

WELCOME

**HMHB Annual Meeting &
Conference**

October 22-23, 2018

Century Center Marriott

Atlanta, GA



My Story!



KY



My Family!



Oral Health Care for the Expecting Patient



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Objectives

At the end of this presentation you will be able to identify and understand:

1. The link between maternal oral health and dental caries prevalence with their children
2. The Perinatal Oral Health Practice Guidelines
3. Oral health recommendations for pregnant women



Perinatal Oral Health Background

- Perinatal and oral health does not only affect women's health (including preconception health) but early childhood health as well.
- The health status, risk factors, and modifiers of the mother also affects the child.
- Many mothers do not understand that oral health care is an important component of her general health.



Perinatal Oral Health Background

“Emerging science indicates that women with periodontal disease may be at greater risk for delivering preterm, low birth weight babies. For this reason, the (Academy) recommends that women who are pregnant or planning to become pregnant or planning to become pregnant undergo periodontal examinations. Appropriate preventive or therapeutic services, if indicated should be provided.”



American Academy of Periodontology, Statement Regarding Periodontal Management of the Pregnant Patient, *Journal of Periodontology*, 75: 494-495,2004.

Gum Disease Is Linked to Rates of Early Birth

Progressive Periodontal Disease and Risk of Very Preterm Delivery

- This study explored the role of antepartum periodontal conditions, periodontal disease onset, and periodontal disease progression during pregnancy on preterm birth risk. The authors conclude that maternal periodontal disease, identified either early in pregnancy or progressing during pregnancy, is a risk factor for preterm and very preterm birth, respectively, independent of other risk factors.



Offenbacher S, Boggess KA, et al. *Obstetrics & Gynecology*, 2006; 107(1):29-36.

CDC Surveillance Program



Georgia Prevalence of Selected Maternal and Child Health Indicators, Pregnancy Risk Assessment Monitoring System (PRAMS), 2012 and 2013

Health Indicator ^o	2012			2013			All PRAMS Sites ¹
	n [†]	% [§]	95% CI [¶]	n	%	95% CI	%
Health Care Services							
– Talked to provider about improving health before pregnancy [#]	1,072	13.0	(10.5–16.1)	731	11.9	(8.7–16.1)	22.8
– Began prenatal care in 1st trimester	1,093	86.1	(83.1–88.6)	721	84.4	(79.6–88.2)	85.4
– Took childbirth class [#]	1,109	17.6	(14.7–21.0)	731	14.6	(11.0–19.0)	23.0
– Had home visitor during pregnancy [#]	1,113	1.5	(0.8–2.7)	733	3.1	(1.6–5.9)	7.7
– Had flu shot before or during pregnancy	1,078	33.5	(29.7–37.4)	722	23.7	(19.3–28.8)	51.2
– Had maternal postpartum checkup	1,116	92.8	(90.5–94.5)	733	91.6	(87.8–94.3)	90.7
Oral Health							
– Teeth cleaned during 12 months before pregnancy	1,116	39.7	(35.8–43.7)	738	48.1	(42.4–53.8)	58.0
– Teeth cleaned during pregnancy	1,102	38.0	(34.1–42.0)	728	29.2	(24.3–34.7)	51.0
– Had dental insurance during pregnancy [#]	1,103	51.8	(47.8–55.9)	725	39.4	(33.9–45.1)	73.5

2010 Perinatal Oral Health Consensus Statement

Prevention, diagnosis and treatment of oral diseases, including needed dental radiographs and use of local anesthesia, are highly beneficial and can be undertaken during pregnancy with no additional fetal or maternal risk when compared to the risk of not providing care. Good oral health and control of oral disease protects a woman's health and quality of life and has the potential to reduce the transmission of pathogenic bacteria from mothers to their children.

Perinatal Oral Health Guidelines:

<https://www.cdafoundation.org/education/perinatal-oral>



AAPD Recommendations



- Every expectant mother should receive a comprehensive oral evaluation from a dentist.
- Radiographic assessment and treatment of oral conditions should be performed with attention to maternal and fetal safety and patient safety.
- Parents/caregivers must establish a dental home for infants by 12 months of age.

American Academy of Pediatric Dentistry Council on Clinical Affairs. "Guidelines on perinatal oral health care." *Pediatr Dent* 32.6 (2011): 109-13.

