ADA American Dental Association®
America's leading advocate for oral health

Oral Health Topics

Pregnancy

Key Points

- Preventive, diagnostic and restorative dental treatment is safe throughout pregnancy.
- Local anesthetics with epinephrine (e.g., bupivacaine, lidocaine, mepivacaine) may be used during pregnancy.
- Special considerations should be given to pregnant dental personnel whose job duties can involve direct exposure to nitrous oxide and radiation.

Introduction

Oral health care, including having dental radiographs taken and being given local anesthesia, is safe at any point during pregnancy.[1, 2] Further, the American Dental Association and the American Congress (formerly "College") of Obstetricians and Gynecologists agree that emergency treatments, such as extractions, root canals or restorations can be safely performed during pregnancy and that delaying treatment may result in more complex problems.[1, 2]

When treating pregnant patients, it might be helpful to reach out to the obstetrician to develop a working relationship should consultation be needed later. Questions you might ask include[3]:

- When is the expected delivery date?
- Is this a high-risk pregnancy? If so, are there any special concerns or contraindications?
- Is there a recommended medication for pain control?

Oral Health Conditions During Pregnancy

During pregnancy, several oral health conditions are more common:

- *Gingivitis* may result from hormonal changes that exaggerate the response to bacteria in the gum tissue[3]
- *Dental caries* may occur due to changes in diet such as increased snacking due to cravings, increased acidity in the mouth due to vomiting, dry mouth or poor oral hygiene stemming from nausea and vomiting.[1, 3]
- *Pyogenic granuloma* (aka. *Granuloma gravidarum*) is a round growth, usually connected to the gingivae by a thin cord of tissue, that may develop due to hormonal changes.[4, 5]
- *Erosion* stemming from vomiting as a result of morning sickness may be detected.[4] Patients should be encouraged to avoid toothbrushing immediately after vomiting, which exposes the teeth to stomach acids. Instead, they should opt for rinsing with a diluted solution of 1 cup water and 1 teaspoon of baking soda to neutralize the acid.[4]

Due to the increased risk of gingivitis and caries, the importance of good daily oral hygiene should be emphasized to these patients. Brushing twice a day with a soft-bristled brush for two minutes, using a fluoride-containing toothpaste, and cleaning between the teeth once a day should be encouraged. If it is determined that a topical fluoride treatment is needed to minimize the effects of erosion, fluoride varnish may be

preferred over gel treatments due to nausea.[6]

Periodontitis and Adverse Pregnancy Outcomes

Much has been written in recent years about the relationship between maternal periodontitis and pregnancy outcomes. While findings of individual studies have been mixed, an overview of 23 systematic reviews conducted through 2016 concluded that associations exist between periodontitis and pre-term birth, low birthweight babies, low birthweight babies born prematurely and the development of pre-eclampsia.[7]

More research is needed to determine the relationship between periodontitis and pregnancy outcomes, however, should periodontitis develop during pregnancy, scaling and root planing is recognized as safe to perform.[1, 3]

Medication Use

Medication Safety Labeling

Historically, manufacturers have relied on an alphabetical system to communicate the safety of medications for use with pregnant patients (Table). In 2015, the U.S. Food & Drug Administration began phasing out that system for prescription drugs, replacing it with a narrative section in the package insert that discusses the benefits and risks of using a particular medication with this population.[8] The new system will be phased-in, with a full compliance date of 2020.

The alphabetical system (Table) will continue to be used for over-the-counter medications[9].

Table. Pregnancy Risk Categories[10]

Category A	Controlled studies show no risk
	No evidence of risk in humans • Adequate well-controlled studies in pregnant women have not shown increased risk of fetal

Category B	abnormalities despite adverse findings in animals. OR • In the absence of human studies, animal studies showed no fetal risk. The chance of fetal harm is remote but remains a possibility.
Category C	**Risk cannot be ruled out** • Adequate well-controlled human studies are lacking, and animal studies have shown a risk to the fetus or are lacking as well. There is a chance of fetal harm if administered during pregnancy, but the potential benefits may outweigh the potential risk.
Category D	**Positive evidence of risk** • Studies in humans, or investigational or post-marketing data, have demonstrated fetal risk. Nevertheless, potential benefits from use of this drug may outweigh the potential risk. For example, the drug may be acceptable if needed in a life-threatening situation or serious disease for which safer drugs cannot be used or are ineffective.
Category X	**Contraindicated in pregnancy** • Studies in animals or humans, investigational or post-marketing reports, have demonstrated positive evidence of fetal abnormalities or risk that clearly outweighs any possible benefit to the patient.

Medication Selection

Questions about the local anesthetics or antibiotics used in dentistry are common. Options considered safe for use in these situations include:

- *Local anesthesia (with or without epinephrine)*[1, 11, 12]
- *Antibiotics*[11, 12, 13]
  - Penicillin
  - Amoxicillin
  - Cephalosporins
  - Clindamycin
  - Metronidazole

Use of other medications calls for consultation with the patient's obstetrician to weigh risks and benefits. An example of a situation that may benefit from consultation is pain relief. Several analgesics have been placed in pregnancy Category B, which indicates that they are typically safe to use; however, in 2015, the U.S. Food & Drug Administration backed off that classification, stating that the published research is "too limited to make any recommendations" on pain reliever use in this population.[14] This suggests that decisions made about medications for pain relief should be arrived at after consultation with the obstetrician. That said, emergencies call for immediate implementation of standard emergency protocols.

Lactation

Questions often arise about medication use by patients who are lactating. Most medication product inserts have information related to use during lactation. The National Library of Medicine also provides a searchable database (LactMed) on this topic.

Nitrous Oxide

Nitrous oxide is classified as a pregnancy risk group Category C medication, meaning that there is a risk of fetal harm if administered during pregnancy. It is recommended that pregnant women, both patients and staff, avoid exposure to nitrous oxide.[15] The National Institute of Occupational Safety and Health (NIOSH), a federal agency affiliated with the Centers for Disease Control and Prevention, recommends use of a scavenging system and exposure limits of N_2O concentrations in dental operations to approximately 25 ppm during analgesia administration.[16]

Dental offices that use nitrous oxide-oxygen can review best management practices on the Nitrous Oxide page.

Radiographs

Radiographs are considered safe for the pregnant patient, at any stage during the pregnancy, when abdominal and thyroid shielding is used.[1]

Dental professionals who take radiographs should inform their employer in writing that they are pregnant as soon as they are aware of the pregnancy. The employee should be provided with a personal dosimetry badge and the manufacturer's instructions should be followed to ensure that the occupational radiation exposure does not exceed 0.5 millisieverts (mSv) per month.[17] Provision of dosimetry badges and limiting exposure to 0.5 mSv/month are recommendations for good practice; to determine whether there are related regulations in your state, contact your radiation protection program.

Summary

During pregnancy, women may be at increased risk for oral conditions such as gingivitis and

dental caries, and should be counseled by both their obstetrician and dentist on the importance of good oral hygiene throughout the pregnancy. Regular and emergency dental care, including the use of local anesthetics and radiographs, is safe at any stage during pregnancy.

References ›

ADA Resources ›

Other Resources ›

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