



Oral Health as an important element of Overall Health

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Oral Health and Overall Health

- **Dental Health—the teeth and periodontal structures including hard and soft tissues**
- **Oral Health also includes lips, sinuses, oropharynx, salivary glands, tongue**
- **Those oral structures and tissue systems are attached to the rest of the body**
- **Infections of the oral cavity can and do effect other systems**
- **Dental infections are often overlooked as a cause of systemic symptoms**

Oral Health /overall health cont.

- Many “ear-aches” are actually from dental infections (acute or chronic pulpitis or dental abscess) and not otitis
- Canine space abscess is often mistaken for a peri-orbital abscess
- “Failure to thrive” in infants and toddlers can occasionally be traced to infected and painful teeth
- Periodontal disease in adults has been linked to coronary artery disease and early term and low birthweight babies

Oral Health/Overall Health

- Sub-acute bacterial endocarditis has been caused by bacteremia from tooth extraction
Why aren't many more SBE cases caused by chronically infected teeth?
Prosthetic joint replacement requires antibiotic prophylaxis because of the possibility of bacteremia from oral organisms

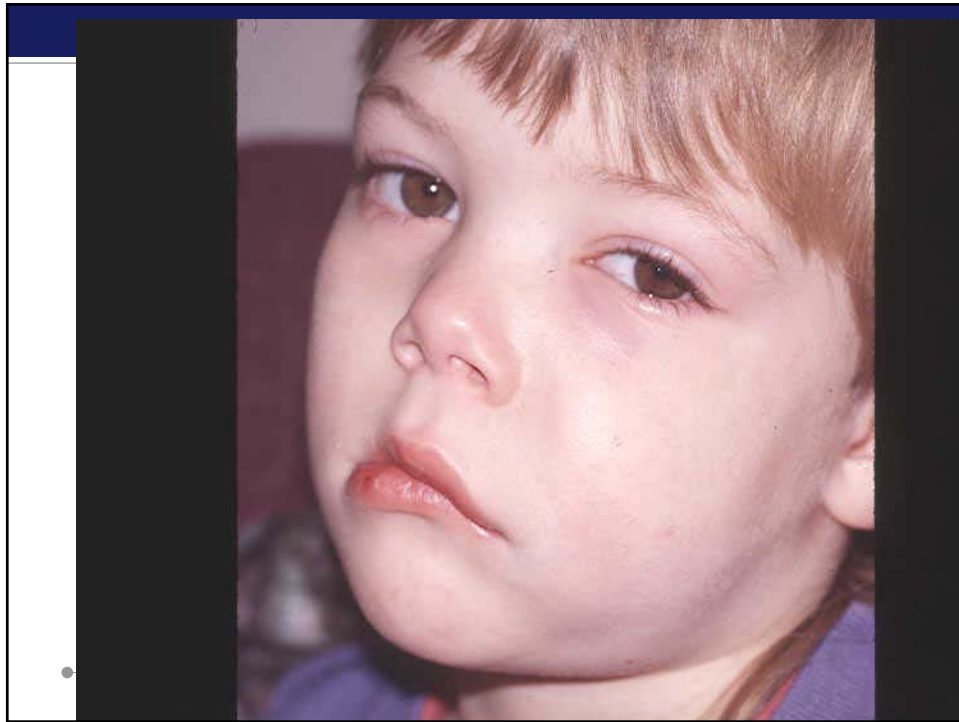
- Diabetes management is complicated by dental infection. All diabetics should get regular and comprehensive dental treatment

Medical/ Dental Communication

- Dentists and Physicians should communicate concerning medical management of patients
- Total Health Record will include dentist participation
- Patient's dentist should always be consulted in cases involving radiation treatment, particularly to head and neck to prevent osteoradionecrosis complications
- Treatment of infections of the teeth and jaws almost always require more than antibiotic rx
- Dental injuries require timely treatment

Severe Early Childhood Dental Caries





Impact of dental disease on overall health

- **Dental caries and periodontal disease are caused by dental plaque composed of a variety of bacteria, including *S. Salivarius*, *S. Mutans*, *S. Pyogenes***
- **Oral inflammation and infection can contribute to systemic disease including diabetes, heart disease, stroke and osteoporosis**
- **Periodontal disease has been linked to low birth weight and pre-term delivery**