Perinatal Oral Health Diseases:

Sustaining normal conditions/oral health
Specialized conditions related to pregnancy

Periodontal Disease – (Soft tissue)

- Impact of pregnancy on periodontium
- Potential impact on pregnancy outcomes



Dental Caries – (Hard tissue)

- Impact on mother
- Myths about dental caries and pregnancy
- Transmission of disease to the child



Topics Include:

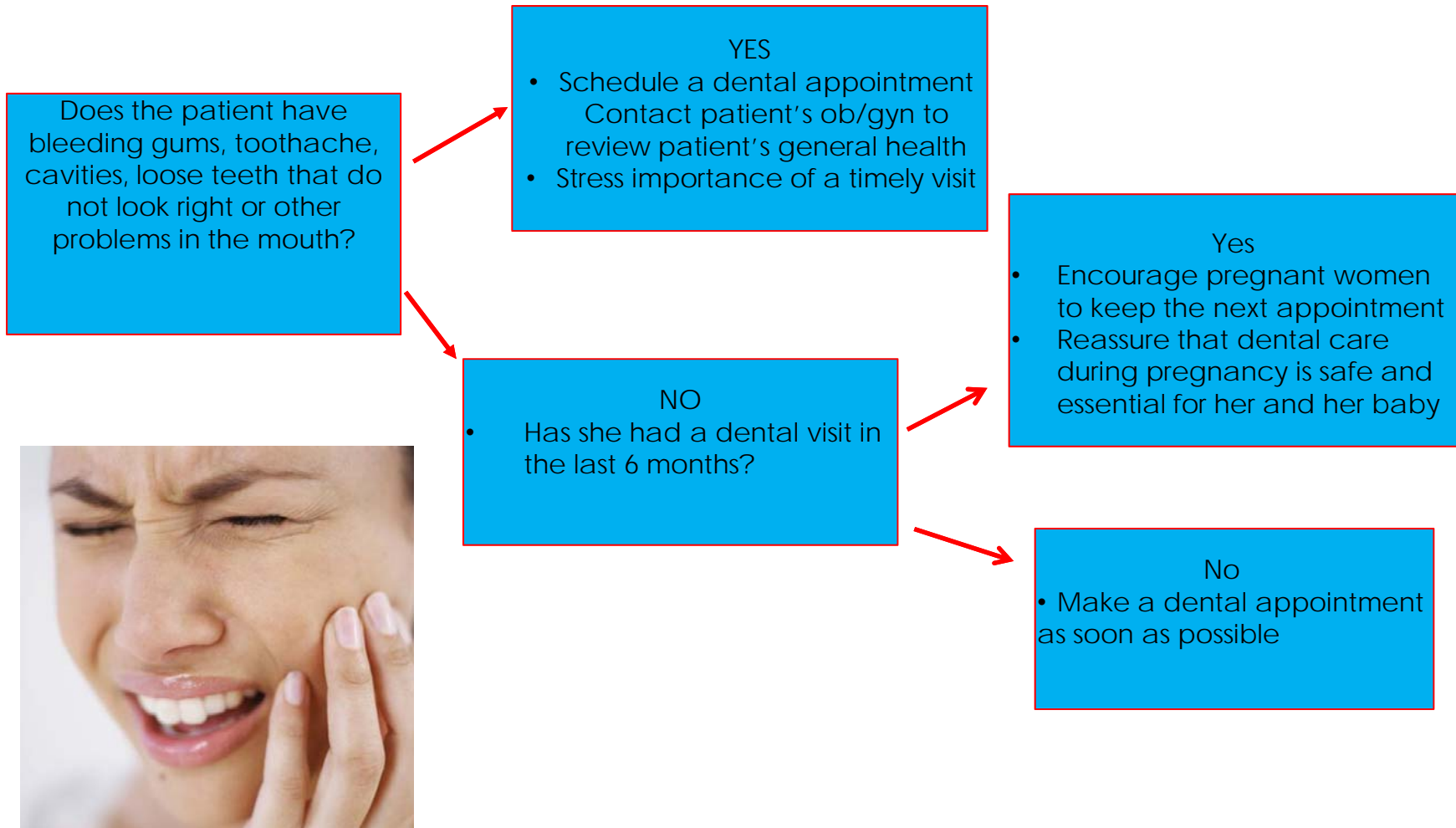
- Physiologic changes in pregnancy
- Safe medications
- Radiation safety
- Chair positions
- Oral complications
- Prevention for mother & infant



To Treat or **Not** to Treat?



What to do when a pregnant patient visits your practice:



Best Time to Treat

- **2nd Trimester is ideal**

- 1st trimester : avoid using medications that may affect fetal growth & development
- 3rd trimester: difficult for mom to lay for extended period due to possibility of supine hypotension
- Routine procedures (cleanings, fillings) are safe and encouraged!
- Dental emergencies always need to be addressed!
 - Extractions
 - Root canals



Physiology

Hormonal changes are a major occurrence

- Gums easily swell, bleed, and trap food
- Morning sickness → vomiting → acid erosion
- Food cravings → unbalanced diet



Physiology

Supine Hypotensive Syndrome

- Definition: decrease in BP when pt. in supine position
- Timing: usually in 3rd trimester (8-15%) when occurs
- Etiology: compression of inferior vena cava and aorta
- Symptoms: characterized by pallor, tachycardia, sweating, nausea, hypotension and dizziness when a pregnant woman lies on her back and this resolves when she is turned on her side.
- The aorta and inferior vena cava are central vessels, the largest artery and vein.



