

# Oral Health During Pregnancy

Texas Oral Health Conference 2019

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**FĒNOM**

WOMEN'S CARE

Xx

COMPREHENSIVE. COMPASSIONATE.

POWERFUL. *All-female.*

# Discussion Goals

- Demystify pregnancy
  - Please don't be scared of pregnant patients!
- Discuss the impacts of oral health concerns on pregnancy, and pregnancy on oral health
  - Highlight safety issues for pregnant dental care providers
- Build collaboration between Dentists and OBGYNs

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Gian Carlo Di Renzo Dev Maulik

Covered in  
Index Medicus  
and MEDLINE

 Taylor & Francis  
Taylor & Francis Group

**Objective.** To compare the opinions of dentists, obstetricians, and patients on dental care in pregnancy: its necessity, accessibility, and safety.

**Methods.** A 35-item questionnaire was distributed within Ohio, to 400 patients and 1000 providers between October 2004 and July 2005. Univariate comparisons between dentists and obstetricians were made by Fisher's exact test. Adjustments for confounding were made through logistic regression models.

**Results.** Most providers rated prenatal dental screening as important, agreeing that poor dental hygiene related to adverse pregnancy outcomes. Although 84% of patients reported dental visits as safe only 44% received care; the main limitation was financial. Providers agreed that pregnant patients could undergo dental cleanings, caries treatments, and abscess drainage but disagreed regarding the safety of X-rays, periodontal surgery, amalgam, and narcotic usage. In general, *obstetricians were more comfortable than dentists with procedures and medication usage but less often reported recommending routine prenatal dental care.*

**Conclusions.** Different respondent perceptions exist regarding the safety, accessibility, and necessity of prenatal dental treatments. Professional guidelines about oral health screening in pregnancy and the safety of dental procedures would benefit our patients and colleagues.

# Just Google it...

## [Pregnancy and Dental Work: Safety & Medications](#)

<http://americanpregnancy.org/pregnancy-health/dental-work-and-pregnancy/>

Mar 12, 2017 - **Pregnant woman** having **dental** work done ... Routine x-rays, typically taken during annual exams, **can** usually be postponed until after the birth. ... harm to the baby for those electing to **visit** the **dentist** during this time frame.

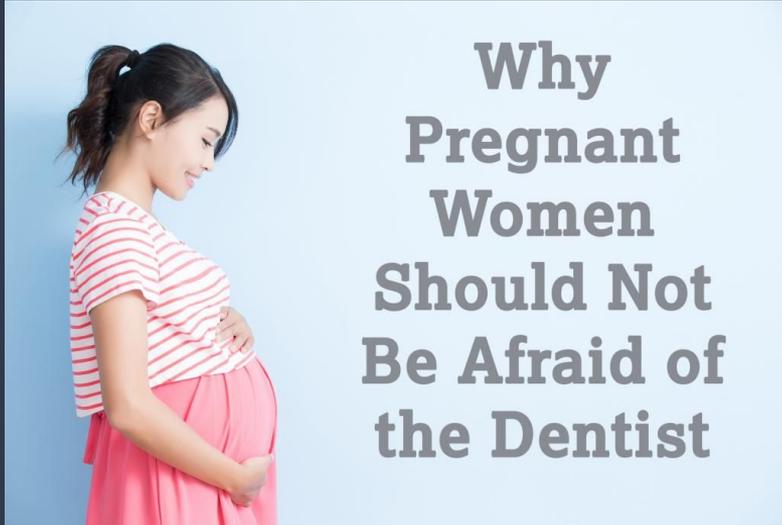
## [When to Visit the Dentist During Pregnancy | Oral-B](#)

<https://oralb.com/en-us/oral.../pregnancy/when-to-visit-dentist-during-pregnancy>

If you **go to the dentist** during your first trimester, tell your **dentist** that you're **pregnant** and have only a checkup and routine cleaning. If possible, postpone any major **dental** work until after the first trimester...

But also...

“Why Dentists Should Not Be  
Afraid of Pregnant Women!”





# Fear of pregnant people

- Many health care providers are leary of taking care of pregnant women
  - MDs who are not OBGYN
  - Dentists
  - Physical Therapists
  - Massage Therapists
  - Hairdressers
- Fear of hurting baby
- Fear of causing miscarriage
- Fear of litigation

But it's all OKAY!



