

# Pregnancy and Dental care



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หน่วยเวชศาสตร์มารดาและทารกในครรภ์  
ภาควิชาสูติศาสตร์-นรีเวชวิทยา  
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# Scope of talk

- Incidence of dental problems in pregnancy
- Physiologic change during pregnancy
- How important
- Special situation should be concerned

# Incidence of dental problems in pregnancy

## Pregnancy and Periodontal Disease

- Nearly 60 to 75% of pregnant women have gingivitis

## Pregnancy and Dental Cavities

- Pregnant women be at risk for cavities due to changes in behaviors, such as eating habits.

ดูแลอนามัยในช่องปาก  
ลดความเสี่ยงคลอดก่อนกำหนด



**50%**  
ของแม่ตั้งครรภ์  
จะมีการพบเหงือกอักเสบ

คุณแม่ที่มีภาวะเหงือกอักเสบรุนแรง  
จะมีความเสี่ยงสูงที่จะคลอดก่อนกำหนด  
และมีน้ำหนักแรกคลอดต่ำกว่าเกณฑ์

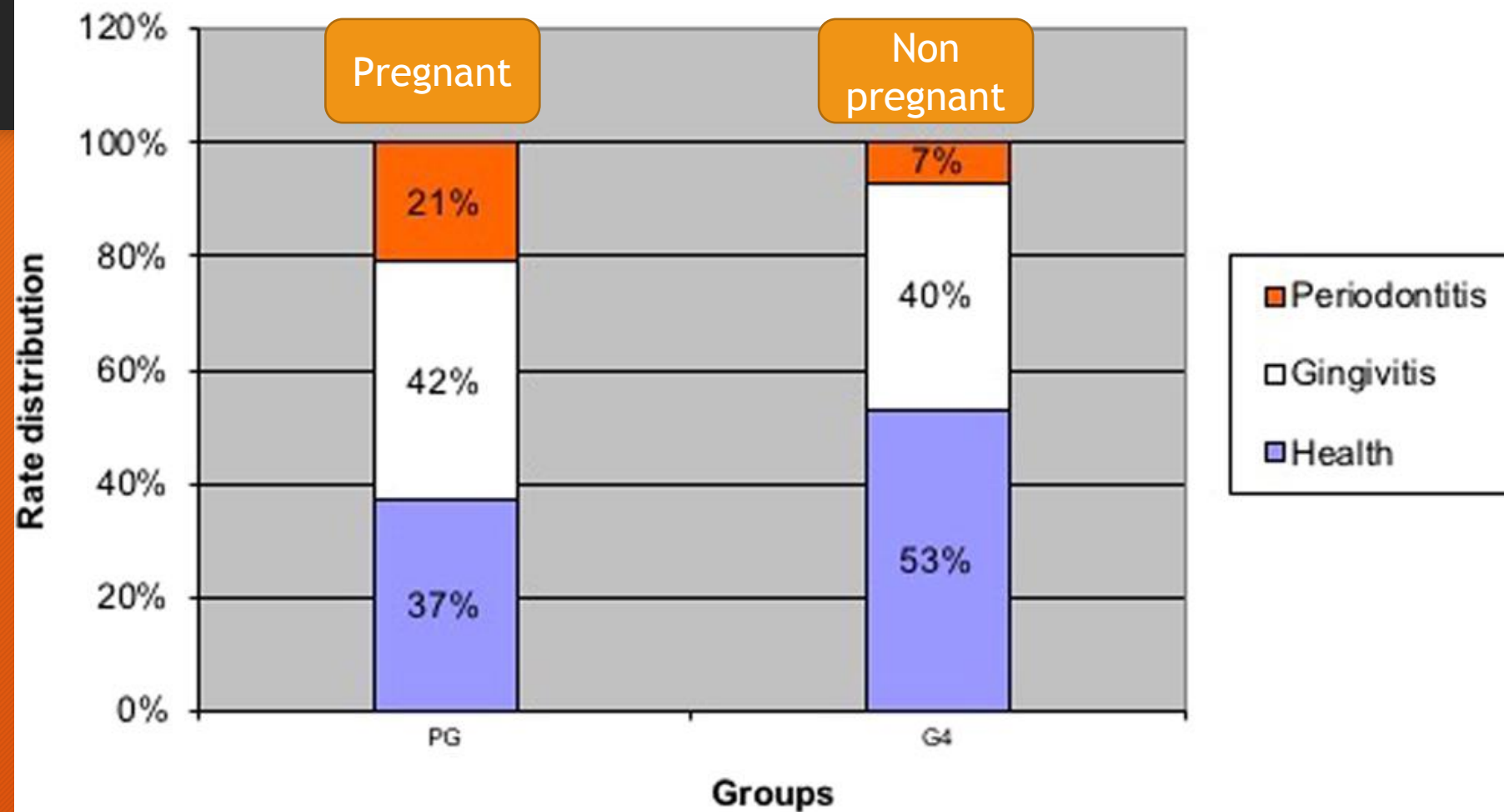
**1 ใน 5** ของทารกที่คลอดก่อนกำหนด  
นั้นเกิดจากคุณแม่ที่มีภาวะ  
เหงือกอักเสบรุนแรง