EARLY CHILDHOOD DENTAL CARIES PREVENTION

Goals

- Reduce incidence and impact of tooth decay in pre-school population
- Reduce costs associated with treatment

Severe early childhood caries
In a 30 month old child



Public Health Points

- **Disparities in oral health:**
Access to care, SES, ethnicity, CSHCN
- **Workforce issues:**
 - Dental workforce
 - Education gaps in dentistry and medicine
 - Shared responsibility with PCP
- **Evidence-based caries prevention:**
Need to reach children early



Disparities and Oral Health*

- Oral disease is common and has consequences for overall health
- Much oral disease is preventable
- Profound disparities in oral health and access to care (all ages) by SES, ethnicity, children with special health care needs (CSHCN)⁺

*USDHHS, *Oral Health in America: A Report of the Surgeon General, 2000*

+Vargas et al, 1998; Newacheck et al, 2000a, 2000b, Mouradian, Wehr and Crall, 2000

Osteonecrosis of the jaw



Bisphosphonate therapy for Osteoporosis

- Bisphosphonates administered IV are associated with higher incidence of ONJ, but cases do occur secondary to oral use
- Patients who are going to be administered these drugs should be referred to dentist for examination and treatment
- Dental treatment of patients on Bisphosphonates should be conservative, avoiding extractions

Bisphosphonate –related Osteonecrosis of the Jaw

- Complication of bisphosphonate therapy for treatment or prevention of osteonecrosis
- Typical clinical presentation is pain, swelling, looseness of teeth, drainage and exposure of bone
- Symptoms may occur spontaneously or following tooth extraction
- BON may remain asymptomatic for weeks or months and may become evident only after finding exposed bone in the jaw

Disparities and Oral Health

- **Dental caries (tooth decay) most common chronic disease of childhood**
- **Dental care most common unmet health need***
- **Dental insurance: children 2.5 x more likely to lack dental coverage than medical coverage***
- **Medicaid: only 1/5 children accessed dental care***

**Vargas et al, 1998; Newacheck et al, 2000a, 2000b, Mouradian, Wehr and Crall, 2000*

Oral Disease: Impact on Children

- **Disease burden, pain**
 - Systemic infections; growth problems
 - ER visits, hospitalizations and surgeries
 - Oral-systemic consequences - especially for CSHCN
- **Economic, quality of life, long term impacts**
- **52 million school hours lost per year for dental problems**

Dental Workforce Issues

- Number of dentists per capita declining
- Few pediatric dentists (3500) nationwide
- Acute shortages in rural and underserved areas



Oral Health in Medical Training

Survey of pediatricians in US*

Lack of knowledge

- > 50% of pediatricians - little oral health training

Willingness to participate in oral health promotion

- 90 % felt oral health their job

*Lewis et al, 2000



PCP Role in Oral Health

- Anticipatory guidance /counseling
- Risk assessment
- Oral screening exam
- Applying fluoride varnish
- Dental referral /collaboration



PCP Role in Oral Health continued

- Management of dental emergencies and simple trauma
- Oral-systemic health interactions, especially for CSHCN, and all patients with chronic illnesses
- Ages and Stages:
Adolescent oral health
Maternal oral health



- Help monitor children's health in community
- Mobilize community partnerships
- Help develop policies, actions at community level
- Link families to needed care
- Problem solving with local dental society



Dental Caries and Anticipatory Guidance for Oral Health



Learning Objectives

1. Understand the caries process and early childhood caries (ECC)
2. Provide anticipatory guidance in oral health, including appropriate nutrition messages
3. Assess risk of developing caries – The Oral Health History
4. Recognize caries on an oral exam
5. Refer children for dental visits as appropriate
6. Collaborate with dental professionals



Caries Process

- Biofilm ('plaque') is a living community of bacteria
- Bacteria ferment carbohydrates and produce acid
- Over time acid demineralizes enamel (white spot lesion)
REVERSIBLE stage
- End result is a cavity (caries)
hole in the tooth
non reversible



Sources of Fluoride

- **Systemic**
 - water fluoridation
 - fluoride supplements
- **Topical**
 - fluoride toothpastes
 - gels
 - fluoride varnish



Early Childhood Caries (ECC)

Decay in primary teeth

Formerly known as:

