Pregnancy & Dental Treatment

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Pregnancy and Dental Treatment

- **When I was a child I was told by my mother that women lose teeth when they are pregnant due to the baby using up their nutrients. Much to my surprise she was wrong!**

- **Women undergo some pretty amazing changes while being pregnant, but tooth loss should not one of them. There is no histologic, chemical, or radiographic evidence to support pregnancy causing calcium resorption within teeth that would lead to tooth loss.**

- **There are some biologic changes that may lead to an increased risk of dental infection, such as; increase in appetite, increase in cravings for unusual food, acid erosion of teeth (morning sickness / esophageal reflux), xerostomia (dry mouth), and hormonal / vascular changes that may exaggerate an inflammatory response.**

- Women's Oral Health Issues, ADA, Nov. 2006; p. 3 **- 5**

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- The main reasons for tooth loss are associated with lack of oral hygiene and routine dental treatment.
- **Preventive dental treatment such as cleanings and annual exams are necessary and safe. These are needed in order to avoid oral infections such as gingivitis (inflammation of gums), periodontitis (gum disease), dental caries, and especially abscesses of a dental or periodontal origin.**
- **Dental and Periodontal infections lead to bacteria being released into the blood supply which may effect the health of the mother and unborn child. Preventing oral infections from escalating to this level is essential to maximizing health for both mother and unborn child.**
- **Periodontal disease has been shown to have a strong correlation with preterm delivery.**

Exploring the relationship between periodontal disease & pregnancy comp. JADA. Vol. 137, no suppl_2, 7s-13s.

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- Once a year dental exam is recommended. Routine radiographs (x-rays) are usually taken during the annual exam but minimizing the amount of radiographs for pregnant patients is important. Some providers may only take bitewings while others may postpone radiographs until the full term of the pregnancy. All radiographs, unless medically emergent, should be postponed during the first trimester. Providers must use their best judgment to decide which radiographs are deemed necessary, elective, and emergent.

  If radiographs are necessary due to a dental emergency, the dental provider should use caution to safeguard the patient and the baby. According to the American College of Radiology, no single diagnostic x-ray has a radiation dose significant enough to cause adverse effects in a developing embryo or fetus.

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- Fetal organ development occurs during the first trimester; it is best to avoid all potential risks at this time if possible.

- If dental work is done during pregnancy, the second trimester is ideal and the beginning half of third trimester is good as well. Once the pregnant patient reaches the third trimester, it may be very difficult to lie on her back for an extended amount of time. Short appointments and a pillow to place behind the patient's back in order to turn the patient on her left side are necessary to avoid supine hypotensive syndrome. This syndrome may occur due to the fetus placing pressure on the mothers vena cava thus decreasing the blood flow to the pelvic area and lower extremities of the mother, decreasing patient blood pressure and ultimately causing loss of consciousness.

- Dental emergency treatments such as root canals, tooth extractions, and severe periodontal infections should be addressed at time of the infection occurrence during the pregnancy. (root canals may be started and have the completion postponed until 2nd trimester.)

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- Pregnant women can receive some local anesthetics if dental treatment is necessary, though most dentists recommend postponing elective dental treatment.
- Lidocaine is the most commonly used drug for dental work. Lidocaine (Category B) does cross the placenta after administration. So use as little as necessary to anesthetize the patient and make her comfortable. Always make sure to aspirate when administering the anesthesia in order to prevent unwanted anesthesia from entering the blood supply.
- Elective treatments, such as cosmetic procedures, should be postponed until after the birth. It is best to avoid exposing the developing baby to any unnecessary risks.

Radiology Concerns

- **Many providers are worried about complications assoc. with radiographs. This is a valid concern, and providers should be concerned with the amount of radiographic exposure their pregnant patients are receiving.**

- **The case control study that was referenced by JADA in the "Radiography and Low Birth Weight" article stated that they attributed an association of term low-birth-weight to dental radiography. "The study specifically identifies low level exposure to the thyroid gland as the potential etiology for low birth weight, since the hypothalamus-pituitary-thyroid "axis" is significantly involved during pregnancy." This is the thyroid gland of the mother of course and not the fetus.**