Prevention of Supine Hypotensive Syndrome

Figure 2

SUPINE HYPOTENSION SYNDROME



VENA CAVA & AORTA
COMPRESS BY FETUS



COMPRESSION RELIEVED BY
TILTING PATIENT ON LEFT SIDE

Complications of Pregnancy

- Gestational Diabetes
 - Associated with greater risk of gum disease
 - Increased risk of infection in mother
 - Larger babies
- Preeclampsia
 - High blood pressure and organ dysfunction (proteinuria)
 - $> 140/90$ mmHg can be hypertensive
 - >30 mmHg increase in systolic and >15 mmHg increase in diastolic pressure
 - Can lead to eclampsia, associated with seizures or coma



Complications of Pregnancy

- Preterm Low Birth Weight
 - Women with gum disease have 4-7 times the risk of having preterm baby
- Miscarriage
 - Caused by severe genetic abnormalities
 - Acute fever or sepsis may also cause → must treat tooth infections or gum disease
- Occur more often to mothers who:
 - Harbor pathogens (orally and extra-orally)
 - Smoke
 - Non-whites





Safe Medications

- FDA Pregnancy Risk Category:
 - A/B → safe to use during pregnancy
 - C → use with caution
 - D/X → avoid



Safe Medications

**When prescribing
pharmacological
drugs take into
consideration the
following table...**

Safe Medications (Category B)

Drug Category	Specific Drugs
Local Anesthetic	Lidocaine with epi Prilocaine
Analgesics – Non Narcotic	Acetaminophen (Tylenol)
Antibiotics	Cephalosporins Clindamycin Penicillins Metronidazole Azithromycin
Antivirals	Famciclovir Valcyclovir
Antifungals	Nystatin (B/C)
Corticosteroid	Prednisone

Mediations to Use with Caution (Category C) or Avoid (Category D)

Drug Category	Specific drugs
Local Anesthetic	Articaine Bupivacaine Mepivacaine
Analgesics – Non-Narcotic	Ibuprofen → delayed labor Aspirin → postpartum hemorrhage
Analgesics – Narcotic	Codeine → Neonatal Hydrocodone → Respiratory Oxycodone → Depression
Antibiotics	Fluoroquinolones Tetracycline → tooth discoloration, inhibits bone formation
Antivirals	Acyclovir
Antifungals	Fluconazole
Sedative – Hypnotics	Barbituates (D) Benzodiazepines (D)

Precautions with the Use of Nitrous Oxide

- During pregnancy, oxygen consumption increases and functional and lung capacity decreases. This causes oxygen reserve to decrease and pregnant women may develop hypoxia and hypercapnia.
- In addition, airway management can be difficult in pregnant women due to weight gain, increased chest wall diameter, breast enlargement, and laryngeal edema.



Use of Nitrous Oxide

- When used alone for mild to moderate sedation, nitrous oxide does not depress ventilation.
- When nitrous oxide is combined with sedatives or opioids a more pronounced and depression may result.
- Prolonged dental treatments and nitrous oxide exposure should be avoided
- Prior to planned use of nitrous oxide/oxygen **consult** with your patient's obstetrician specialist to check for any pulmonary concerns and other health concerns



Nitrous Oxide (Laughing Gas)

- Helps patient relax for dental procedure
- Single, short-term exposure (<30 min) is considered safe for pregnant mother
 - At least 50% Oxygen at all times
 - Use 100% Oxygen after procedure is completed for 5 minutes
 - Safer during 2nd and 3rd trimesters
- **BUT**, chronic exposure is associated with miscarriage and reduced fertility



Radiation Safety

- Dental Radiographs
 - ✓ Use when necessary for diagnosis and treatment
 - ✓ Use two **lead aprons** with **thyroid collar**
 - ✓ Fetus is most sensitive from 2-8 weeks
 - ✓ Advances in technology have minimized exposure to patients



Comparative Radiation Exposure

Radiation	Dosage (<u>millirem, mrem</u>)
Digital Dental X ray	0.1
Conventional Dental X ray	0.5
Full mouth X rays	15
Chest X ray	8
Radiation from space in Denver, CO per year	51
Average natural radiation in US per year)	300
Lower Gastrointestinal Tract	406