คุณแม่ที่พบว่ามีเหงือกอักเสบควรรีบปรึกษาทันตแพทย์  
เพื่อรับการตรวจและรักษาอย่างเหมาะสม  
ทันที การดูแลสุขภาพช่องปากของคุณแม่เป็นสิ่งสำคัญ  
ในการดูแลสุขภาพของลูกได้เป็นอย่างดี  
จากสำนักงานสุขภาพปากและฟัน



## Periodontal clinical diagnosis between pregnant and nonpregnant women





# Physiologic change during pregnancy



# Changes During Pregnancy that Affect Oral Health

## Hormonal Affects

- Increased tooth mobility
- Saliva changes
- Increased bacteria
- Gum problems



# Saliva changes

- Decreased buffers
- Decreased minerals
- Increased flow of saliva, esp. first trimester
- More acidic

# Increased Bacteria

- **Increased acidity**
  - Increase in decay-causing bacteria
- **Increased Snacking**
  - Morning sickness/low blood sugar
  - Between-meal snacks
- **Increase in amount and frequency of starches/carbohydrates**
  - Crackers are commonly recommended
  - Promotes decay-causing bacteria



# Changes During Pregnancy that Affect Oral Health

- Morning sickness
  - Difficulty with hygiene
    - Gum disease
    - Tooth decay
  - Vomiting
- Esophageal Reflux (heartburn)
- Acid exposure
  - Irritation of the gums
  - Weakening of tooth enamel
  - Dental erosion



