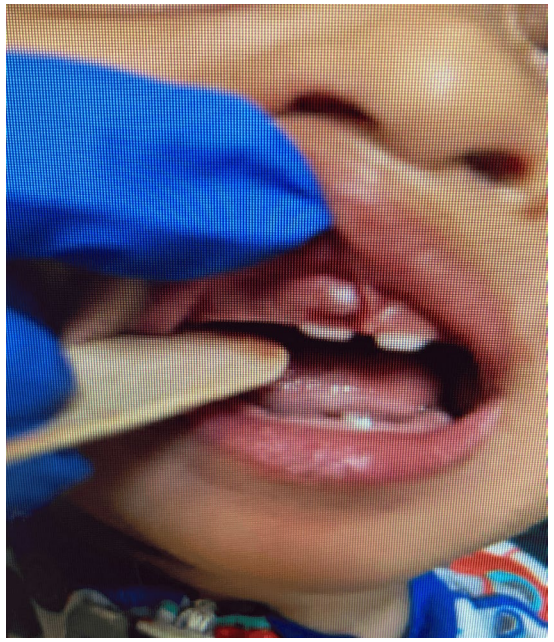
Case #1

Working together!

- urgent and non-urgent dental needs





Trauma in Primary teeth

S: 1.5 yo fall from bed onto headboard
O: Pain and bump on gums
A: No mobility, hematoma on gingiva, no fracture of tooth
P: Treat pain with OTC meds; soft foods only. See in clinic within next couple days for radiograph.

	Clinical findings	Radiographic findings	Treatments	Follow up	Favorable and Unfavorable outcomes include some, but not necessarily all, of the following Favorable Outcome	Unfavorable Outcome
Concussion 	• The tooth is tender to touch. It has normal mobility and no sulcular bleeding	No radiographic abnormalities. Normal periodontal space	• No treatment is needed. Observation	1 week C 6–8 weeks C	• Continuing root development in immature teeth	• No continuing root development in immature teeth • Dark discoloration of crown. No treatment is needed unless apical periodontitis develops
Subluxation						

Guidelines for the Management of Traumatic Dental Injuries: 3. Injuries in the Primary Dentition

Trauma in Permanent teeth

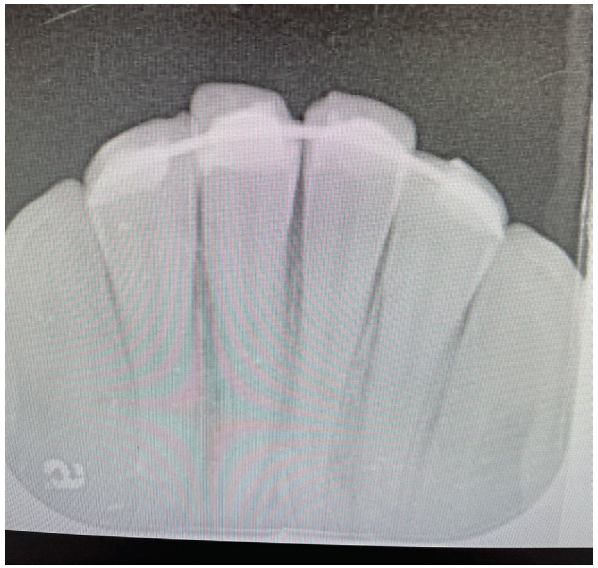
S: 14 yo Fall onto side of pool
O: Chipped tooth and mild/moderate pain while eating. No mobility.
A: No pulpal exposure noted; position within arch is unchanged
P: Manage pain with OTC meds; soft/room temperature foods only. See clinic within the next couple days for radiograph and restoration to seal dentin.

1. Treatment guidelines for fractures of teeth and alveolar bone

	Clinical findings	Radiographic findings	Treatment	Follow-up procedures for fractures of teeth and alveolar bone[1] Follow up	Favorable and unfavorable outcomes include some, but not necessarily all, of the following: Favorable outcome	Unfavorable outcome
Enamel–dentin fracture 	• A fracture confined to enamel and dentin with loss of tooth structure, but not exposing the pulp • Percussion test: not tender. If tenderness is observed, evaluate the tooth for possible luxation or root fracture injury • Normal mobility • Sensibility pulp test usually positive	• Enamel–dentin loss is visible • Radiographs recommended: periapical, occlusal, and eccentric exposure to rule out tooth displacement or possible presence of root fracture • Radiograph of lip or cheek lacerations to search for tooth fragments or foreign materials	• If a tooth fragment is available, it can be bonded to the tooth. Otherwise, perform a *provisional treatment* by covering the exposed dentin with glass Ionomer or a more permanent restoration using a bonding agent and composite resin, or other accepted dental restorative materials • If the exposed dentin is within 0.5 mm of the pulp (pink, no bleeding), place calcium hydroxide base and cover with a material such as a glass ionomer	6–8 weeks C++ 1 year C++	• Asymptomatic • Positive response to pulp testing • Continuing root development in immature teeth • Continue to next evaluation	• Symptomatic • Negative response to pulp testing • Signs of apical periodontitis • No continuing root development in immature teeth • Endodontic therapy appropriate for stage of root development is indicated