X-Ray Comparisons

Dental X-Ray Radiation Comparison

Ionizing Radiation Source	Exposure in <u>millirems</u>	Equivalent # of Low Dose Digital Dental X-Rays
CT Scan	1100	12,200
Mammogram	500 - 1000	5,500 - 11,000
Annual Background Radiation	360	4000
Chest X-Ray	10 - 40	100 - 400
Daily Exposure from Nature	0.98	10
Traditional Dental X-Ray	0.95	10
Airline Flight (per hour)	0.3 - 0.9	3-10 per hour of flight
Our Digital Dental X-Ray	0.09	1

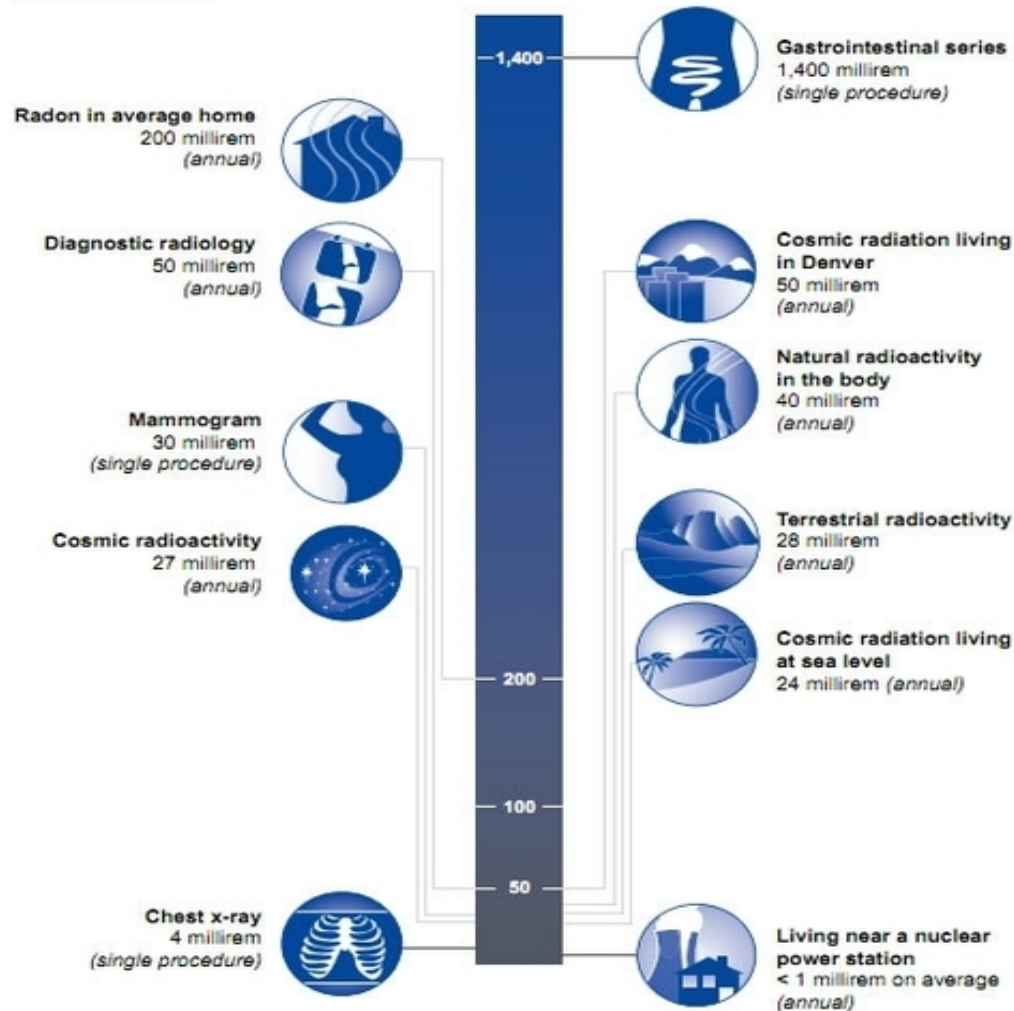
Radiation in our Environment

- Eating Bananas
- Living in a brick house
- Radon present in our homes
- Smoking
- Cosmic radiation from space



Radiation in our Environment

RELATIVE DOSES FROM RADIATION SOURCES
Millirem Doses



Chair Positions

Getting your Patient Comfortable is the KEY!!