# Pregnancy related oral health changes



# Changes to Oral Health with Pregnancy

- Pregnancy Gingivitis



# Changes to Oral Health with Pregnancy

- Benign oral gingival lesions
  - Pyogenic granulomas



# Changes to Oral Health with Pregnancy

- Tooth mobility



# Changes to Oral Health with Pregnancy

- Tooth erosion



# Changes to Oral Health with Pregnancy

- Caries



# Changes to Oral Health with Pregnancy

- Periodontitis



# Periodontal Disease and Pregnancy

- High prevalence of periodontal disease in pregnancy (40%)
- Risk factors
  - African American
  - Smokers
  - Medicaid

Why does it matter?



# Oral Health and Pregnancy Outcomes

- Preterm labor
- Low birth weight
- Preterm low birth weight
- Preeclampsia

# Oral Health and Pregnancy Outcomes

- Preterm Births
  - Several studies support association
  - Mechanism?
    - Bloodborne Gram - anaerobic bacteria
    - Inflammatory mediators
      - Lipopolysaccharides
      - Cytokines

# Oral Health and Pregnancy Outcomes

- Recent Meta-analysis show no benefit of periodontal therapy during pregnancy in reduction of preterm birth and LBW infants
- More research needed

If we can't fix it...

Why do we still  
care?

Pregnancy is a teachable moment



Medicaid coverage allows access to care

**Medicaid**



# Mom's oral health impacts babies oral health



# American Dental Association

ADA® | 160 YEARS



- Prevention, diagnosis, and treatment of oral conditions are SAFE during pregnancy
  - X-rays with shielding
  - Local anesthesia
  - Extractions
  - Root canals
  - Caries



# X-ray safety for pregnant patients

The ADA recommends the use of aprons and thyroid shields for pregnant patients

## 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



# X-Ray exposure in providers



- A pregnant worker can continue working in an X-ray department as long as there is reasonable assurance that the fetal dose can be kept below 1 mGy during the pregnancy.
- Dental professionals who take radiographs 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.