# Others factors that increase the risk of oral problems

- Smoking, DM, HIV/AIDS

- Nutritional deficiencies

Vitamin C: may lead to gingival inflammation and bleeding

Vitamin D: may lead to delayed post-surgical healing

Vitamin E: may lead to impaired gingival wound healing

Vitamin K: may lead to gingival bleeding

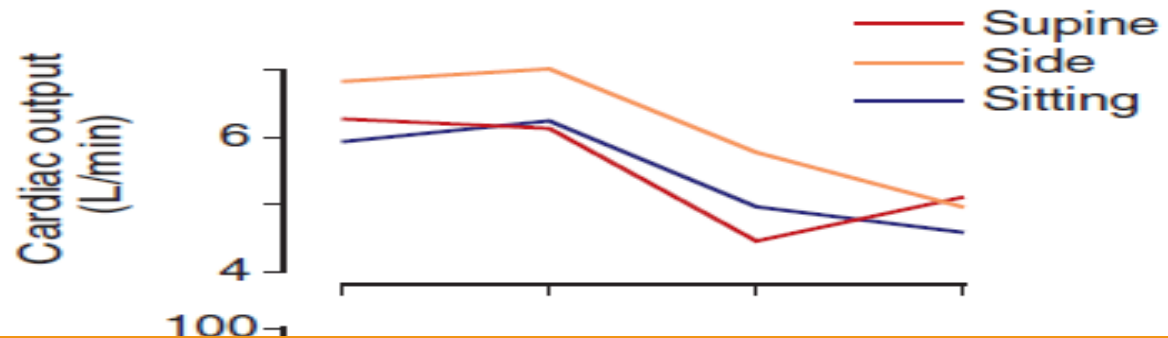


# Cardiovascular system

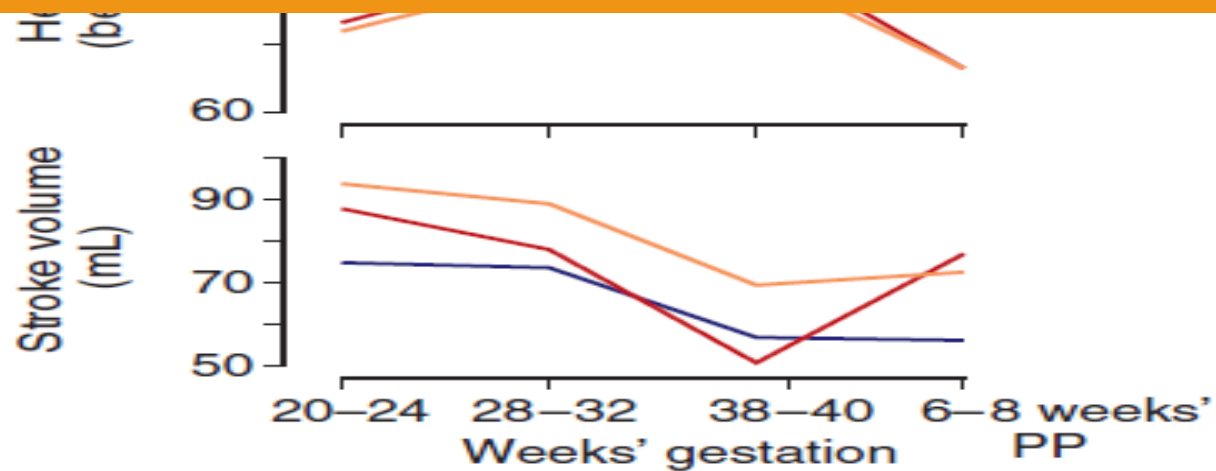




# Effect of maternal posture on hemodynamics



## Supine hypotensive syndrome





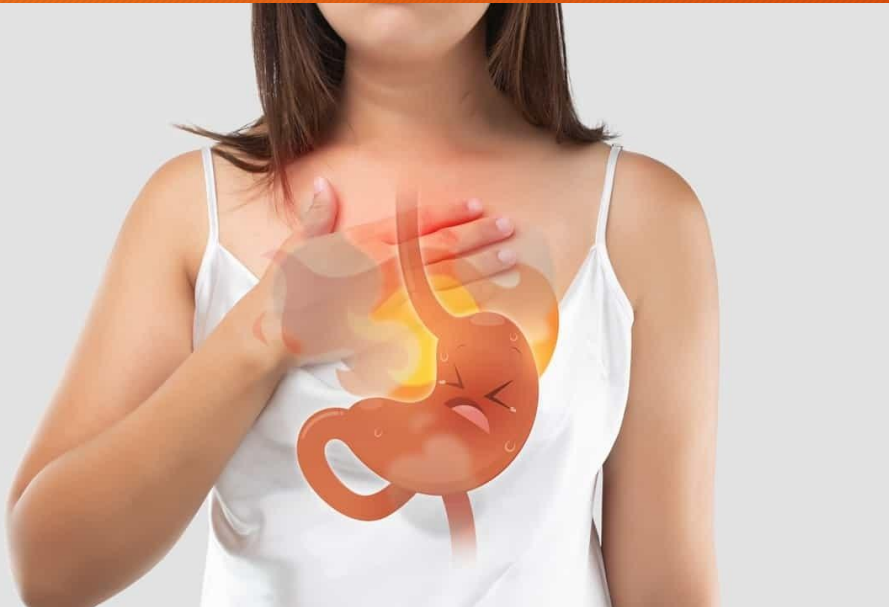
# Respiratory tract

- Diaphragm rise 4 cm
- Subcostal angle widen , transverse diameter of thorax increase 2 cm
- Thoracic circum increase 6 cm
- Dyspnea, hyperventilation
- Engorgement of nasal capillaries and rhinitis

# Hematological system

- Increase in blood volume, WBC, ESR
- Decrease blood concentration
- Increase all coagulation factors except: XI, XIII :  
hypercoagulable state