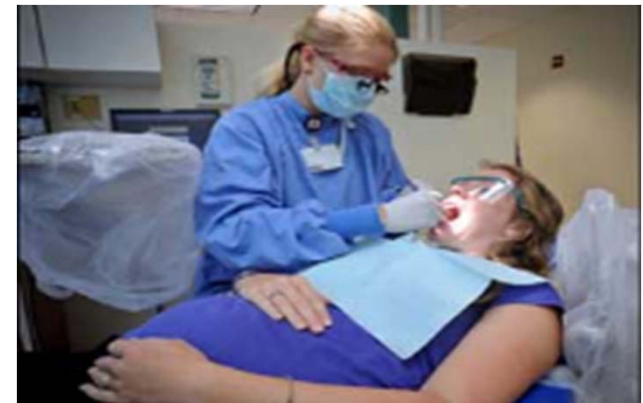
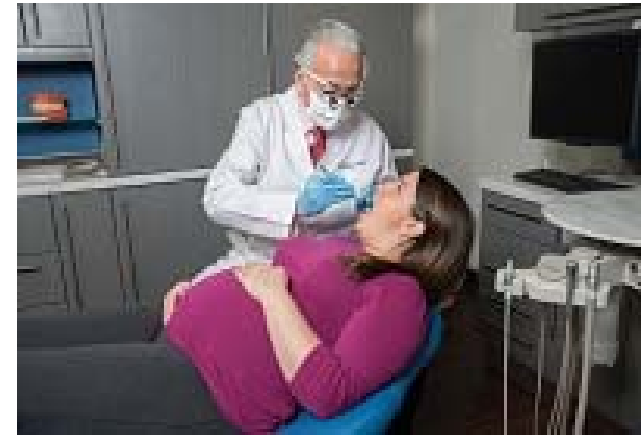


Positioning the Pregnant Patient

- Supine hypotensive syndrome occurs in ~ 15% or less of pregnant women.
- This can be avoided by placing the patient in a **semi-reclined position**, encouraging frequent position changes, and/or by placing a pillow or folded blanket under either hip to prevent the uterus from pressing on the aorta and inferior vena cava.



