



# **Pregnancy and Oral Health**

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Friday, March 23, 2001

To Whom It May Concern:

This letter is in support of a Dental Clinic for Medicaid patients and/or for other patients who can not afford dental care in the Owego area.

I am a family practice resident physician from the Guthrie Clinic in Sayre, PA. A patient of mine who was also pregnant was in need of urgent dental care. The urgency centered around her prior lack of routine dental preventive care - she had two cavities that had become infected and this resulted in a painful abscess. She was unable to get any urgent care in the area. My understanding was that the closest clinic was in Binghamton, NY. Because of the pain she was in, she treated herself with Tylenol. However, because the pain was so great she took 'excessive doses' resulting in toxicity to her and her baby.

At the time she was approximately 29 weeks pregnant. The baby died from liver toxicity from Tylenol ingestion. My patient, suffered acute liver failure and was flown to Pittsburgh expecting a liver transplant. Fortunately she recovered, did not need a transplant and has since had a normal healthy child. However, she still suffers from the trauma of losing her child and almost her life.

I personally feel that a dental clinic in the Owego area that was available to her could have prevented the death of her unborn child and prevented her acute illness and expense associated with that.

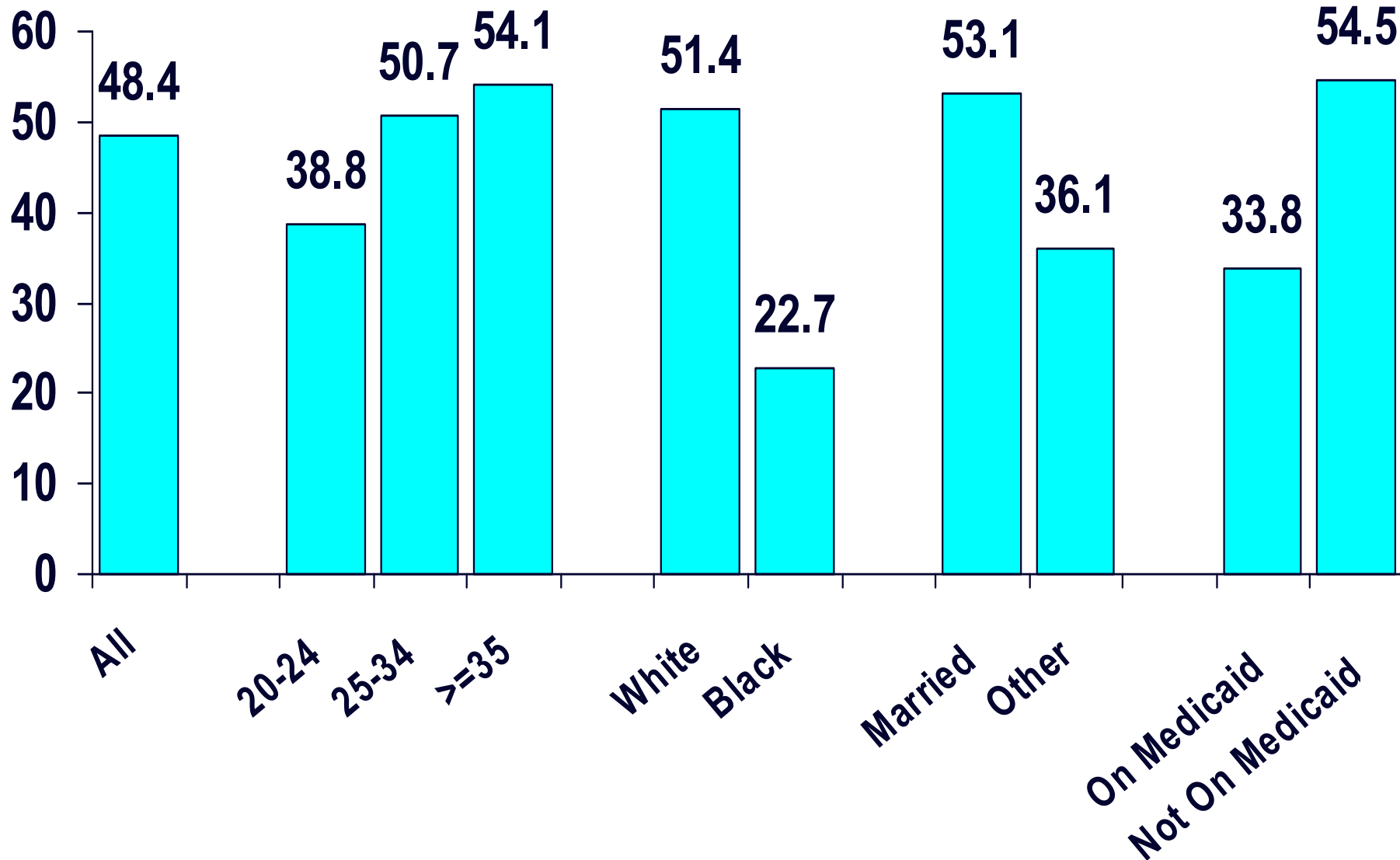
Thank you,

Sincerely,

John S. Burnett, MD

“Because pain was so great she took ‘excessive doses’ (Tylenol) resulting in toxicity to her and her baby. At the time she was approximately 29 weeks pregnant. The baby died from liver toxicity. My patient suffered acute liver failure and was flown to Pittsburgh expecting a liver transplant.”

# Dental Visits: 2002 PRAMS



August 2005



# Oral Health Plan

for New York State

## *New York State Oral Health Plan*

Bureau of Dental Health  
New York State Department of Health  
Albany, NY.



# How to influence health outcomes



# **Objectives**

- **Importance of oral health in women**
- **Transmission of caries causing bacteria**
- **Periodontal disease and LBW/PTB**
- **Impact of pregnancy on oral health**
- **Role of prenatal care providers**

# **Pregnancy Related Oral Health Problems**

- **Pregnancy Gingivitis**
- **Pregnancy Epulis**
- **Increased Tooth Mobility**
- **Dental Caries**
- **Erosion**
- **Dental Problems in relation to Labor and Delivery**

# **Dental Problems in Relation to Labor and Delivery**

- **Restorations/prosthesis that are present in the mouth may cause complications during the delivery procedure**

# Dental Care in Pregnancy



- **Concerns:**
  - **Potential harm from x-rays**
  - **Use of materials such as mercury**
  - **Use of medication**
  - **Perception of patient discomfort**

# **Dental Care in Pregnancy**

- **1<sup>st</sup> Trimester - limited because of morning sickness**
- **2<sup>nd</sup> Trimester – safest and most comfortable**
- **3<sup>rd</sup> Trimester - may be difficult because of increased physical discomfort.**

# Early Childhood Caries

- ***Streptococcus mutans***
- **2900 hospitalizations**
- **Can affect**
  - weight gain
  - school attendance
  - learning
- **Is preventable**

Earliest



Severe



# Oral flora: How does the infection occur?

- Transmitted mainly from mother or primary caregiver to infant
- Window of infectivity is first 2 years of life
- Earlier the child is colonized, the higher the risk of caries