ADA®

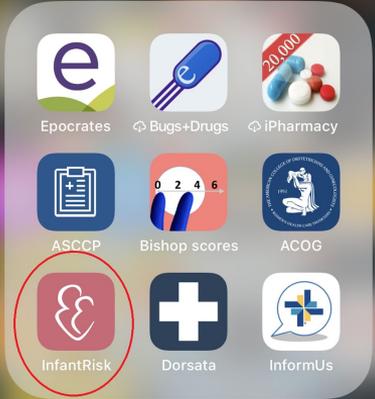
160  
YEARS

# Medications safety in pregnant patients

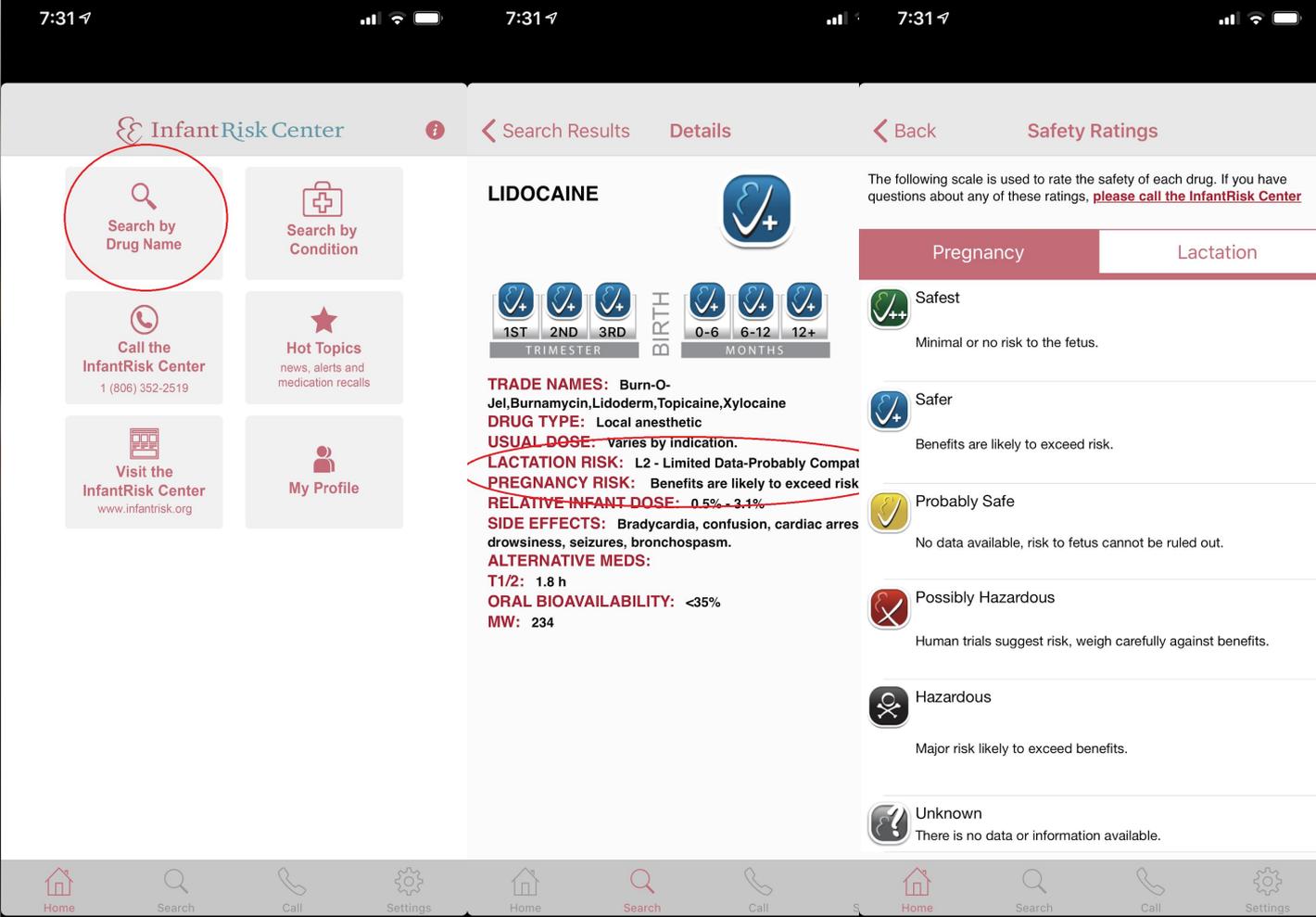
## FDA drug classification for pregnancy

- **Category A** = Controlled Studies in women fail to demonstrate a risk to the fetus in the first trimester and the possibility of fetal harm appears remote
- **Category B** = Animal studies show no risk, or if risk shown in animals, controlled trials in women showed no risk
- **Category C** = Studies in animals with adverse effects and no human studies, OR no animal or human studies, but benefits of use may outweigh potential harms
- **Category D** = There is evidence of human fetal risk, but benefits may outweigh risks
- **Category X** = Contraindicated

# Medical



A grid of medical-related app icons. The 'InfantRisk' icon, which features a stylized 'E' and a heart, is circled in red. Other icons include Epocrates, Bugs+Drugs, iPharmacy, ASCCP, Bishop scores, ACOG, Dorsata, and InformUs.



The app interface is split into two panels. The left panel is the 'InfantRisk Center' home screen, and the right panel shows search results for 'LIDOCAINE'.

### InfantRisk Center

- Search by Drug Name** (circled in red)
- Search by Condition
- Call the InfantRisk Center: 1 (806) 352-2519
- Hot Topics: news, alerts and medication recalls
- Visit the InfantRisk Center: www.infantrisk.org
- My Profile

### Search Results: LIDOCAINE

**TRADE NAMES:** Burn-O-Jel, Burnamycin, Lidoderm, Topicaine, Xylocaine  
**DRUG TYPE:** Local anesthetic  
**USUAL DOSE:** varies by indication.  
**LACTATION RISK:** L2 - Limited Data-Probably Compatible  
**PREGNANCY RISK:** Benefits are likely to exceed risk  
**RELATIVE INFANT DOSE:** 0.5% - 3.1%  
**SIDE EFFECTS:** Bradycardia, confusion, cardiac arrest, drowsiness, seizures, bronchospasm.  
**ALTERNATIVE MEDS:**  
**T1/2:** 1.8 h  
**ORAL BIOAVAILABILITY:** <35%  
**MW:** 234