- **The reference article also stated that the fetus was not exposed with radiographic exposures of .1mGy – higher then .4mGY when proper radiographic aprons where being used, only the mother. They did find a strong association for term low-birth-weight with exposures higher then .4 mGy. Pointing back at the thyroid exposure of the mother.**

Radiology Concerns

- **In conclusion, the report on the case study mentioned that it would be better to defer "elective" radiographs until after the pregnancy has come to term. The very last statement made by the authors read as follows, "They (providers) should not let fear and uncertainty prevent them from ordering appropriate diagnostic radiographs when the patient's dental care needs dictate for proper dental care."**

- **So key points to remember about radiography are:**
  - **Only perform medically emergent radiographs in the first trimester.**
  - **Defer all elective radiographs until after the pregnancy term has been completed.**
  - **Only take necessary radiographs during the second and beginning half of the third trimester.**
  - **Always use precautions to minimize any exposure by using proper radiographic aprons, thyroid collars, high-speed films, collimation, and filtration.**

Radiography and low birth weight, JADA, vol. 135, no. 7, 850-853

FDA CLASSIFICATION SYSTEM

- The following table represents the five-category system used by the FDA to classify drugs based on their potential for causing birth defects.
- A. Controlled studies in women fail to demonstrate a risk to the fetus in the first trimester (and there is no evidence of a risk in later trimesters), and the possibility of fetal harm appears remote.
- B. Either animal-reproduction studies have not demonstrated a fetal risk but there are no controlled studies in pregnant women or animal-reproduction studies have shown an adverse effect (other than a decrease in fertility) that was not confirmed in controlled studies in women in the first trimester (and there is no evidence of a risk in later trimesters).
- C. Either studies in animals have revealed adverse effects on the fetus (teratogenic or embryocidal, or other) and there are no controlled studies in women or studies in women and animals are not available. Drugs should be given only if the potential benefit justifies the potential risk to the fetus.
- D. There is positive evidence of human fetal risk, but the benefits from use in pregnant women may be acceptable despite the risk (e.g., if the drug is needed in a life-threatening situation or for a serious disease for which safer drugs cannot be used or are ineffective).
- X. Studies in animals or human beings have demonstrated fetal abnormalities, or there is evidence of fetal risk based on human experience, or both, and the risk of the use of the drug in pregnant women clearly outweighs any possible benefit. The drug is contraindicated in women who are or may become pregnant.

DRUG	FDA CATEGORY (prescription drug)	DURING PREGNANCY	DURING BREASTFEEDING
Local Anesthetics*			
Lidocaine	B	Yes	Yes
Mepivacaine	C	Use with caution; consult physician	Yes
Prilocaine	B	Yes	Yes
Bupivacaine	C	Use with caution; consult physician	Yes
Etidocaine	B	Yes	Yes
Procaine	C	Use with caution; consult physician	Yes

*can use vasoconstrictors if necessary

**avoid prolonged use

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DRUG	FDA CATEGORY (prescription drugs)	DURING PREGNANCY	DURING BREASTFEEDING
ANALGESICS			
Aspirin	C/D 3rd trimester	Caution; avoid in 3rd trimester	Avoid
Acetaminophen	B	Yes	Yes
Ibuprofen	B/D 3rd trimester	Caution; avoid in 3rd trimester	Yes
Codeine **	C	Use with caution; consult physician	Yes
Hydrocodone **	B	Use with caution; consult physician	No Data
Oxycodone **	B	Use with caution; consult physician	Yes
Propoxyphene	C	Use with caution; consult physician	Yes

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DRUG	FDA CATEGORY (prescription drug)	DURING PREGNANCY	DURING BREASTFEEDING
Antibiotics			
Penicillins	B	Yes	Yes
Erythromycin	B	Yes; avoid estolate form	Yes
Clindamycin	B	Yes	Yes
Cephalosporins	B	Yes	Yes
Tetracycline	D	Avoid	Avoid
Metronidazole	B	Avoid; controversial	Avoid
Sedative-hypnotics			
Benzodiazepines & Barbiturates	D	Avoid	Avoid
Nitrous oxide	Not assigned	Avoid in 1st Trimester; otherwise use with caution; consult physician	Yes

Women's Oral Health Issues, ADA, Nov. 2006; p. 30

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