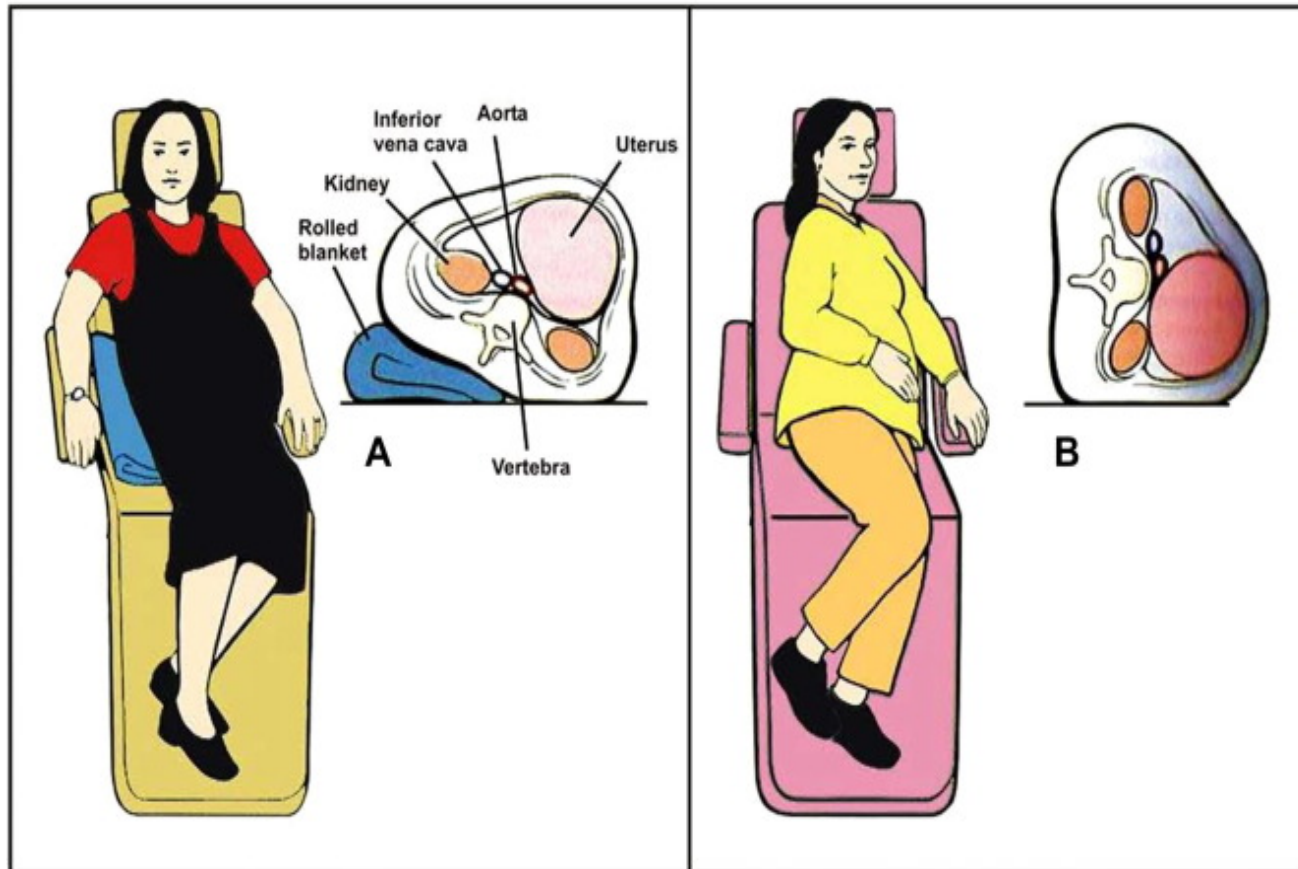
Chair Positions



Chair Positions



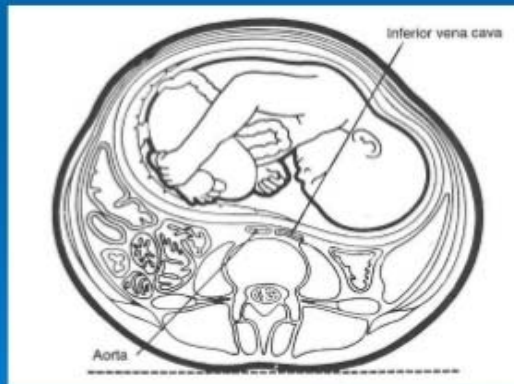
Comfort/Prevention of Supine Hypotensive Syndrome



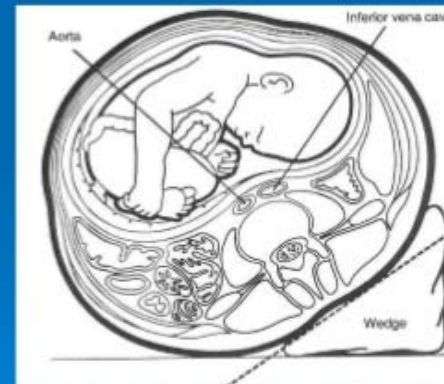
Comfort/Prevention of Supine Hypotensive Syndrome



Pt in supine position
NOTE: compressed
inferior vena cava and
aorta



Pt positioned with pelvic tilt
NOTE: compression relieved
on
the inferior vena cava and
aorta



Elvis Presley

was obsessed
with brushing
his teeth.

(<http://facthut.com>)



**Oral Health
recommendations
for pregnant
women**

Why do pregnant women need to visit a dentist during pregnancy?

- Acid Erosion
- Immunocompromised status
- Pregnancy gingivitis
- Periodontal disease
- Reduction of pain
- Transmissibility of disease
- Establish good oral hygiene
- Medicaid coverage



Visiting the Dentist During Pregnancy

- Important to receive a caries risk assessment
- Dentist might recommend use of chlorhexidine or xylitol as appropriate, after the baby is born



Visiting the Dentist During Pregnancy

- Limit sugary foods and drinks, brush twice a day with fluoridated toothpaste, flossing once daily, and schedule dental visits twice a year.
- Pregnancy is a unique time when women may gain access to oral health coverage.



Ramos-Gomez FJ. Into the Future: Pediatric CAMBRA Protocols. J Calif Dental Assoc 2010; 38(10): 746-761.

DO NOT DELAY DENTAL TREATMENT !

- Extractions, root canals, and restorations (amalgam or composite) of untreated caries, may be managed at any time during pregnancy.
- Delaying treatment may result in more complex problems.



Oral Complications

Pregnancy Gingivitis

- Hormonal changes can exacerbate gingivitis and gum disease
- Progesterone levels can enable certain bacteria to grow and make gums more sensitive to plaque → exaggerated inflammatory response
- Gums are puffy, red, tender
- Prevention through hygiene