# **Periodontal disease and adverse pregnancy outcomes**

# Low birth weight/preterm babies are expensive!

- Medical care in US: >\$5B



# Definitions

## Premature birth

**< 37 weeks gestation**

- **Low birth weight**

**< 2500 grams (5.5 lbs)**

- **Very low birth weight**

**<1500 grams (3.3 lbs)**

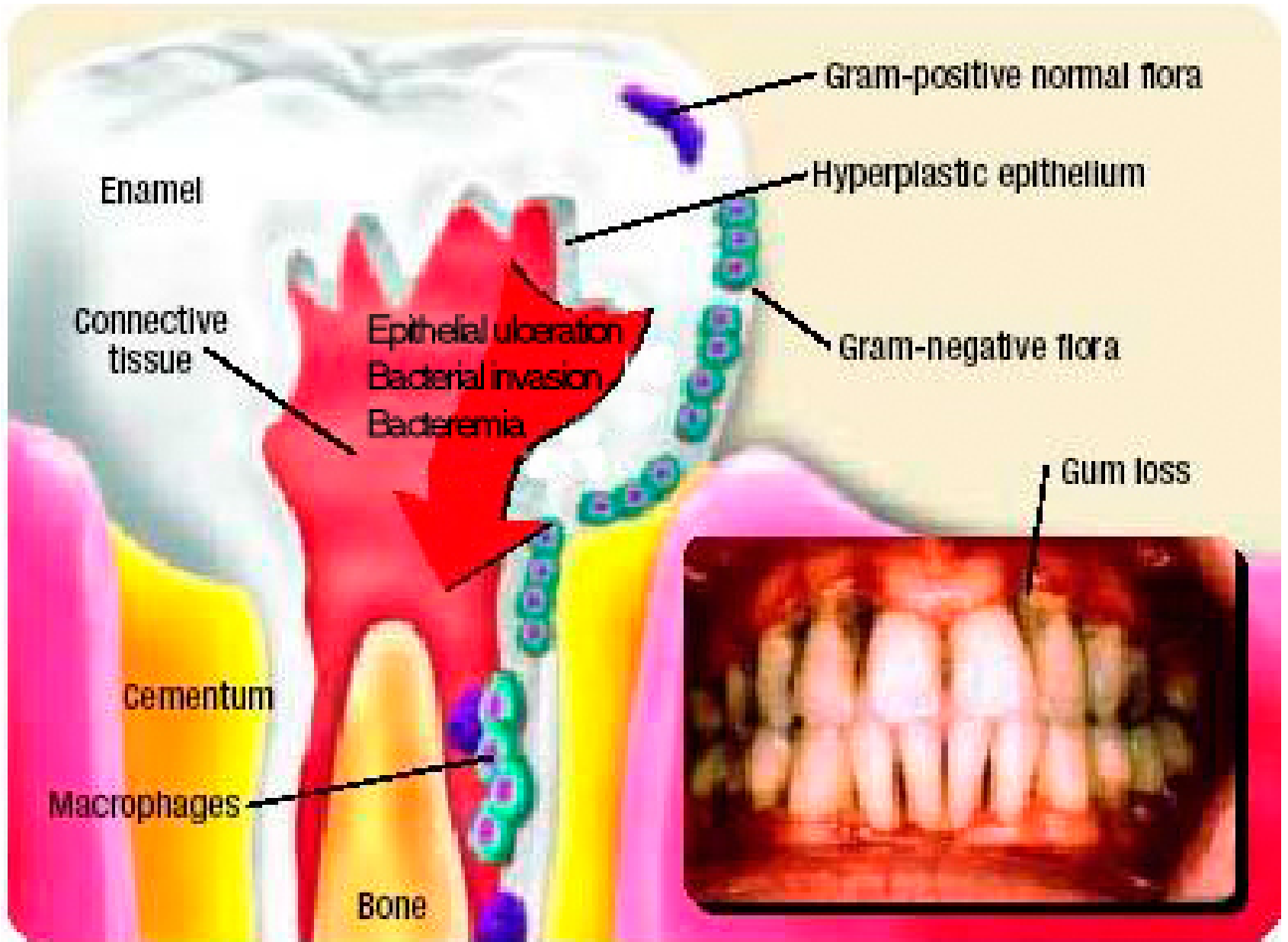
- **All premature births are not low birth weight.**