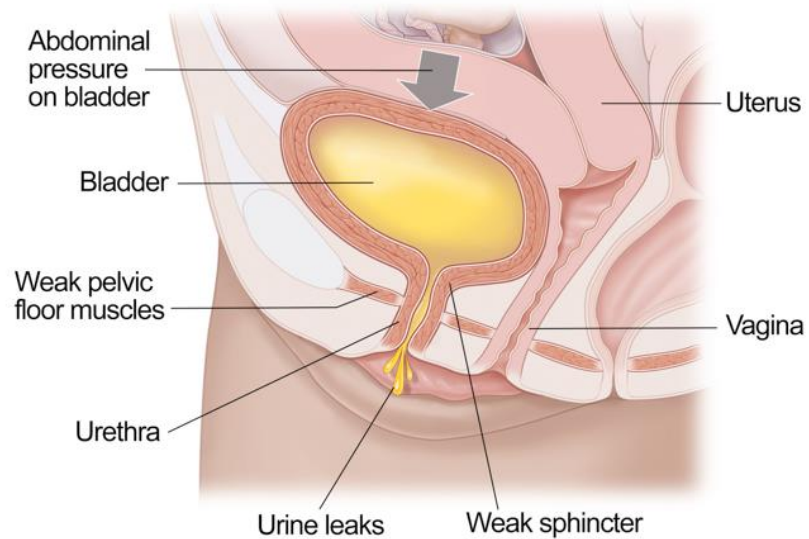
# Stomach and Intestines



## Pyrosis <heartburn>

- Reflux of gastric secretion into lower esophagus
- Decrease lower esophageal tone
- Higher intragastric pressure
- Lower speed and amplitude of esophageal peristalsis

# Urinary system



 babycenter





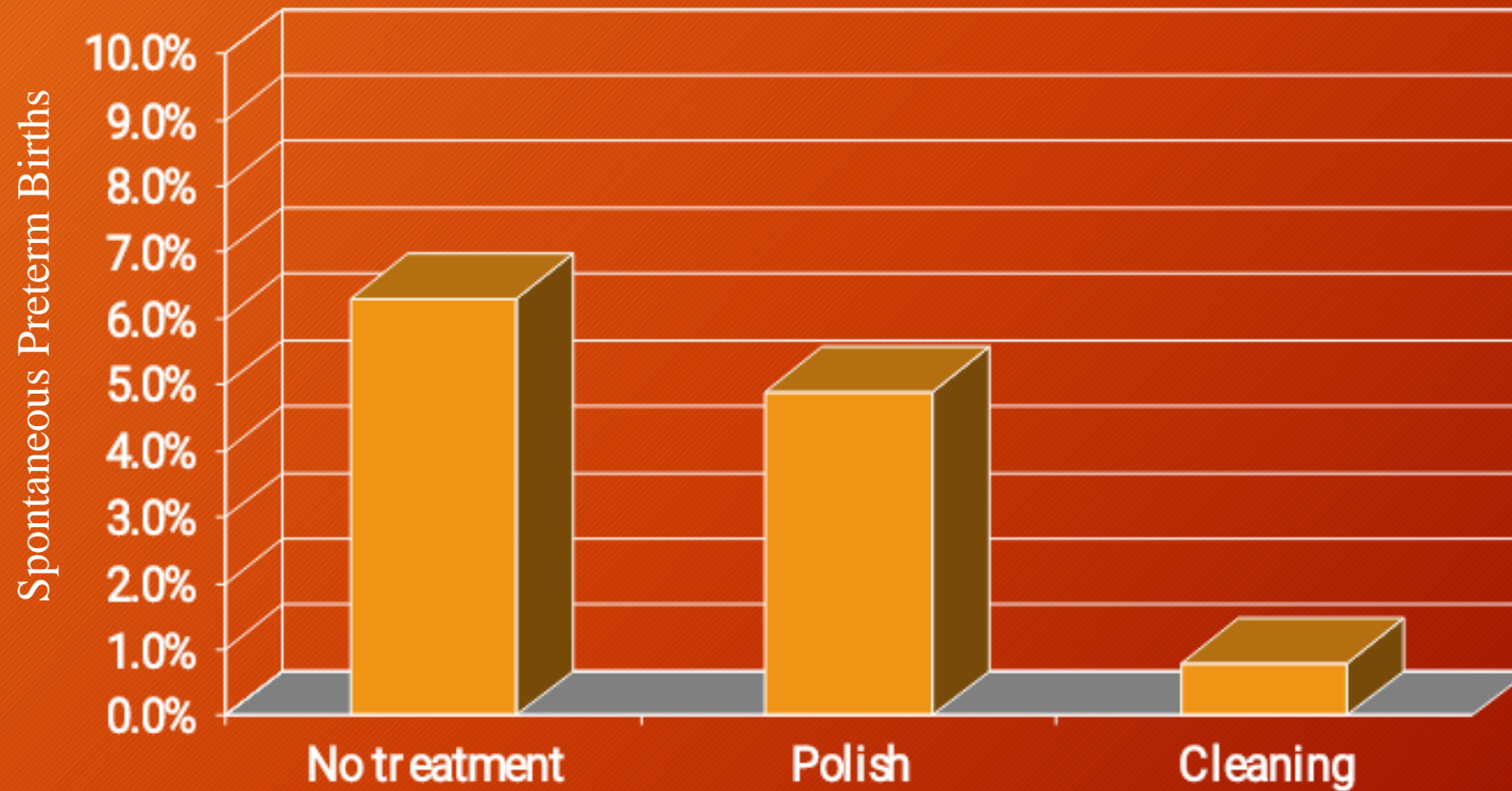
# Oral Health and Adverse Pregnancy Outcomes