- Baby bottle tooth decay
- Nursing bottle caries



Early Childhood Caries

- A transmissible infection caused by *Streptococcus mutans*
- Diet dependent – fermentable carbohydrates with frequent exposure
- Occurs on erupted susceptible teeth
- Causes cavities to develop over time
- ECC affected children are at higher risk for decay as adolescents and adults

Early Childhood Caries (ECC)

Characteristics:

- Usually affects maxillary incisors first
- Lesions can progress rapidly
- Enamel on primary teeth thinner than enamel on permanent teeth



Early Childhood Caries - Maternal Transmission

- Window of infectivity: before age 2
- Transmission is a natural process
- Don't suggest mother decrease contact with infant

- ◆ Help mother meet her oral health care needs
- ◆ Provide/suggest other preventive measures



Anticipatory Guidance/ Counseling



Messages for Parents

General:

- **Oral health - important to overall health**
- **Primary teeth matter**
- **Caries can start when teeth erupt**
- ***Strep mutans* is transmissible**
 - Stress importance of caretaker's oral health
 - Advise pregnant mothers to get dental care
- **Diet/feeding**
 - Avoid frequent intake of carbohydrates

Messages for Parents

Specific:

- **“Lift the Lip” and check for decay**
- **Use Fluorides**
 - Brush teeth, use fluoridated toothpaste
 - Use fluoride supplements if water not fluoridated
- **Dental exam**
 - By age 1 (high risk)
 - By age 2-3 (lower risk)



Tooth Brushing

< 1 year

- clean teeth with cloth or soft toothbrush
- no toothpaste



1-2 years

- pea-sized amount of fluoridated toothpaste 2x/day
- parent performs

age 2 - 6 years,

- pea-sized fluoridated toothpaste 2x/ day
- parent performs or supervises

> age 6 years

- brush with fluoridated toothpaste 2x/day



Diet And Feeding: 0-12 months

- Hold infant for bottle and breast feedings
- No bottles at bedtime / nap (water only)
- No pacifiers dipped in honey
- Introduce cup at 6 mo, wean bottle at 12-18mo
- Avoid constant use of sippy cup
- Avoid cariogenic snacks between meals
- Introduce appropriate snacks



Diet And Feeding : 1-2 yr.

- Discontinue bottle feeding 12-18mo
- Avoid constant use of sippy cup unless it contains water
- Avoid excessive intake of juice (> 4oz/day)
- Limit cariogenic snacks between meals
- Reserve soda, candy and sweets for 'special occasion' treats

Risk Assessment



HIGH RISK if by history:

- Previous or current caries
- Siblings or Mom with caries
- No fluoride in water
- Chronic health condition and/or medication use
- inadequate fluoride
- SES, cultural factors
- CSHCN



Adapted, Bright Futures in Practice, Oral Health, 1996

- Frequent feedings may be necessary
- Oral -motor skills often delayed, longer use of bottles
- Oral aversion may impede home care
- Medications (decrease saliva, contain sugar, cause gingival hypertrophy)
- Other oral/craniofacial problems
- Monitor closely
- Refer for dental care early!



Oral Screening Exam



Oral/Dental Evaluation

- All children: oral/dental evaluation - age 1
- Anticipatory guidance earlier
- Trained PCP can do first oral exam at 6 -12 mo
- Prioritize dental referral: visible disease or high risk for disease
- Pregnant women, mothers with disease need referral
- All children need a regular source of dental care (“dental home”)





Lift the Lip Exam

- Knee-to-Knee position
- Use toothbrush
- Place mirror in baby's cheek
- Examine the front surfaces of the 4 upper front teeth
- Using the mirror, examine the back surfaces of the 4 upper front teeth



Oral Exam - Teeth

- ◆ Look at each tooth for plaque, looseness, decay
- ◆ Check occlusion (bite)
- ◆ Examine gums – firm and pink, not soft, swollen or inflamed

Oral Screening Exam

HIGH RISK

- Visible plaque on the teeth
- Enamel defects
- White spots or cavities
- Inflamed gums



Dental Referral



Routine Dental Visits and Preventive Care II

- ◆ Plaque removal on a regular basis
- ◆ Sealants
 - Important preventive measure, esp. for teeth with deep fissures and pits
 - A resin material which is bonded to the biting and chewing surfaces of the teeth
 - One treatment *may* protect for a lifetime, but may need replacement at the bond breaks down over time