- **All low birth weight are not premature.**

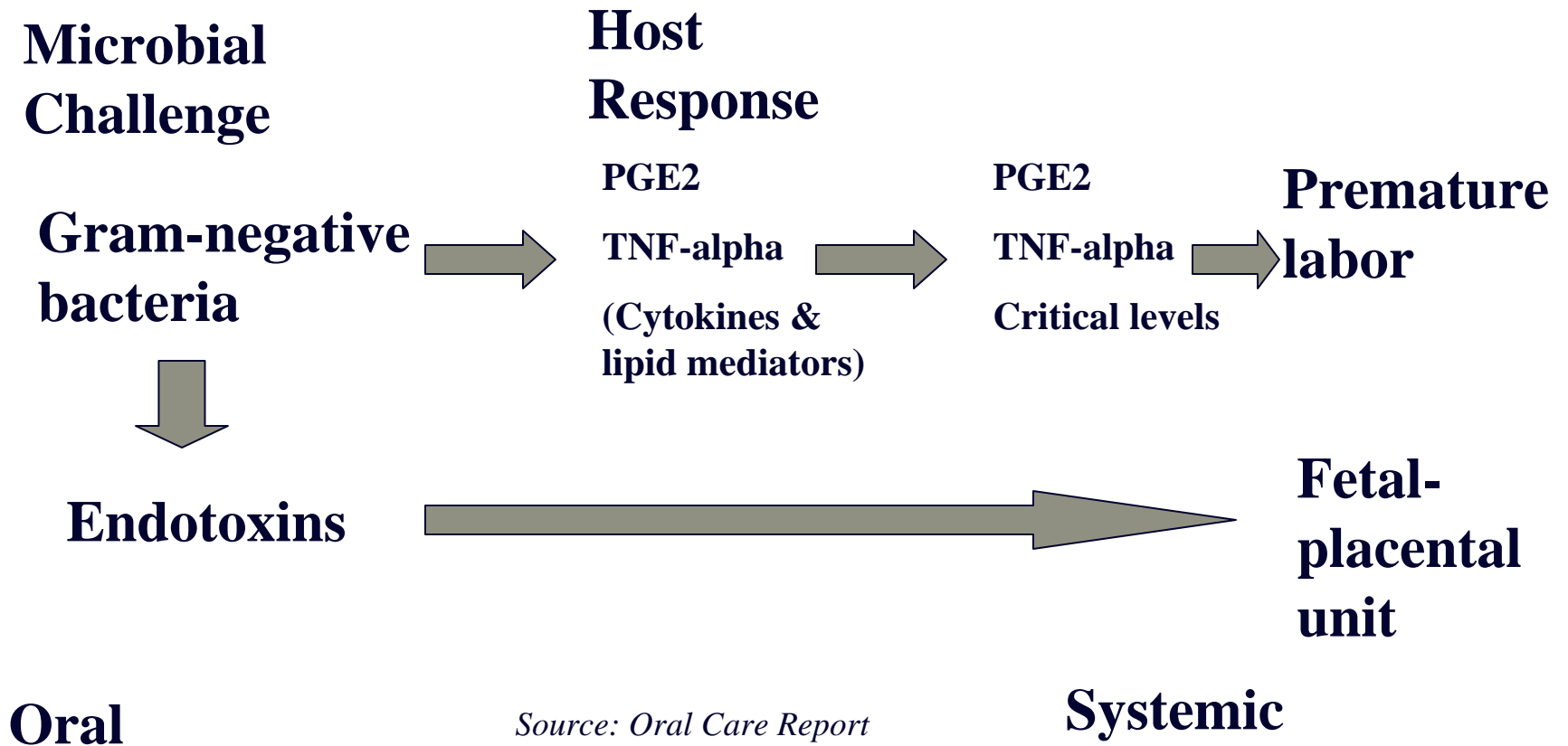


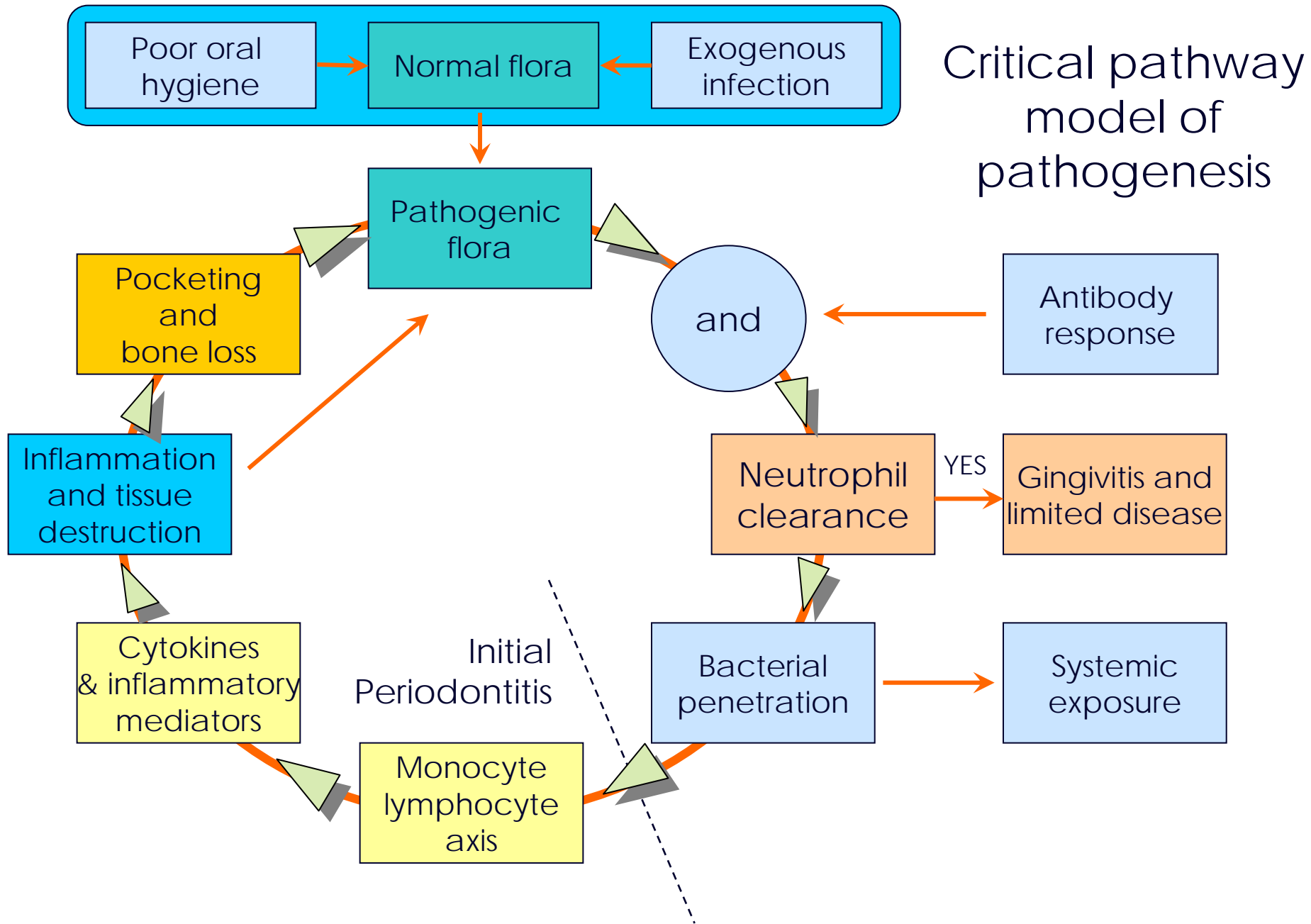
# **Burden of PLBW \$5.5 Billion**

- **Premature births - 60-80% of all neonatal deaths (excluding congenital malformations)**
- **Ongoing problems - neurodevelopment, pulmonary...**
- **Rate of PTD increased over the last 20 years from 9% in 1980 to 12% in 2002**
- **Double in African Americans**
- **VLBW has increased: 1.15% to 1.46%**