# Oral Diseases Can Effect Pregnancy

- Preterm, low birth weight (LBW) linked to periodontal disease
- Maternal periodontal disease is associated with preterm delivery, as well as the association between the presence of pathogenic oral bacteria in the placenta and adverse pregnancy outcomes
- There is very strong evidence that infection plays a major role in the pathogenesis of preterm labor.

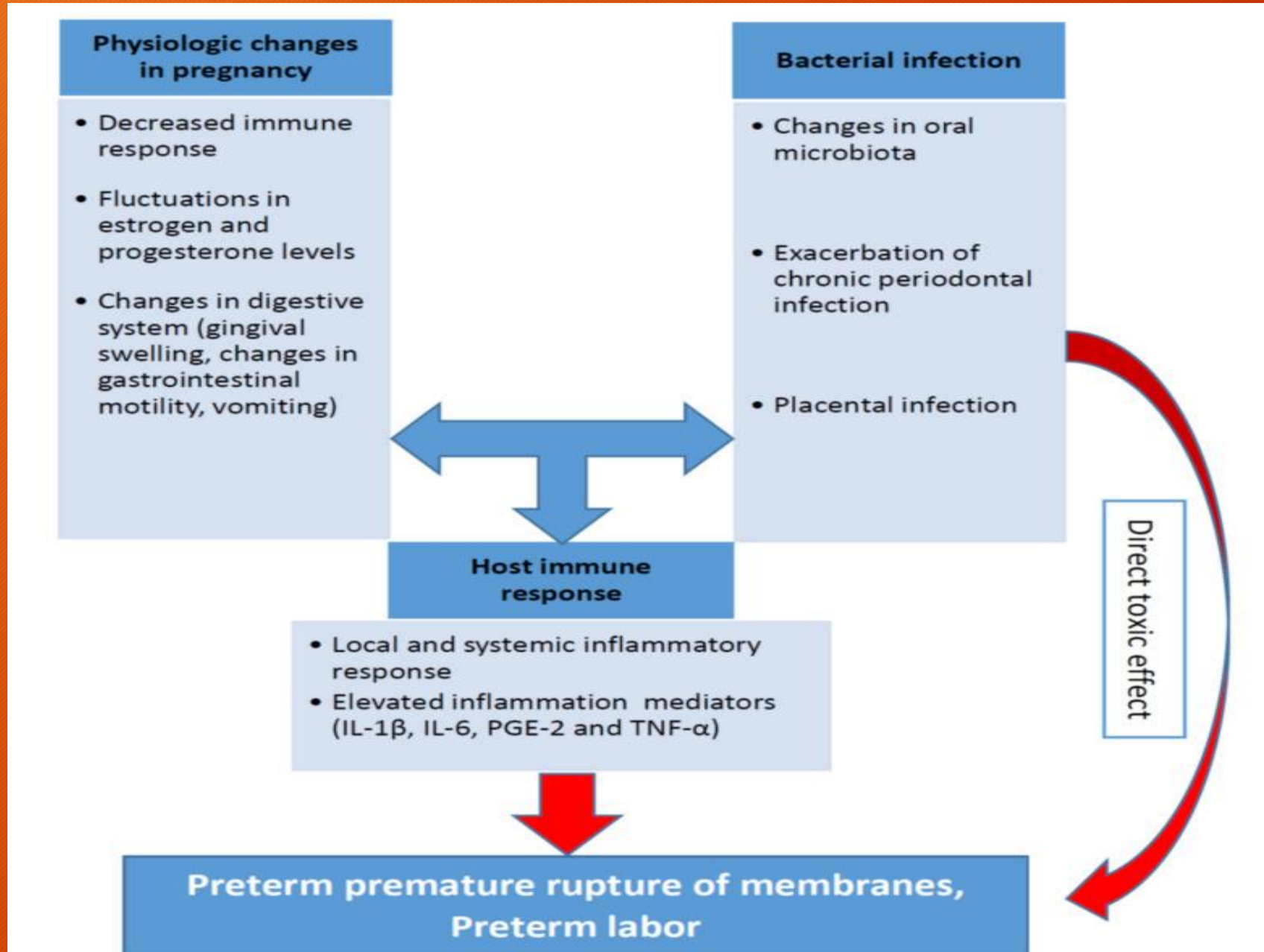


# Spontaneous preterm birth in pregnant women with gum disease



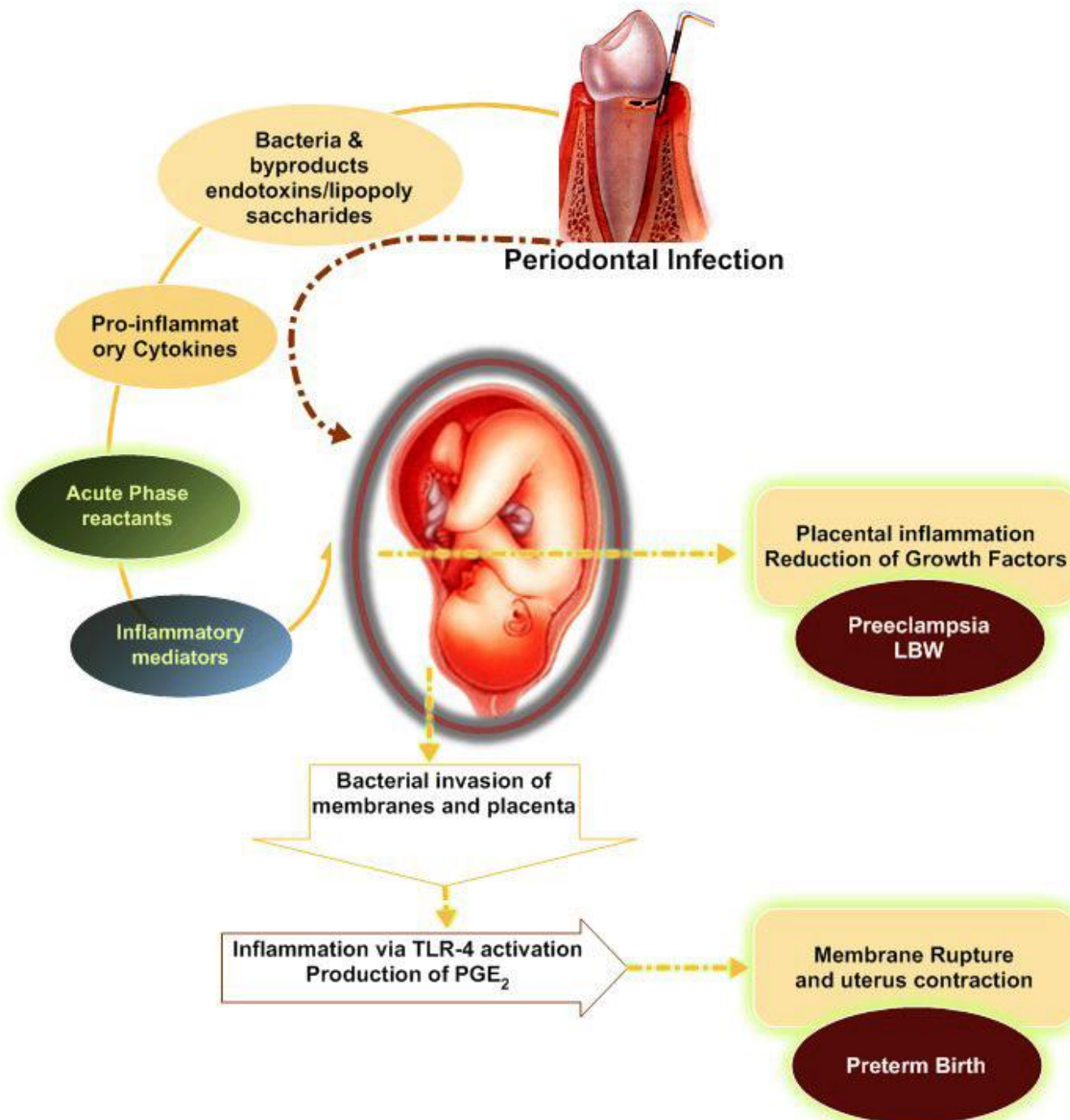
**Jeffcoat et al. (2003) Periodontal disease and preterm birth: results of a pilot intervention study.**