Summary

- Dental decay is a significant health problem for children
- Primary care providers have a key role
- Anticipatory guidance during WCC
- Oral exam by age 1
- Fluoride - safe/effective
- Collaborate with dentists to improve oral health and access to care



Summary

- Dental decay is a significant health problem for children
- Primary care providers have a key role
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- Fluoride – safe and effective
- Collaborate with dentists to improve oral health and access to care



Medical Office Billing Information

- EqualityCare will reimburse PCP for Early Childhood Caries Risk Assessment and Prevention Procedures, namely fluoride varnish application.
- Children up to three years of age
- Three applications per year
- Use CDT Code D1206 on a HCFA 1500 form which pays \$35.00 per application

Post-application instructions

Varnish will set on contact with saliva

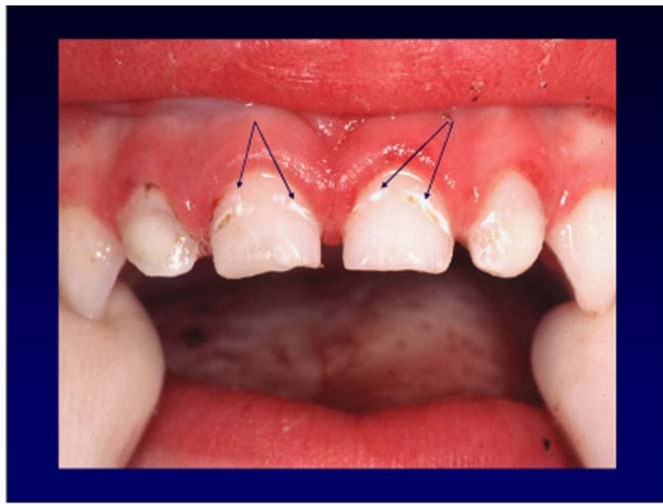
Patient can eat and drink immediately

Patient should not brush teeth that night but should resume normal oral hygiene the next day

Fluoride Varnish Brands

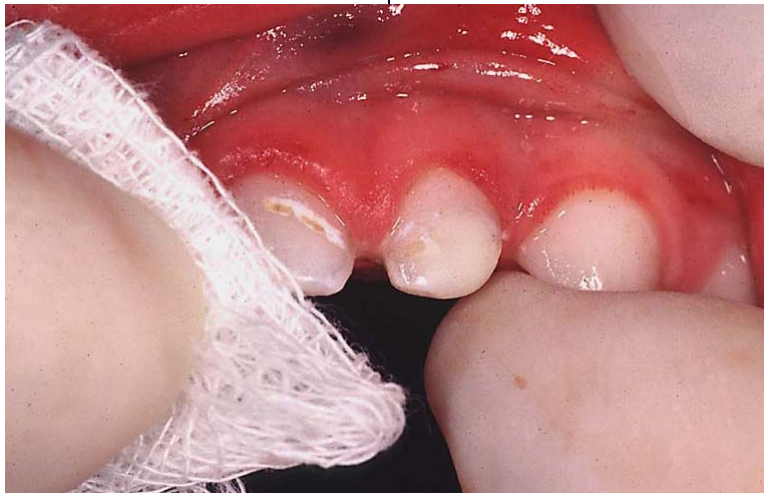
- Duraphat: <http://www.colgateprofessional.com>
- Duraflo: <http://www.medicom.com>
- CavityShield: <http://www.omniipharma.com>
- VarnishAmerica: <http://medicalproductslaboratories.com>





Areas of demineralized enamel on the primary incisors.









Application Procedure

- “Knee-to-Knee” position with parent holding feet –can also be done on exam table
- Remove plaque and debris with gauze sponge
- Need not dry teeth excessively since varnish needs saliva to set
- A small brush, usually supplied with varnish, is used to apply varnish to all sides of the teeth in a fine film

Advantages of fluoride varnish

Child-friendly flavors, easily tolerated

Easily applied in less than three minutes

Teeth need not be cleaned first or even dried completely

Is safe and very little, if any, is ingested

Does not require the use of dental equipment

Resources

- If you are treating EqualityCare clients, they are eligible for health and case management services through the Wyoming Department of Health's *Healthy Together* program.
- The program is provided at no cost to EqualityCare clients and family.
- Refer EqualityCare (Medicaid) clients to the *Healthy Together!* Health Management program
 - 1-888-545-1710
 - www.wyhealthytogether.com

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