# Proposed Biological Model





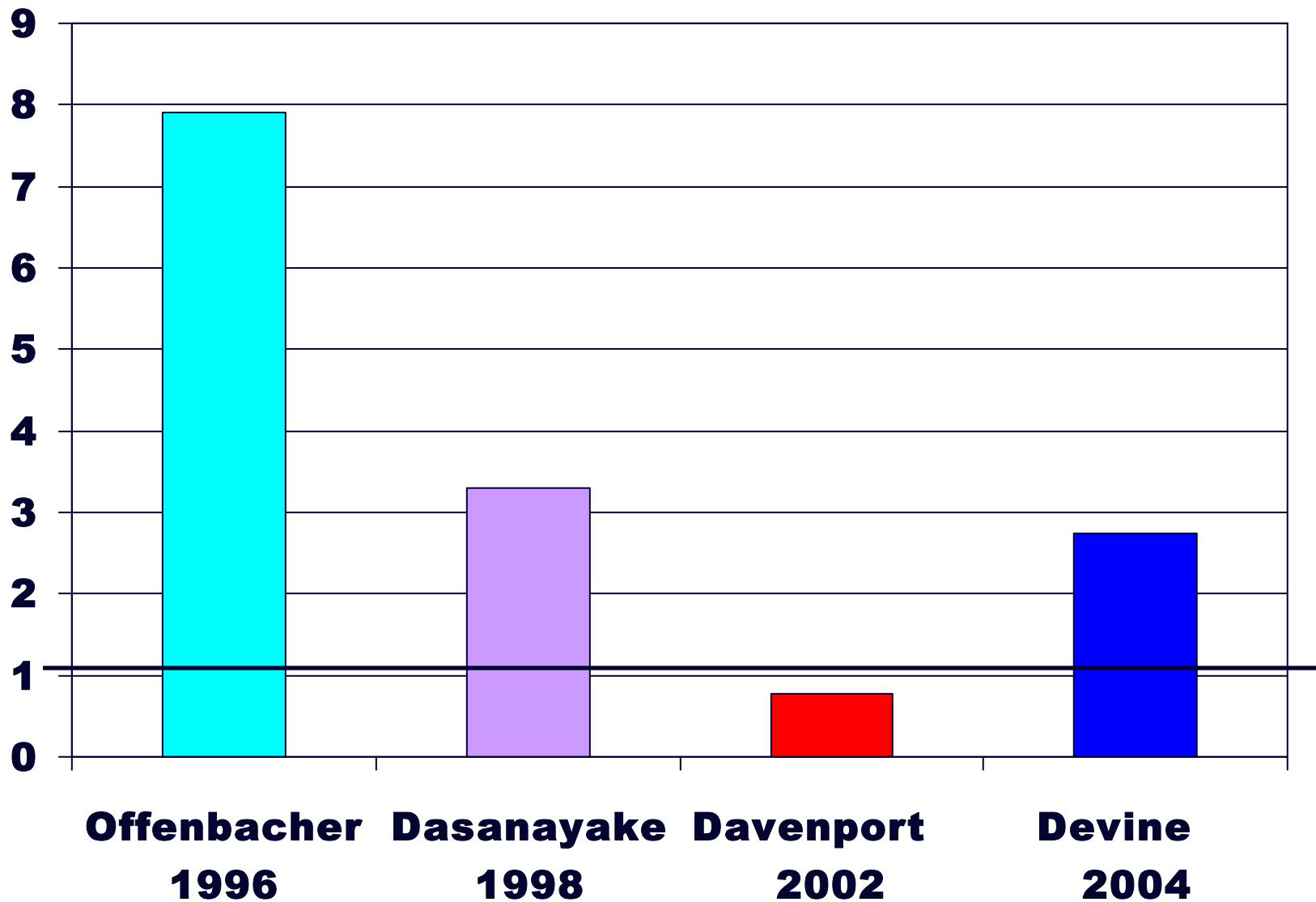
# **Infection-induced Preterm Birth**

- **Sub-clinical**
- **Caused by anaerobes and genital mycoplasmas**
- **Ascending or hematogenous**
- **Account for up to 50% of preterm births**
- **Greater percent of VLBW**

# **Case Control Studies**

- **Outcomes - delivery < 37 weeks and/or weight < 2500 grams**
- **Exposures - evaluation of periodontal disease during or post partum (48 hours)**
- **Assessment of microbiology, immunomodulators, immunoglobulins**
- **7 showed association**
- **Davenport – No association**

# Risk of Preterm/ Low Birth Weight Babies and Periodontal Disease (Odds Ratio)



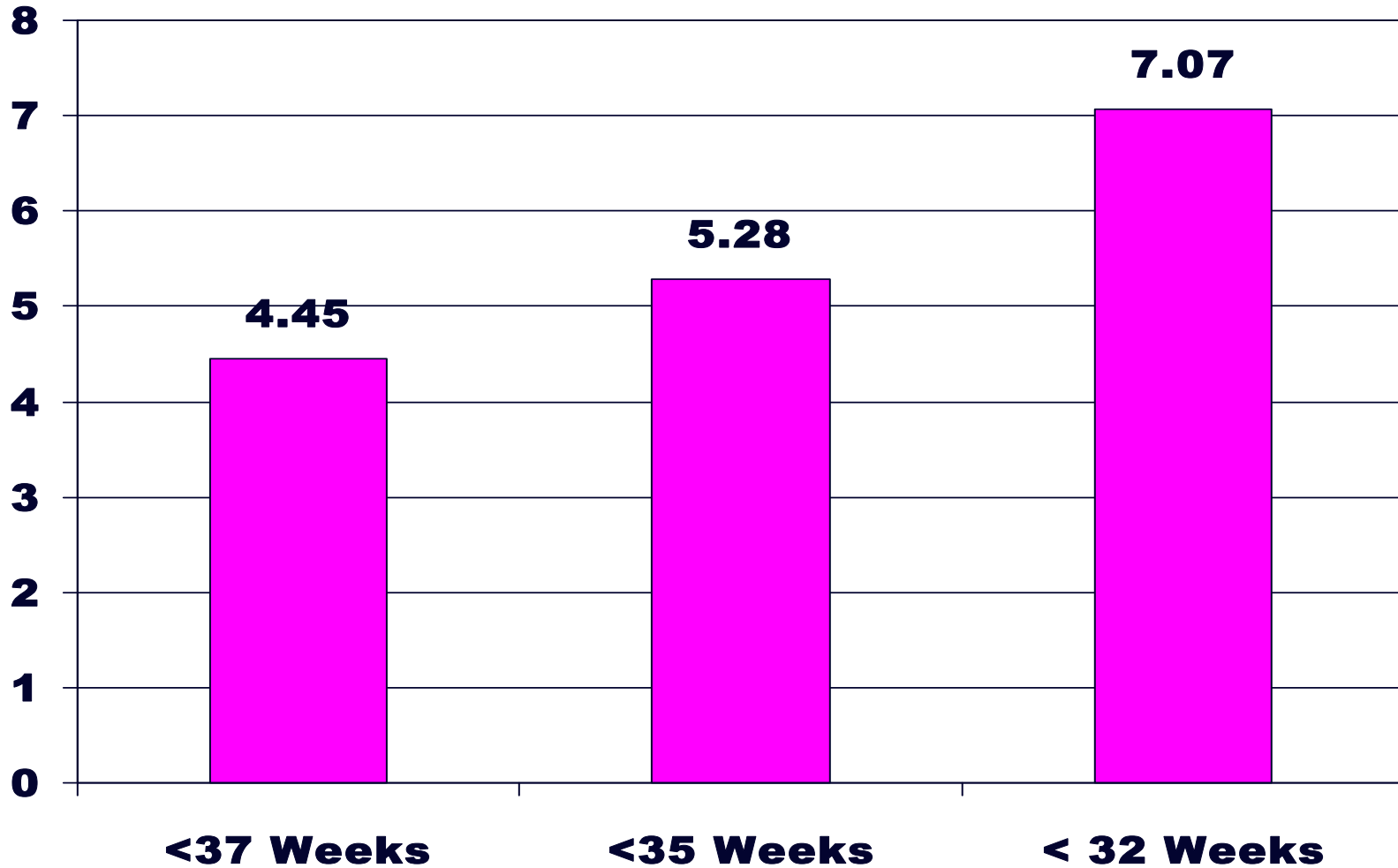
## **6 Cohort Studies**

- **Exposure - exam to assess periodontal status during pregnancy**
- **Outcomes - delivery < 37 weeks and/or weight < 2500 grams**
- **2 Interventions**