Guidelines for the Management of Traumatic Dental Injuries: 1. Fractures and Luxations of Permanent Teeth

S: 16 yo male; kicked in face during soccer
O: Tooth appears out of place; excessive bleeding from gums
A: Tooth is mobile and bleeding heavily from gums; no root fracture
P: Urgent - Replace tooth to normal position and splint.



Extrusive luxation 	• The tooth appears elongated and is excessively mobile • Sensibility tests will likely give negative results	• Increased periodontal ligament space apically	• Reposition the tooth by gently re-inserting It into the tooth socket • Stabilize the tooth for 2 weeks using a flexible splint • In mature teeth where pulp necrosis is anticipated or if several signs and symptoms indicate that the pulp of mature or immature teeth became necrotic, root canal treatment is indicated	2 weeks $S^{+\cdot}$ C^{++} 4 weeks C^{++} 6–8 weeks C^{++} 6 months C^{++} 1 year C^{++} Yearly 5 years C^{++}	• Asymptomatic • Clinical and radiographic signs of normal or healed periodontium • Positive response to pulp testing (false negative possible up to 3 months) • Marginal bone height corresponds to that seen radiographically after repositioning • Continuing root development in immature teeth	• Symptoms and radiographic sign consistent with apical periodontitis • Negative response to pulp testing (false negative possible up to 3 months) • If breakdown of marginal bone, splint for an additional 3–4 weeks • External inflammatory root resorption • Endodontic therapy appropriate for stage of root development is indicated

Dental or Medical? Either! We are a team!

S: 1.5 yo with oral lesions

O: Pain; irritability; not wanting to eat/drink; low grade fever

A: Lesion primarily to upper palate; no significant medical history

P: See primary care physician for initial assessment. If unresolving see ENT for potential biopsy.

Discussion…What is the primary concern for this baby? Hydration! If they won't drink they will become dehydrated quickly! Therefore, it is important to involve the PCP for monitoring; if they need admitted for IV fluids the dentist isn't much help. Their pediatrician diagnosed it as a primary herpatic outbreak. No specific tx indicated; just close monitoring.

Case #2

Question:

-What are some intraoral manifestations which should alert medical providers that there is an underlying dental/periodontal pathology present?

-What steps are taken after a problem is identified?

Medical hx

-61 y/o caucasian male

-Retired farmer

-Denies all major medical conditions, and has regular screening for diabetes, HTN, cardiovascular, etc.

-Denies tobacco, alcohol, and illicit drug use

-Regularly been seen by a general dentist every 6 months for the majority of his life

- Gingival overgrowth, erythema, and surface epithelial sloughing present for 3-5 years
- Severe bleeding upon contact
- General dentist providing cleanings every 4-6 months without improvement
- Pt sought help from PCP who ordered CBC and metabolic panel
    - All WNL
- PCP first prescribed anti-fungal without improvement
- PCP then prescribed anti-viral without improvement
- Referral to our office then issued