**Safety Ratings:**

Pregnancy	Lactation
<b>Safe</b> Minimal or no risk to the fetus.	
<b>Safer</b> Benefits are likely to exceed risk.	
<b>Probably Safe</b> No data available, risk to fetus cannot be ruled out.	
<b>Possibly Hazardous</b> Human trials suggest risk, weigh carefully against benefits.	
<b>Hazardous</b> Major risk likely to exceed benefits.	
<b>Unknown</b> There is no data or information available.	

# Analgesics

- Ok any trimester:
  - Tylenol
  - Tylenol + codeine
  - Tylenol + hydrocodone
  - Tylenol +oxycodone
  - Codeine
  - Meperidine
  - Morphine
- Ok 2nd Trimester
  - Aspirin
  - Ibuprofen
  - Naproxen

# Antibiotics

- OK any trimester
  - Amoxicillin
  - Cephalosporins
  - Clindamycin
  - Metronidazole
  - Penicillin
  
- NOT OK EVER
  - Ciprofloxacin
  - Clarithromycin
  - Levofloxacin
  - Moxifloxacin
  - tetracycline
  -

# Anesthetics

- Local anesthetics with epinephrine: OK ANY TRIMESTER
  - Bupivacaine
  - Lidocaine
  - Mepivacaine
- Nitrous Oxide (30%)
  - May be used during pregnancy when topical or local anesthetics are inadequate
  - National Maternal and Child Oral Health Resource Center, Georgetown University. Oral health care during pregnancy: a national consensus statement. Oral Health Care During Pregnancy Expert Work Group. Washington, DC: OHRC; 2012

# Nitrous for pregnant patients

Used for labor analgesia  
since 1800's

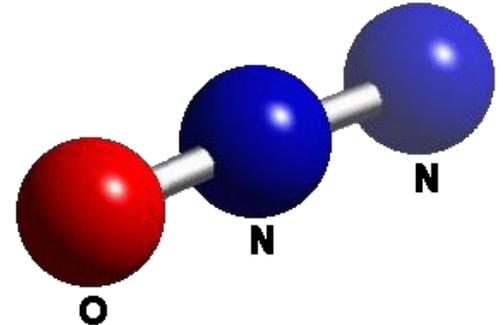


# Why the hubbub?



- N<sub>2</sub>O can affect DNA production
  - Effects are questionable
  - Animal studies only
  - Heterogeneous data
  - Data is not applicable to humans
- Evidence exists for
  - genomic alterations and instability
  - Cytotoxicity
  - Proliferative changes
- Clinical significance remain in debate

## NITROUS OXIDE



So...

You're telling me  
Nitrous is SAFE?

- We know safe in labor
- Would avoid 1st trimester
- Extrapolate ok in 2nd trimester

# Nitrous exposure in pregnant dental providers

## Concern for miscarriage

- Increased risk of SAB
  - Early studies only
  - Pre-scavenging era
  - American Society of Anesthesiologists Task Force: “No data suggesting that waste anesthetic gases are a danger to those women contemplating pregnancy or who are already pregnant.”
- Risk likely ameliorated by exposure control

-Best Practice & Research  
Clinical Anaesthesiology 32 (2018) 113-123

I'm pregnant,  
I'm uncomfortable,  
I'm crabby...

...were you about  
to say something?