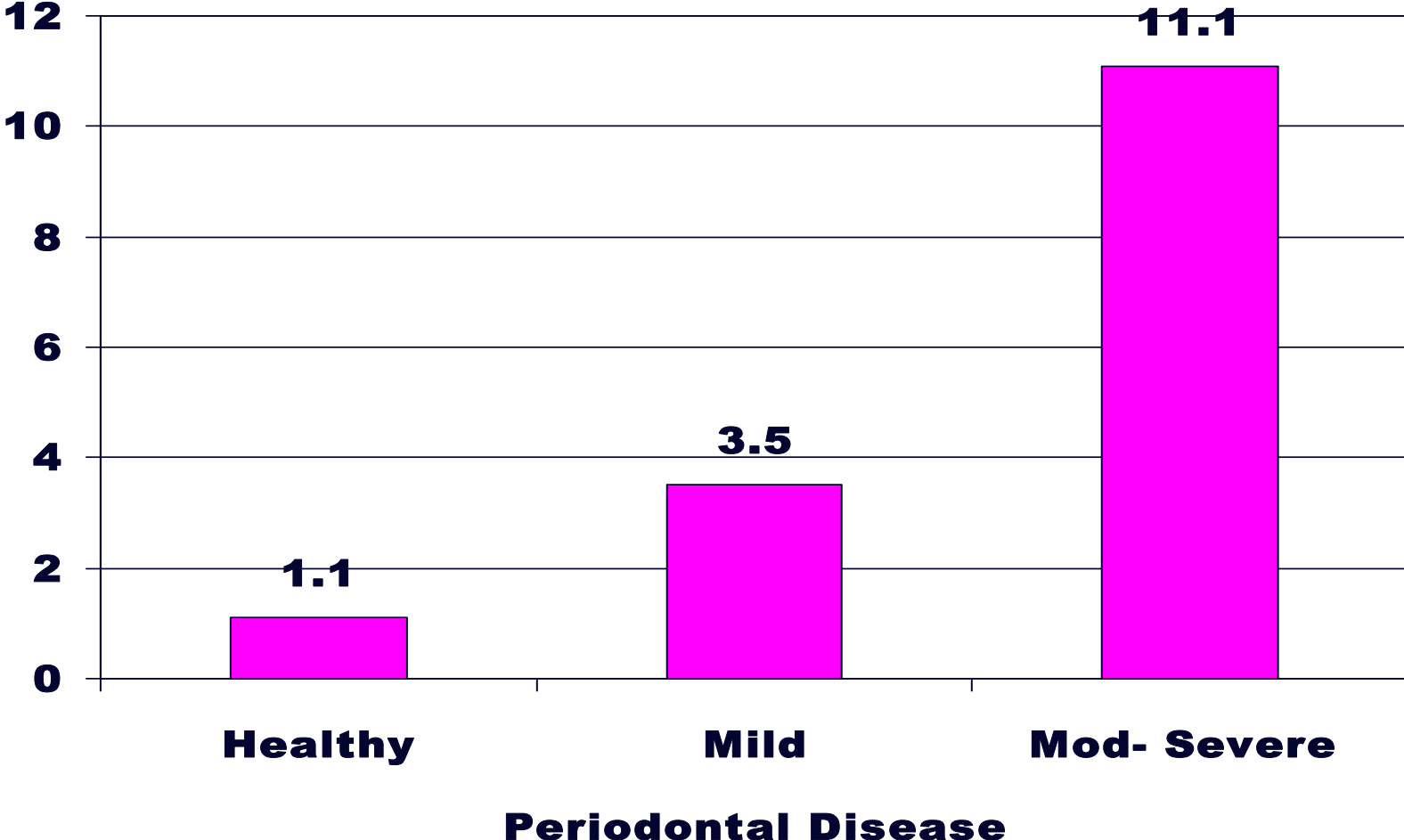
# Odds ratios for preterm birth

## Jeffcoat 2001

### [Nested Case-Control]

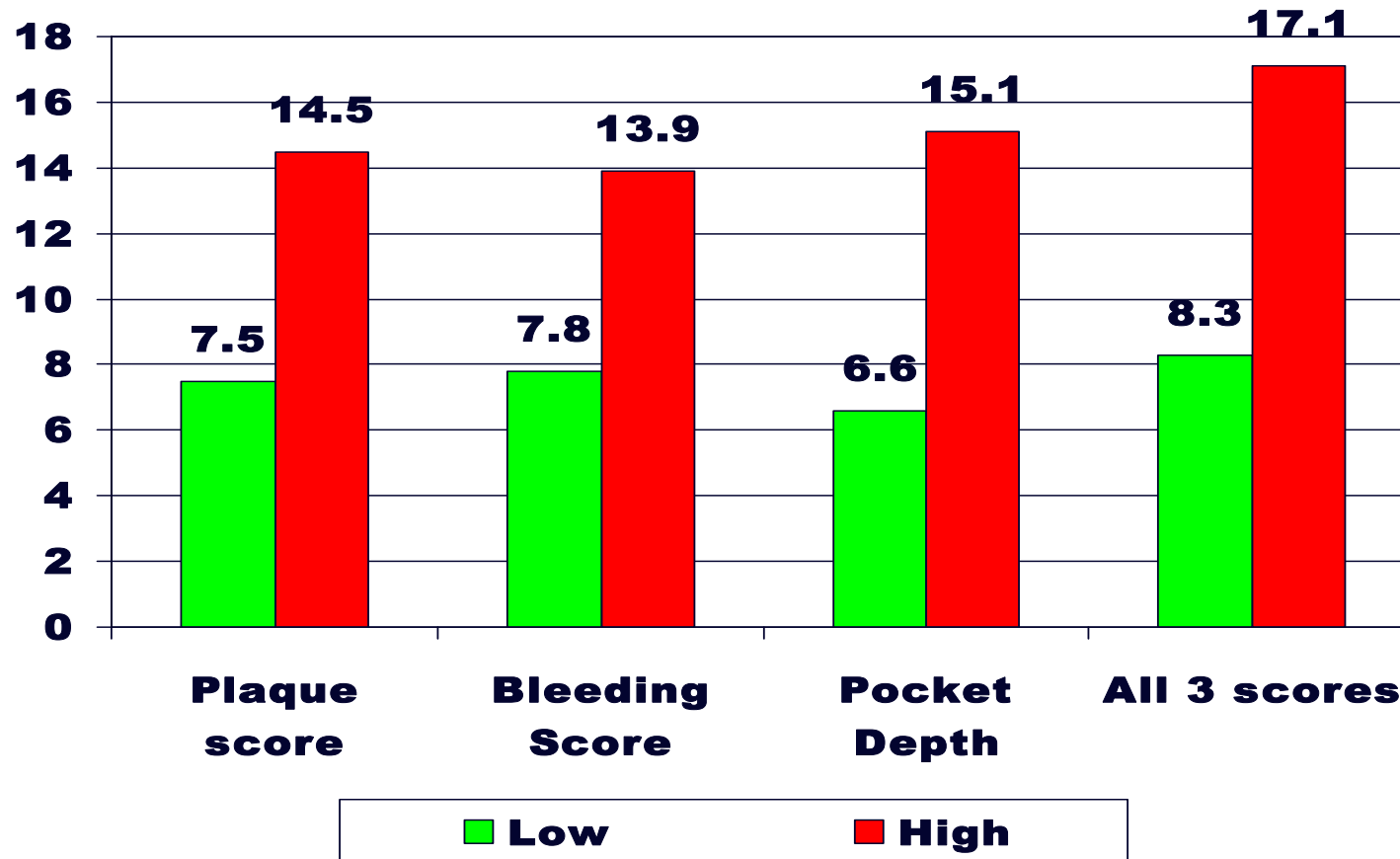


# Prevalence of preterm birth (<28 weeks) Offenbacher 2001



# Preterm Low Birthweight (%) by PD Parameters - Rajapakse, 2005

## Non-smoking Sri Lankan Women

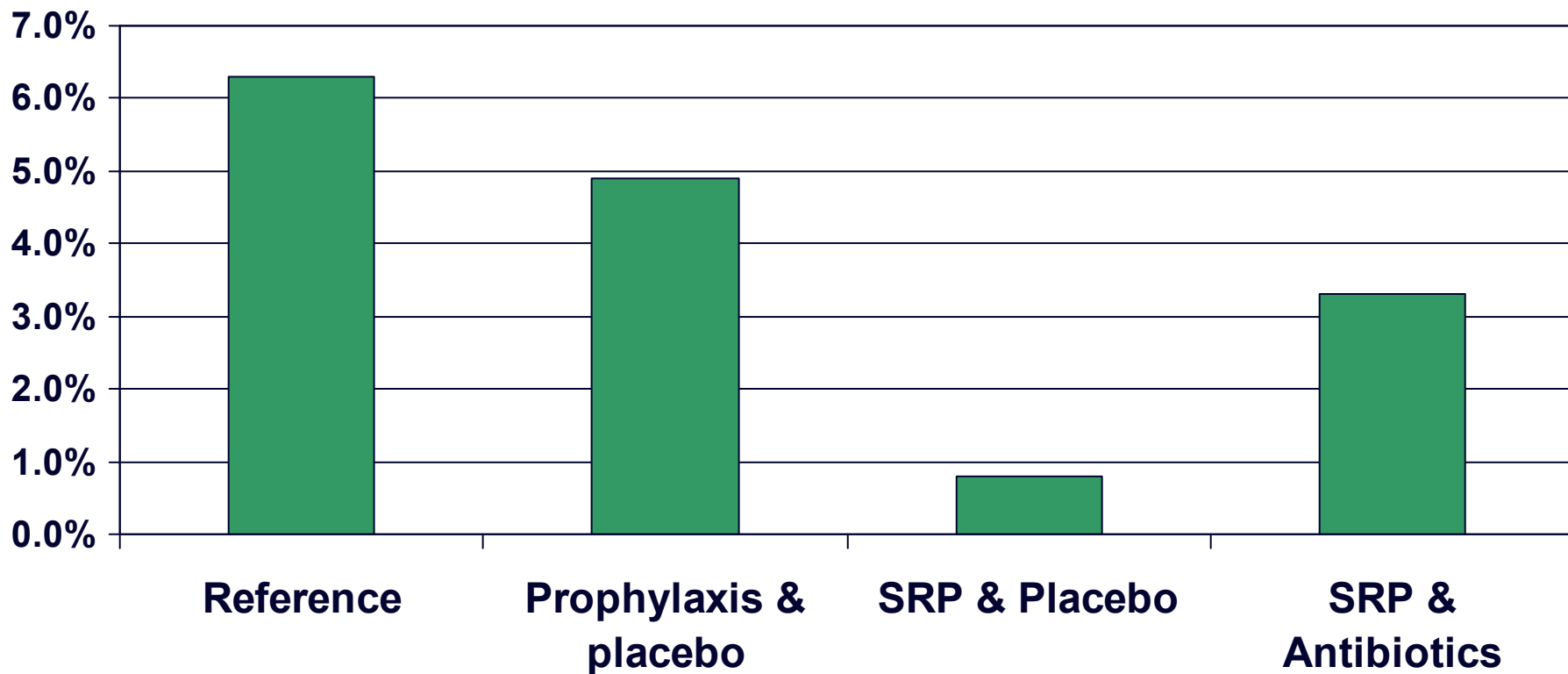


