Oral Health and Pregnancy

Theory of Adverse Outcomes

- 2013 Review reported association between GCF inflammatory mediator levels and adverse pregnancy outcomes
- Mediators enter system circulation and raise C-Reactive Protein levels
- Increase CRP levels induce production of PgE2

Bi-Directional Relationship

- Studies reveal pregnancy influenced periodontal status
- Pre-pregnancy periodontitis could lead to increased severity during pregnancy
- Hormonal changes exacerbate gingival inflammation

Effect of Periodontal Treatment—2015 Study

- Statistical reduction of CRP
- Greater risk of preterm birth
- Studies suggest treatment is safe and beneficial

Preterm Birth < 37 weeks gestation
- Extremely Preterm: < 28 weeks
- Very Preterm: 28-<32 weeks
- Moderate to Late Preterm: 32-<37 weeks

Low Birth Weight <5lbs 8oz

Smoking—less oxygen for fetal development

Alcohol—No safe amount


López, N. J., Smith, P. C., & Gutierrez, J. (2002). Periodontal therapy may reduce the risk of preterm low birth weight in women with periodontal disease: a randomized controlled trial. Journal of periodontology, 73(8), 911-924.
Prevention Program
- Healthy Oral Environment
- Optimum Oral Hygiene
- Plaque Biofilm Control Program
- Coronal Scaling
- Limit Carbohydrate Intake
- Minimize Inflammatory Response
- Curettage
- 2.2 mg Fluoride Tablet
- Reduction in S. Mutans

Welcome Home Baby
- Impact of Oral Disease
- Early Childhood Caries
- Research Updates
- Solutions

Impact of Oral Disease with Children
- Early tooth loss —> Failure to thrive
- Impaired speech
- Low self-esteem
- Poor School Performance
- Absences from school
- Inability to concentrate
- Systemic Consequences

Progression of Early Childhood Caries
- High levels of S. Mutans in Mothers —> Transfers to Baby

New Caries Pathogen in Early Childhood Caries
- Scardovia Wiggsiae
- Associated with severe ECC
- Thrives in acidic conditions

Risk Assessment:
- Mom/sibling dental history (biggest influencer on risk; active decay in parent/caregiver automatically places as high risk)
- Low health literacy of primary caregiver
- Low socioeconomic levels
- Clinically observe OH compliance issues
- Poor biofilm control, S. mutans and gingival bleeding present
- Frequent exposure to cariogenic agents (sippy cups, bottle use, breast feed on demand, grazing behavior)

Impact of Oral Disease with Children
- Early tooth loss —> Failure to thrive
- Impaired speech
- Low self-esteem
- Poor School Performance
- Absences from school
- Inability to concentrate
- Systemic Consequences

Progression of Early Childhood Caries
- High levels of S. Mutans in Mothers —> Transfers to Baby

New Caries Pathogen in Early Childhood Caries
- Scardovia Wiggsiae
- Associated with severe ECC
- Thrives in acidic conditions

Risk Assessment:
- Mom/sibling dental history (biggest influencer on risk; active decay in parent/caregiver automatically places as high risk)
- Low health literacy of primary caregiver
- Low socioeconomic levels
- Clinically observe OH compliance issues
- Poor biofilm control, S. mutans and gingival bleeding present
- Frequent exposure to cariogenic agents (sippy cups, bottle use, breast feed on demand, grazing behavior)
Breast Milk and Fortified Formulas
- Breast milk by itself is not cariogenic
- Ingestion of fermentable carbohydrate substrates is cariogenic

Baby Thrush
- Candida albicans
- Contributing factors: antibiotics, immature immune system
- Symptoms: drowsiness, dilated pupils, increased irritability while feeding
- Clinical Presentation: white velvet patches on tongue, palate or buccal mucosa that do not rub off
- Treatment: Nystatin gel applied on all affected areas

Ankylglossia
- Loses suction while feeding
- Tires quickly
- Little or no weight gain
- Inability to protrude tongue beyond lips
- Heart-shaped or square tongue tip
- Painful for Mother during feeding