# Pathophysiological Mechanisms





# Pathophysiology



# Guidelines for Oral Health Care in Pregnancy

# Based on the Gestational Age

## First 12 weeks

Only emergency dental treatment is indicated



## Second trimester

Elective dental treatment



## Third trimester

Avoid supine position during procedure





# Medication

Possible  
teratogenic effect



CATEGORY  
A,B,C,D,X



# Radiation

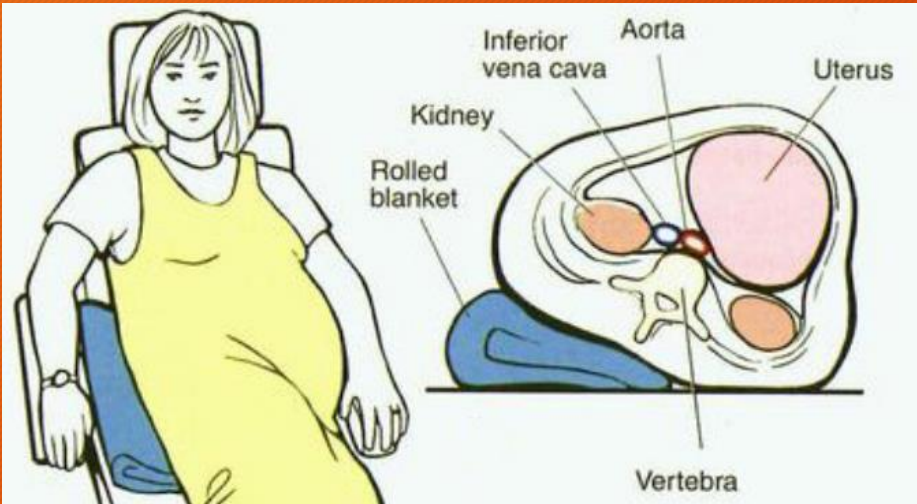


Embryo and fetus are sensitive to ionizing radiation at doses greater than 0.1 gray (Gy)  
Depending on the stage of fetal development

**Dental x-rays**

No fetal health effects

## *Positioning Pregnant Women in the Dental Chair*



- Keep the woman's head at a higher level than her feet.
- Place the woman in a semi-reclining position, as tolerated, and allow frequent position changes.
- Place a small pillow under the right hip or have the woman turn slightly to the left as needed to avoid dizziness or nausea resulting from hypotension.



# Medical Conditions and Dental Treatment Considerations

- Hypertensive Disorders and Pregnancy
- Diabetes and Pregnancy
- Heparin and Pregnancy
- Risk of Aspiration and Positioning During Pregnancy



## Guidelines for Treatment in Pregnancy

Indications	Radiographs	Analgesics (with FDA category*)	Local Anesthetic (with FDA category*)	Amalgam placement or removal	Nitrous Oxide	Anesthesia	Antibiotics & Anti-Infectives (with FDA category*)
anytime during pregnancy	<p>Diagnostic x-rays are safe during pregnancy</p> <p>Use neck (thyroid collar) and abdomen shield</p>	<p>Acetaminophen (B) Meperidine (B) Morphine (B) Codeine (C)</p> <p>Acetaminophen + Codeine (C)</p> <p>Acetaminophen + (Hydrocodone (C) e.g. Vicodin</p> <p>Acetaminophen + Oxycodone (C) e.g. Percocet</p>	<p>Lidocaine with epinephrine (2%) (B), considered safe during pregnancy</p> <p>Mepivacaine (3%) (C), use if benefit outweighs possible risk to fetus</p>	<p>No evidence that the type of mercury released from existing fillings harms the fetus</p> <p>Use rubber dam and high-speed evacuation to reduce mercury vapor inhalation</p>	<p>30% nitrous oxide can be used when topical or local anesthetics are inadequate</p> <p>Pregnant women require lower levels of nitrous oxide to achieve sedation</p>		<p>Penicillin (B) Amoxicillin (B) Cephalosporins (B) Clindamycin (B) Erythromycin not in estolate form (B)</p> <p>Quinolones (C) Clarithromycin (C)</p> <p>As prophylaxis for dental surgery; use same criteria for all people at risk for bacteremia</p>