# **3 Intervention Studies**

- **2 in progress**
- **Intervention**
  - **Periodontal treatment**
  - **Antibiotics**
- **Outcomes - delivery < 37 weeks  
and/or weight < 2500 grams**



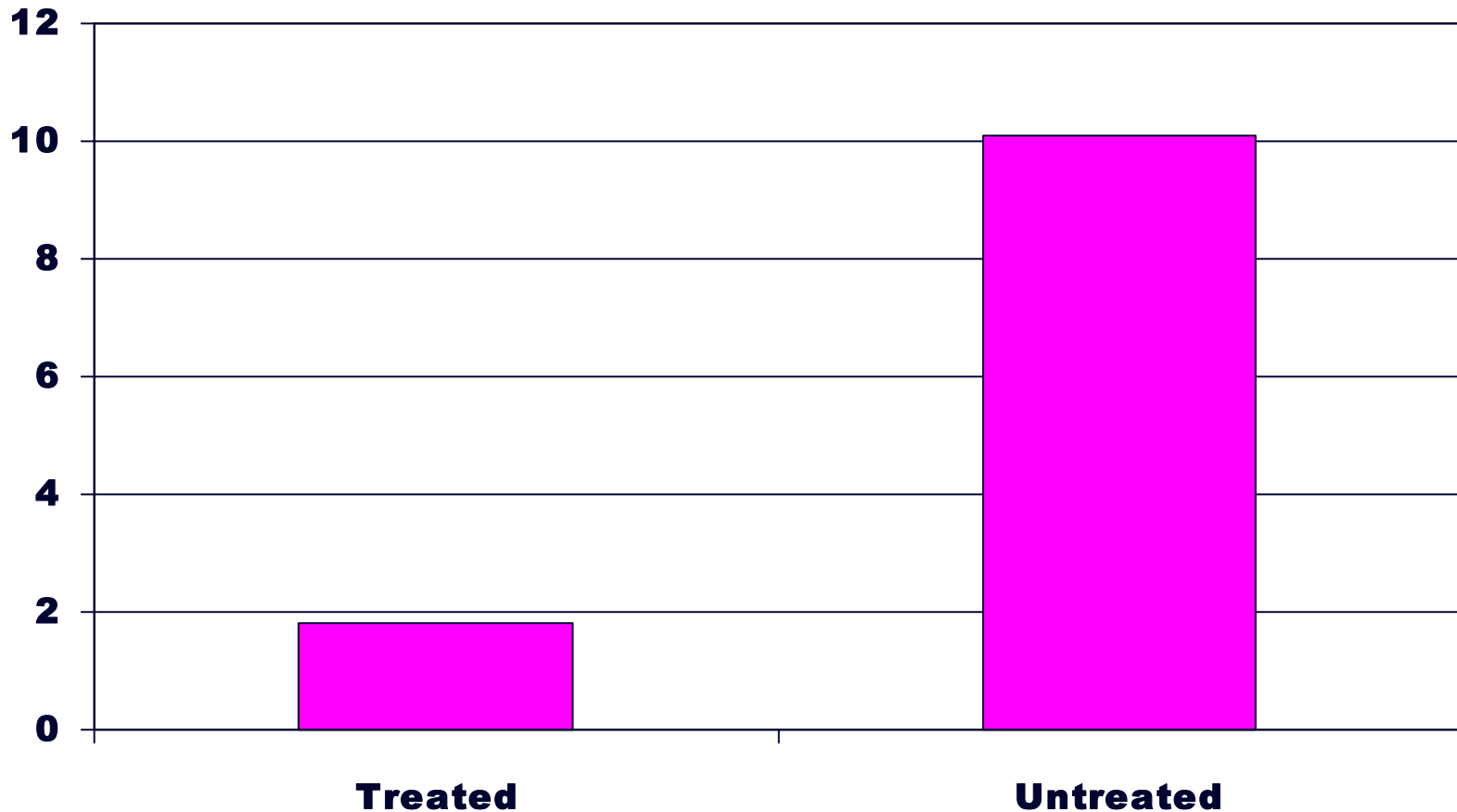
# Results: % Preterm Births by Treatment Group