Guidelines for Pacifier Use
- 1 to 12 mos helps reduce ear infections
- Over 12 mos increased risk of ear infections
- Cease pacifier habit before 2.5-3 yrs for orthognathic reasons

Teething Options
- Wean from bottle by 18 mos

Bottles and Sippy Cups
- Wean from bottle by 18 mos
- Sippy cups are transitional, not a long-term means of drinking

Partnering for Overall Health
- Parents
- Dental Professionals
- Physicians

Successful Engagement with Parents
- Friendly atmosphere
- Listen
- Ask Open-ended questions
- Parental perception-You Care
  - Avoid argument blaming

Resources:


Weaning From The Bottle
www.aap.org

Dental Home Resource Center
www.aapd.org/advocacy/dentalhome/

How to Perform a “Knee to Knee” Exam: After Parent Interview

- Laps become the examination area
- Don’t need to be in a traditional clinical area
- Child remains comfortable with caregiver close
- Lay child forward into clinician's lap
- Caregiver supports hands/feet
- Quiet, confident, comforting parent without actual interaction
- "Calm assertive"
- Clinician uses lift the lip to observe

Tooth Brushing Requires Parental Supervision

- Short attention span
- <7 years old
- No concept of time
- Small teeth and mouth
- Dexterity issues

Fluoride Toothpaste

- <3 yrs = “Smear” or size of rice grain
- 3-5 yrs = 1/2 pea size amount
- 5+ yrs = Pea size amount

Fluoride Supplements

<table>
<thead>
<tr>
<th>Recommended Fluoride Dosages for Children by Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Birth-6 months</td>
</tr>
<tr>
<td>6 months-3 years</td>
</tr>
<tr>
<td>3-6 years</td>
</tr>
<tr>
<td>6-16 years</td>
</tr>
</tbody>
</table>

*1.0 part per million (ppm) = 1 milligram per liter (mg/l)
**2.2 mg sodium fluoride contains 1 mg fluoride ion

Silver Diamine Fluoride

- Antimicrobial, desensitizer liquid
- Off-Label use by US Dentists for caries arrest and prevention
- Pros: Low cost, no drill
- Cons: Black stains, Irritates soft tissue, silver allergy

Pediatric Sleep Disordered Breathing

- Snoring
- Mouth breathing
- Daytime sleepiness
- Bruxism
- Growth impairment
- Frequent nightmares
- Enuresis
- Behavioral challenges
- Irregular sleep patterns

Managing Pediatric Sleep Disordered Breathing—Interdisciplinary Approach

- Dental Professional Screening
- Refer to Medicine
- Diagnosis and Management

Resources:

Well Baby Knee to Knee Exam
www.youtube.com/watch?v=HCKyR-zS7J0


Tips for Parents
American Academy of Pediatric Dentistry
www.mouthmonsters.mychildrensteeth.org/tips-for-parents/


AAPD Guideline on Fluoride Therapy


Thumbsucking
- Most common sucking habit
- Increased incidence of malocclusion
- Time, intensity and degree of force dictates the character and degree of malocclusion

Clinical Signs of Thumb/Finger Sucking
- Lateral Open Bite
- Excessive Overjet
- Anterior Open Bite
- Callouses
- Candida Infection

Abnormal Forces from Oral Habits
- Passive force of fingers between the teeth, tipping forward
  Results may include:
  - Anterior open bite
  - Over erupted canines
  - Narrow maxillary arch w/possible cross bites
- Abnormal contraction of cheeks against arches with upward forces on teeth
  Results may include:
  - Narrowing of arches (cross-bite)
  - Protruding upper teeth
  - Intrusion of teeth
- Pressure from thumb tip or fingers rests on lingual upper anterior teeth where hand rests on chin
  Results may include:
  - Retrusion of mandibular teeth
  - Protruding maxillary teeth

Effects of Prolonged Pacifier Use
- Increased width mandibular arch
- Increased prevalence of posterior cross-bites
- Increased prevalence of anterior open-bites

Resources:

Philips Oral Healthcare
www.philipsoralhealthcare.com