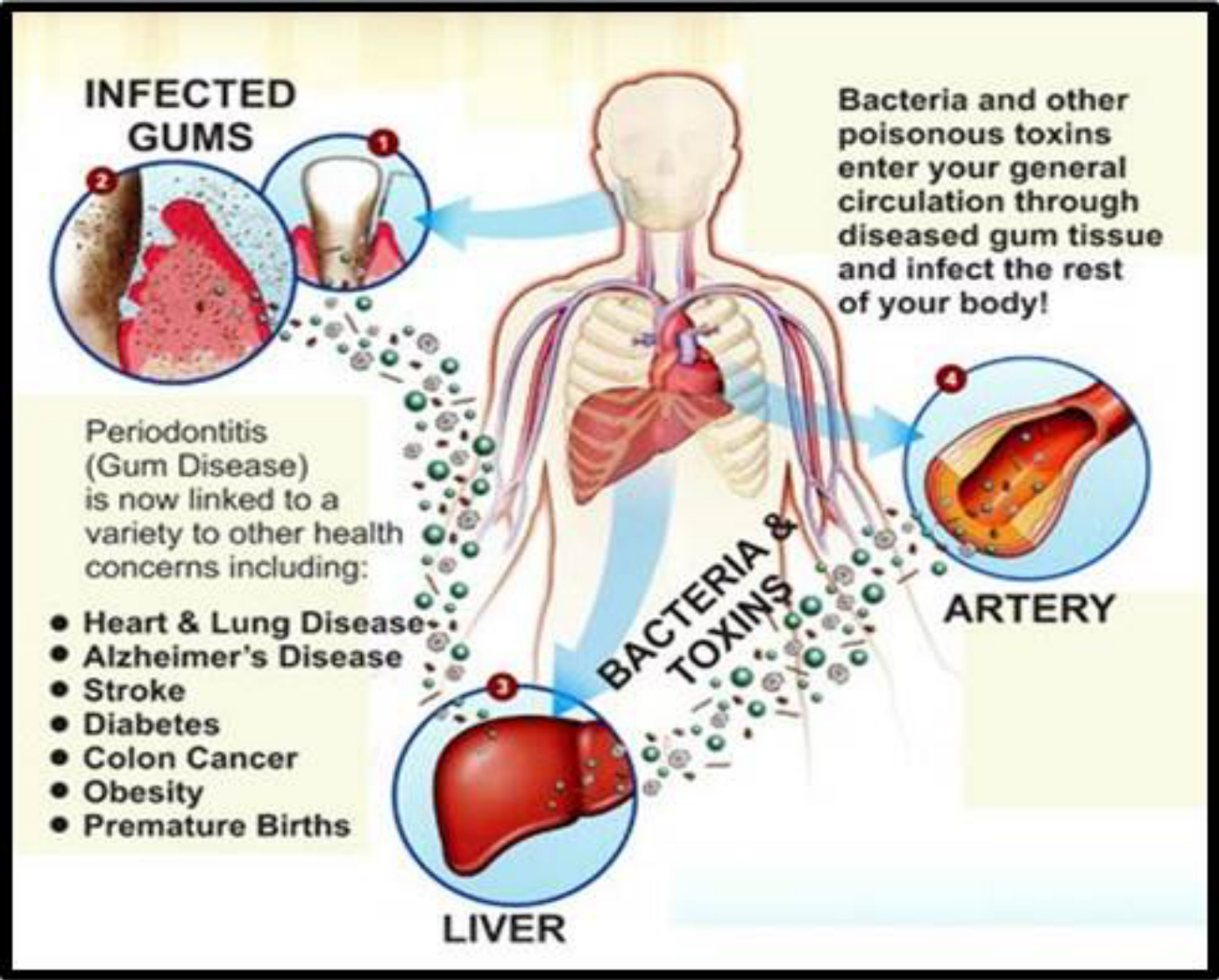
Oral Complications

Pregnancy Tumor

- Also known as pyogenic granuloma
- NOT cancerous
- Most common in 2nd trimester and will go away after birth
- Puffy red lesion, bleeds easily
- Commonly located between two teeth
- Caused by poor oral hygiene
- Treated by removing plaque/tartar
- Can be surgically removed by dentist if persistent → may come back if hygiene doesn't improve



Periodontal Disease Can Affect your Heart & Body



Prevention

- Balanced diet, including prenatal vitamins
- Communicate with dentist that you are pregnant
- Keep legs uncrossed while laying in dental chair
- Prevention is key!



Prevention

- Maintain brushing 2x/day and flossing daily
- 2 minutes per brushing session
- Fluoride mouth rinse
- Women may have hypersensitive gag reflex
 - After vomiting, rinse with baking soda + water to reduce acid erosion
 - Brush teeth 30 min later



Preventing Tooth Erosion

- For patients with vomiting secondary to morning sickness, hyperemesis gravidarum, or gastric reflux during late pregnancy, the use of antacids or rinsing with a baking soda solution (1 teaspoon of baking soda dissolved in 1 cup of water) may help neutralize the associated acid.