*Jeffcoat et al August 2003*

# RCT –Lopez 2002

## Incidence of Preterm Low Birth Weight



# **Microbial - Host Interactions: Determinant of Health & Disease**

- **Infection - dolor, rubor, calor, tumor**
- **Microbial component**
- **Host response**
  - **hyper-responders vs hypo-responders**

Romero et al (2004) “Bacterial vaginosis, ...inflammatory response....”AJOG. 190, 1509-19

# **Optimal Response**

- **Measured and proportionate inflammatory response**
- **Could deal with changes in the vaginal ecosystem without adverse pregnancy outcome**
- **Little data - studies measuring IL 6**

# **Hyper vs Hypo Responders**

- **Hyper - excessive local or systemic inflammatory response leading to tissue damage- SIRS**
- **Hypo - inability to generate an adequate response predisposes to overwhelming infection**

# **The Connection**

- **Hyper responders more likely to have periodontal disease (Kornman 1997)**
- **Hypo responsive moms predisposed to ascending infection and clinical chorioamnionitis**
- **Hyper responsive moms predisposed to vaginitis and PTD**

# **Bacterial Vaginosis: Preterm Birth**

- **18 reports: gestational age less than 37 weeks, all intact membranes**
- **Outcomes: preterm delivery**
- **BV - OR 2.19 (1.54-3.12)**
- **Greatest at less than 16 wks 7.55 (1.8-32)**  
**less than 20 wks 4.2 (2.1-8.4)**

# **TNF $\alpha$**

- **Proinflammatory cytokine produced by monocytes in response to microbial products**
- **Patients admitted to ICU with high levels are more likely to die**
- **Eschenbach reported that nonpregnant patients with history of PTB had more TNF  $\alpha$**

# **Case Control: TNF and Bacterial Vaginosis**

- **African American: 77%**
- **Cases (125) - delivered before 37 weeks**
- **Controls (250) - delivered after 37 weeks**
- **Excluded those previous PTB**
- **Collected information on BV and other risk factors**

# Case Control: TNF and Bacterial Vaginosis

Variable	% OR of PTB
African American race	0.9 (0.4-2.1)
Bacterial vaginosis	1.3 (0.5-2.9)
TNF-2 carriage	1.6 (0.9-2.8)
BV-TNF-2 interaction	6.0 (1.6-22.7)

# **Gene Environment Interaction**

- **Exists when the risk of disease among individuals with a specific genotype exposed to an environmental factor is greater (or lower) than that predicted from the presence of either the genotype or the exposure**

# Obstetrics for Dentists

- **Time line of pregnancy**
- **Harmful maternal behaviors**
- **Medical conditions of pregnancy**



# Timeline

- Trimesters are 14 weeks each based on 42 week pregnancy
- Embryonic period 2 thru 8 weeks
- Fetal period 8 weeks till delivery

## DAYS

1

14

28

## WEEKS

0

2

4

8

9

6 to 10

## TIMELINE

First day of last menstrual period(LMP) First trimester begins

Conception;fertilization

First missed period;  
Embryonic period starts;  
organogenesis

End embryonic period

Start fetal period

First prenatal visit with dental screen

## **Weeks**

## **Timeline**

<b>14<sup>th</sup> 14 to 20</b>	<b>Second trimester begins Ideal time for dental work</b>
<b>20 24 to 28</b>	<b>Uterus at umbilicus Screen for diabetes</b>
<b>28 40 (280 days )</b>	<b>Third trimester begins Estimated date of delivery (EDD)</b>
<b>42</b>	<b>Some women deliver after EDD</b>

# Timeline of pregnancy

- 40 weeks
  - LMP to EDD
- Trimesters
  - 3 months
  - 14 wks
  - 42 wks
- Ultrasound



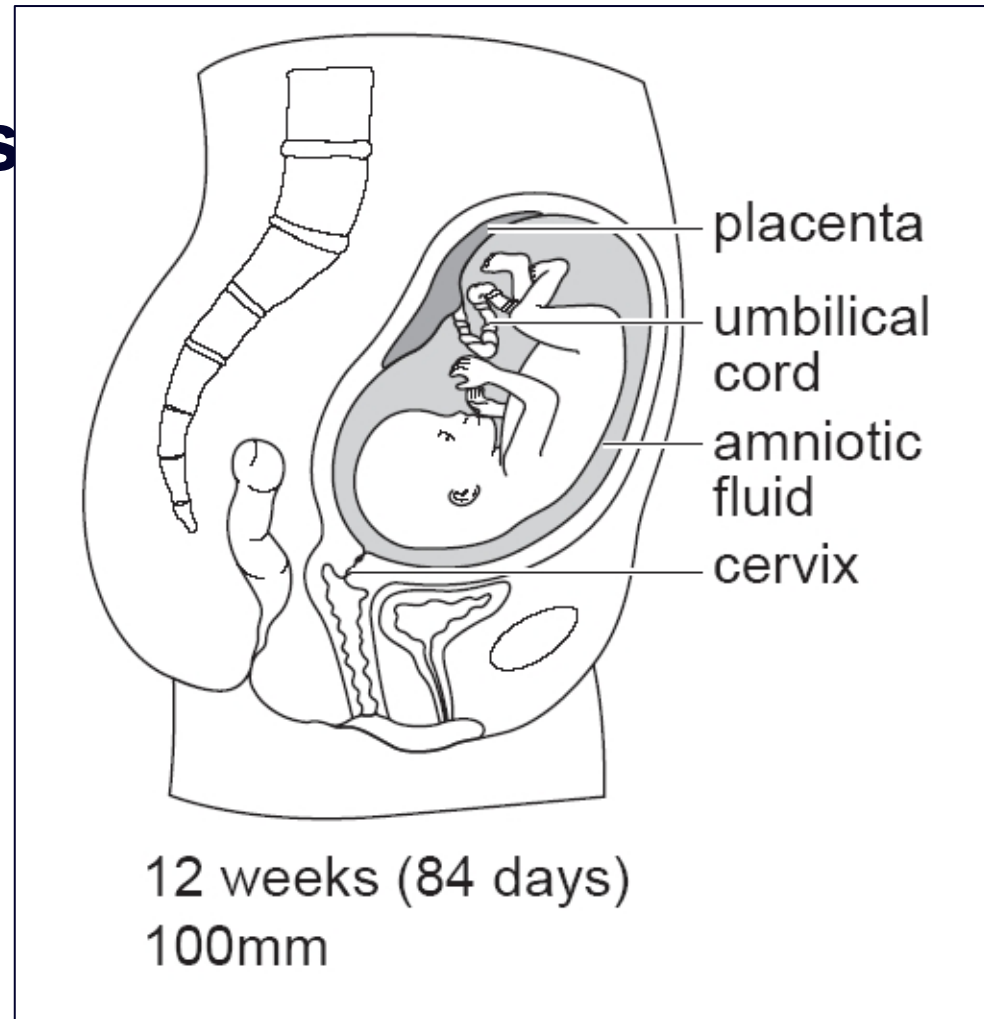
# First Trimester

- Embryo up to 9 weeks
- Teratogenecity up to 10 weeks
- Malformations 3-4%
- Loss 10-15%