\*Cat B: No evidence of risk in humans; either animal studies show risk (human findings do not) or, if no adequate human studies done, animal findings negative.

\*Cat C: Human studies are lacking and animal studies are either positive for fetal risk or lacking as well; potential benefits may justify the potential risk.

\*Cat D: Positive evidence of risk. investigational or post marketing data show risk to fetus. Nevertheless, potential benefits may outweigh the risk.

1 <sup>st</sup> Trimester (1-13 weeks)	Spontaneous pregnancy loss occurs in 10-15% of all clinically-recognized pregnancies in the first trimester. Most losses are due to chromosome abnormalities. Yet, women may prefer to wait until the second trimester (14 <sup>th</sup> week) for dental care.						<b>AVOID:</b> Metronidazole (B)
2 <sup>nd</sup> Trimester (14-27 weeks)							
3 <sup>rd</sup> Trimester (28-40 weeks)		<b>NEVER USE</b> Ibuprofen or Indomethacin					<b>AVOID:</b> Sulfonamides (C)

<b>NEVER &amp; CAUTIONS</b>		<b>NEVER USE</b> Aspirin unless prescribed by the prenatal care provider  Caution: Consult with prenatal care provider before recommending Ibuprofen (B) or Naprosyn (B) during the 1 <sup>st</sup> and 2 <sup>nd</sup> trimesters				Caution: <b>CONSULT</b> with prenatal care provider if using anesthesia other than a local block e.g. IV sedation or GA	<b>NEVER USE</b> Tetracycline (D) Erythromycin in estolate form
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# Prevention: Nutrition for Oral Health

- Eat well-balanced meals
  - B vitamins, especially folate (folic acid)
  - Vitamin C
  - Calcium
- Snack smart
  - **Avoid** starchy or high carbohydrate snacks
  - Raw fruits and vegetables
  - Dairy products



# Conclusion

## Practice Good Oral Hygiene

- Brush teeth twice a day with fluoride toothpaste.
- Floss once a day to prevent red, puffy gums.
- If you vomit, rinse your mouth with a teaspoon of baking soda in a cup of water to stop acid from attacking your teeth. Delay toothbrushing for about an hour.



*Educate your patients*



## Get Dental Care

- Tell the dentist and dental hygienist that you are pregnant and your due date.
- All dental treatment should be completed before delivery.
- Dental care, including the use of X-rays, most pain medications, and local anesthesia, is safe during pregnancy.
- Changes to your body when you are pregnant may make your gums sore or puffy and may make them bleed. This problem is called gingivitis (inflammation of the gums). If gingivitis is not treated, it may lead to periodontal (gum) disease, which can cause tooth loss.

- Booking for dental care earlier GA
- Limit elective dental treatment for 2<sup>nd</sup> trimester
- Concerning about medication, x-ray, position



## Eat Healthy Foods

- Eat a balanced and nutritious diet.
- Avoid foods high in sugar. Also avoid beverages high in sugar like juice, fruit-flavored drinks, and soda.
- If you have problems with nausea, eat small amounts of healthy foods throughout the day.
- Drink fluoridated water throughout the day, especially between meals. Most tap water in Maryland contains fluoride which prevents cavities. Most water filters do not remove fluoride.



*Educate for healthy  
foods and habit of eating*

## *Early is Key*



Pregnant women should make a dental appointment early in pregnancy. Oral health care is safe during all trimesters and should not be postponed or avoided during pregnancy. Women should visit the dentist for cleanings, exams, and any treatment needed to maintain or improve their oral health during pregnancy.

**Oral care is safe  
in all trimesters**



**Get dental  
care for  
healthy baby**