Initial exam

Differential diagnosis

-Plasma cell gingivitis

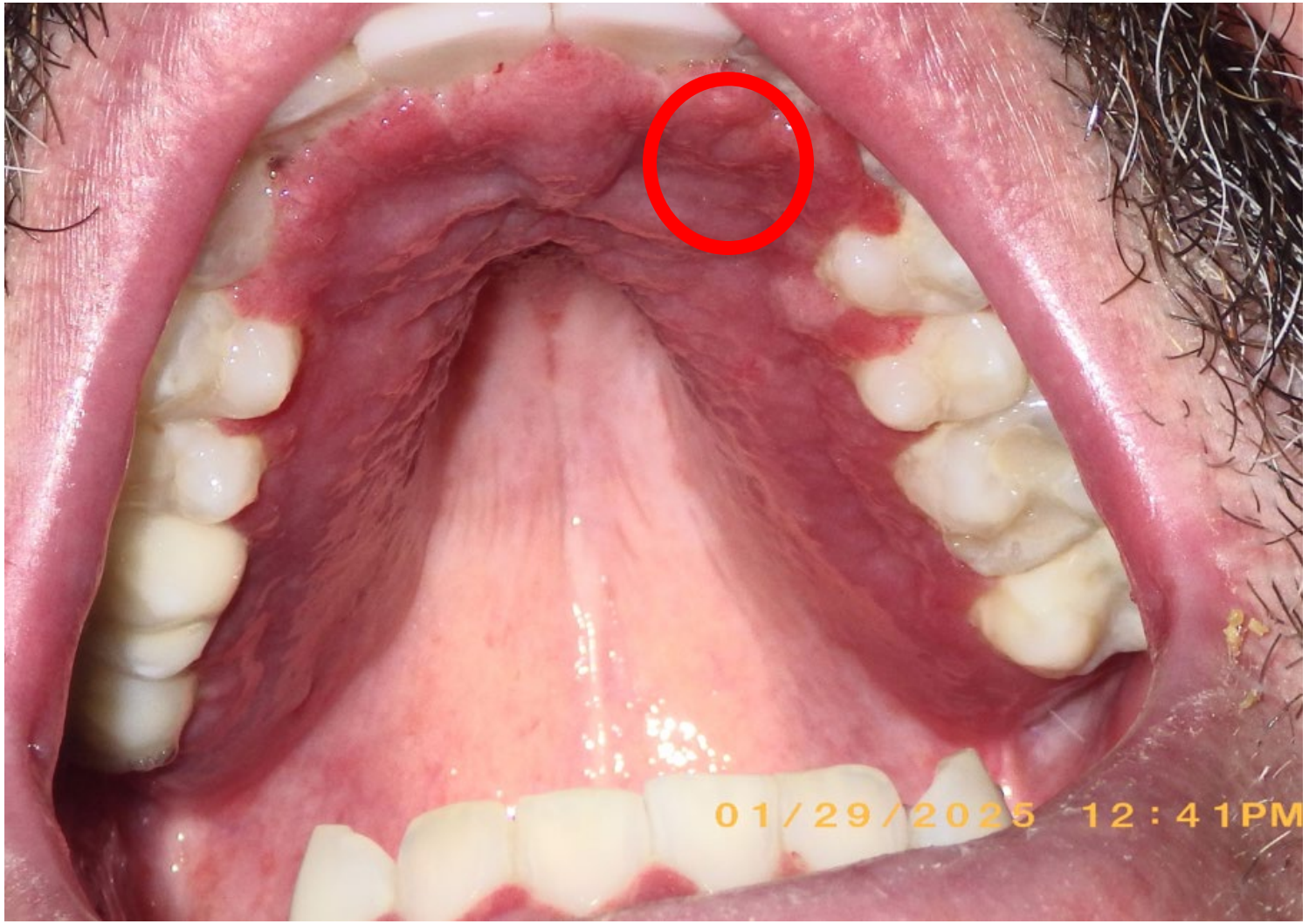
-Plaque-induced gingivitis

-Connective tissue disorder

-Severe systemic disease manifestation (leukemia, HIV, etc.)

-Possible complication due to COVID-19

Soft tissue biopsy site



SPECIMEN SOURCE:
A. LINGUAL ASPECT #10/11

FINAL PATHOLOGIC DIAGNOSIS:

Anterior left maxilla, lingual gingiva teeth #10-#11, biopsy:
- **Histologic features consistent with plasma cell gingivitis (see Comment).**
- **No epithelial dysplasia or malignancy identified.**

Comment:

The inflammatory infiltrate is composed of a strikingly dense population of plasma cells, located in a thick band along the epithelial-connective tissue interface. The plasma cells appear bland, with few to no mitoses identified, and a relatively low proliferation index via Ki-67 immunostain. CD138 immunostain highlights the dense plasma cell infiltrate, while kappa and lambda immunostains confirm a polyclonal plasma cell population, consistent with a reactive process. T. pallidum immunostain is negative for the presence of spirochetes (T. pallidum immunostain often cross reacts with common periodontal treponema species, to include T. denticola and/or T. vincentii). PAS fungus special stain performed to rule out superficial and deep fungal infection is negative (no fungal organisms identified). Tissue controls react appropriately.

The clinical photos provided with the tissue biopsy were reviewed. The observed histologic features together with the patient's clinical presentation are consistent with plasma cell gingivitis. Plasma cell gingivitis can be a result of inadequate oral hygiene, may be idiopathic in nature, or may result from hypersensitivity to one or more substances in food, gum, candy, mints, etc.

Continued clinical correlation is encouraged. No evidence of a neoplastic process is identified within the sampled tissue on multiple levels reviewed. Thank you for including clinical notes and photographs in correlation with the histology.

Tx plan:

-Full-mouth gingivectomy and periodontal debridement under IV sedation

-Long-term periodontal maintenance visits (cleanings) every 3 months

-Brushing only with chlorhexidine

3-months post-op

6-months post-op

ECHO Idaho's funders

DELTA DENTAL®

mcnadental

The Idaho Oral Health Alliance

PacificSource HEALTH PLANS

University of Idaho School of Health and Medical Professions

Project ECHO®