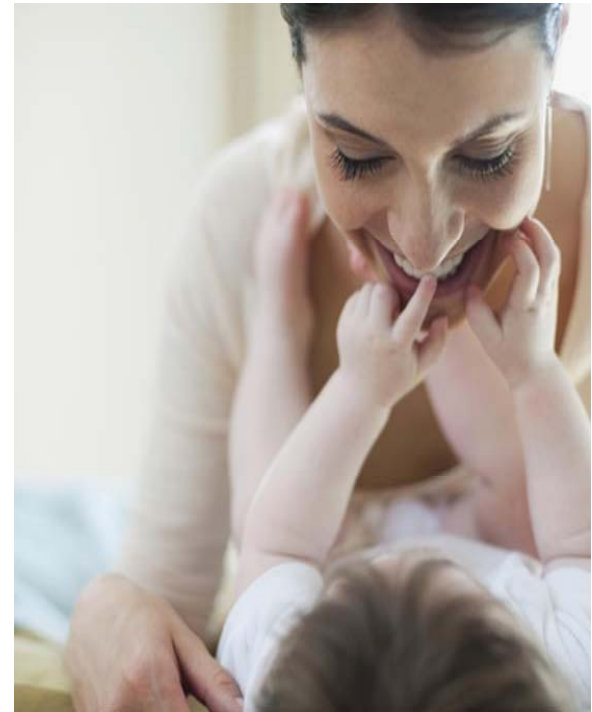
Oral Care for Infant

- Introduce child to dentist before age 1
- Every 6 months after that
- Use washcloth with water to clean gums after eating
- Don't share spoons with your child
 - Vertical transmission – cavity-causing bacteria can be easily transferred from mother to child (Mutans Streptococci)
- Use water only in baby bottle/sippy cup at night
- Dilute juices with water



Transmission

- Vertical transmission
- Source is usually mother
- Fidelity is $> 70\%$
- Transmission may occur at birth, but MS reside in low numbers in reservoirs such as tonsils or dorsum of the tongue
- Horizontal \rightarrow sibling



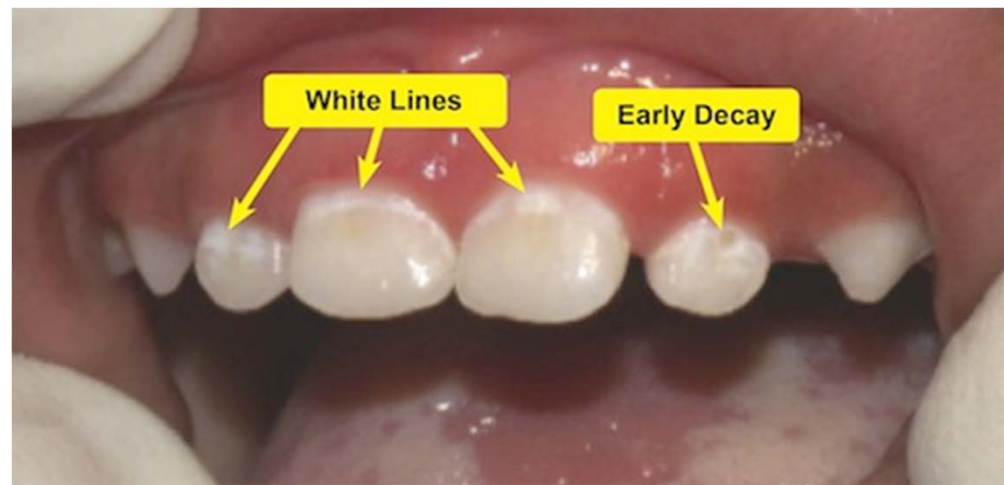
Early Childhood Caries (ECC)

- Occurs when baby uses bottle at night that contains juices, formula, or milk (all containing sugar)
- Baby produces less saliva when sleeping
- May cause early tooth loss
 - Inability to eat or speak properly
 - Crooked teeth
 - Less space maintained for adult teeth → crowding



White Spot Lesions

- Signs of early decay and indicated high risk of cavities
- Occurs when teeth are decalcifying due to chronic exposure to plaque bacteria and acid



Fluoride Usage

- When teeth erupt, use small toothbrush to brush teeth 2x/day with a **smear** of toothpaste (rice grain)
- From age 3-6 years, use a **pea** size amount
- Monitor child to make sure he/she does not eat the toothpaste!



Dental Home

- **DEFINITION**

Dental home is an ongoing relationship between the dentist and patient inclusive of all aspects of oral health care delivered in a comprehensive, continuously accessible, coordinated, and family centered way. Establishment of a dental home begins no later than 12 months of age and includes referral to dental specialists when appropriate.



American Academy of Pediatric Dentistry, AAPD Ref. Manual 2016-7; 38(6): 25-27.

Questions? Comments?

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THANK YOU



**THANK YOU VERY
MUCH**

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