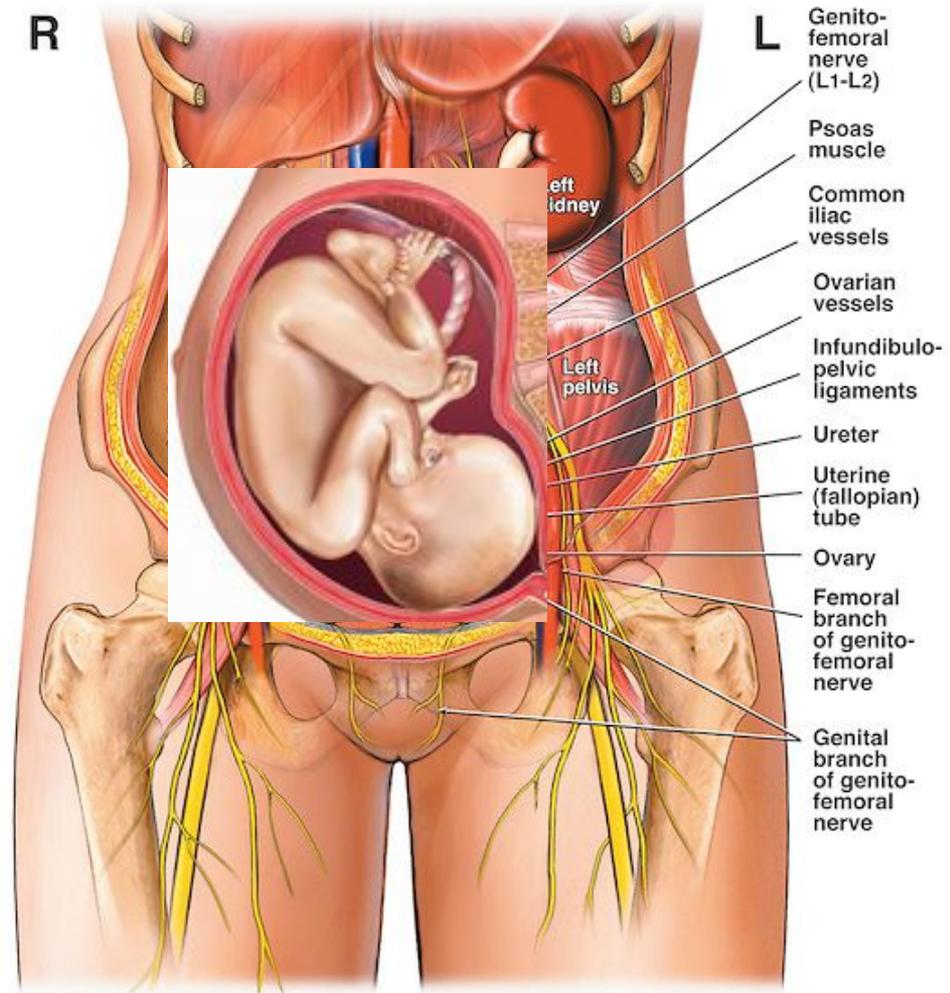


somee cards  
user card

# Comfort for pregnant patients

- Keep head higher than feet
- Semi -reclining position
- Allow for frequent position changes
- Small pillow under one hip
  - Roll further as needed

# Anatomy matters



Anterior cut-away view of abdomen



The American College of  
Obstetricians and Gynecologists  
WOMEN'S HEALTH CARE PHYSICIANS

# COMMITTEE OPINION

- Conduct an **oral health assessment** during the first prenatal visit.
- **Reassure** patients that prevention, diagnosis, and treatment of oral conditions, including dental X-rays (with shielding of the abdomen and thyroid) and local anesthesia (lidocaine with or without epinephrine), are **safe during pregnancy**.
- Inform women that conditions that require immediate treatment, such as extractions, root canals, and restoration (amalgam or composite) of untreated caries, may be managed at any time during pregnancy. Delaying treatment may result in more complex problems.

# Bridging the Gap

## To Do List

- ① So
- ② Many
- ③ Things



# Pregnancy and Dental Care By the numbers

- Most women do not seek dental care
  - Pregnancy Risk Assessment Monitoring System
    - 56% did not have dental care
    - 60% did not have teeth cleaned
    - Black and Hispanic Women *less* likely
  - 59% received no counseling
- Counseling is high correlated to routine dental cleanings.
  - Other studies show 80-90% of OBGYNs don't screen for oral health care

# Coordinated Care for Pregnant Teens & Women

- Pilot Study
- Children's Oral Health Coalition
- Cook Children's Hospital
- Targeted Oral health screening and training at first prenatal visit
- Network of referrals
  - Goal to recruit 30-40 dentists
  - Currently 12 OBGYNs
- Track data
- Improve use of resources

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