# Second Trimester

- Safest time to perform procedures 14 to 20 weeks
- Pregnancy below umbilicus



# Third Trimester

- Hypotension



A. Supine position



Side view



B. Lateral position



Top view

Aspiration -

delayed gastric emptying  
incompetent esophageal valve

# **Harmful maternal behaviors**

- **Tobacco**
- **Alcohol**
- **Recreational drugs**

# **Tobacco**

- **20% of women smoke in USA**
- **9% of women smoke in resource poor countries**
- **11% of pregnant women**
- **50 to 75% of women who stop during pregnancy are smoking by the time the baby is 6 months old**

# **Tobacco**

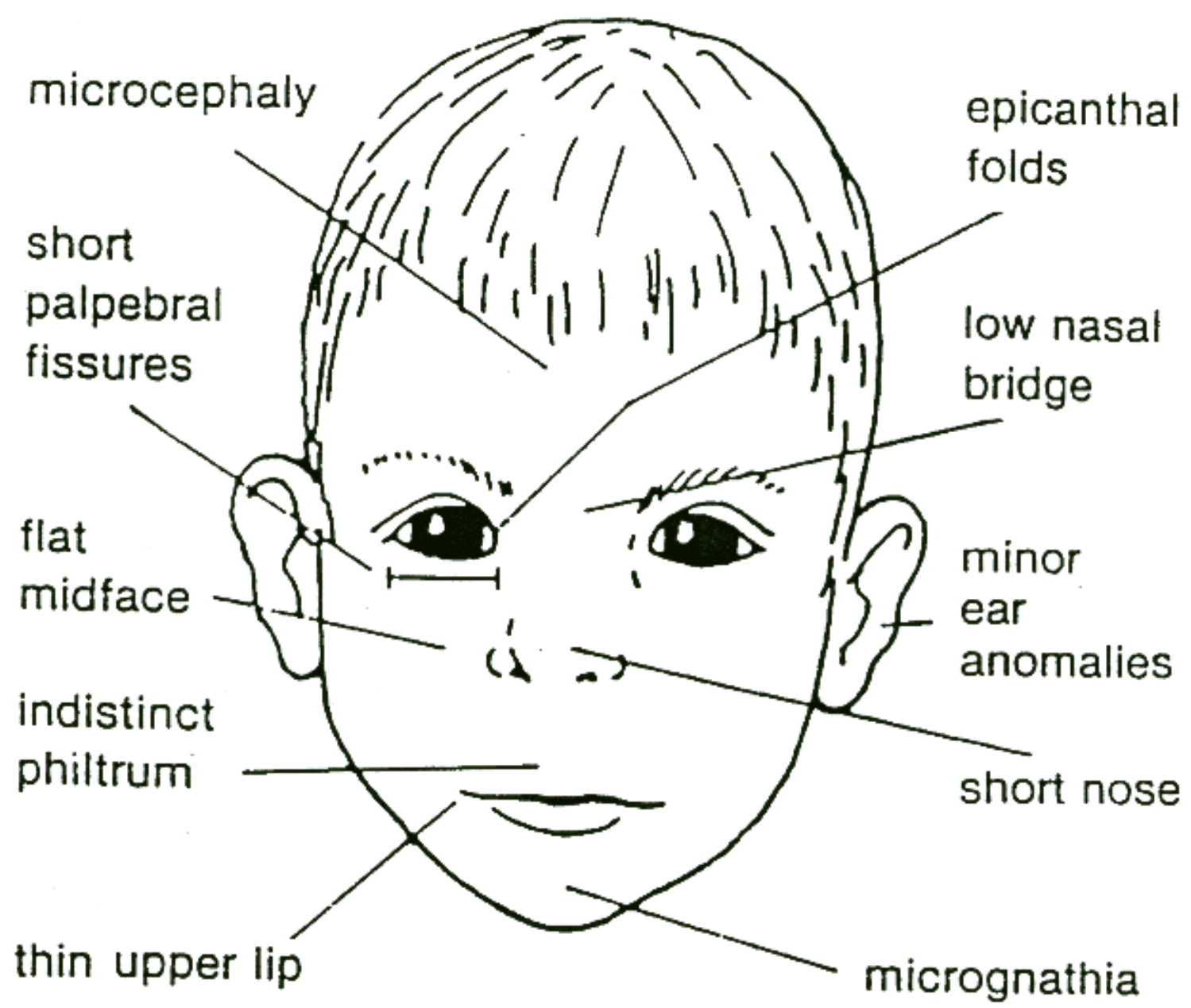
- **Slows fetal growth**
- **Increases risk of preterm delivery**
- **Dose dependent**
- **Doubles risk of placental problems**
- **Increases risk of PROM**
- **Newborn – withdrawal like symptoms**
- **SIDS – 3X as likely**

# **Alcohol**

- **40,000 babies affected each year**
- **No level of alcohol is safe**
- **13% of pregnant women use alcohol**
- **3% of pregnant women binge  
(5 or more drinks per sitting)  
or drink frequently (7 or more per wk)**
- **Alcohol level of fetal blood may be  
higher than mothers and can remain  
higher longer**
- **Miscarriage, LBW, and stillbirth**

# **Fetal alcohol spectrum disorder**

- **Fetal alcohol syndrome most severe**
- **Only cause of MR preventable**
- **Small at birth and do not catch up**
- **Characteristic facies**
- **Heart may be abnormal**
- **Small brain**
- **Mental disability – short attention span**
- **Poor coordination**
- **Emotional and behavioral problems**



microcephaly

epicanthal folds

short palpebral fissures

low nasal bridge

flat midface

minor ear anomalies

indistinct philtrum

short nose

thin upper lip

micrognathia

# **Fetal alcohol effects**

- **More difficult to diagnose**
- **F AE 3 times as common as FAS**
- **Lesser degrees of physical (ARBD)  
and mental birth defects (ARND)**

# **Illicit drug use**

- **3% pregnant women use MJ, cocaine, ecstasy, amphetamines, heroin**
- **1/10 by some blinded screening**
- **Tobacco and alcohol also**
- **Different drugs can have different effects**

# **Medical Conditions of Pregnancy**

- **Hypertension**
- **Diabetes**
- **Heparin use**
- **Aspiration**

# **Hypertensive disorders of pregnancy - 12 to 22%**

- **140/90 vs. 180/110**
- **Chronic hypertension**
- **Preeclampsia- 5 to 8%**
- **Eclampsia**
- **Adverse pregnancy outcomes**

# **Hypertensive disorders: adverse outcomes**

- **Premature birth**
- **Intrauterine growth restriction**
- **Fetal demise**
- **Placental abruption**
- **Cesarean delivery**

# **Peridontal Disease and Preeclampsia**

- **Severe periodontal disease increased the odds for preeclampsia**  
**OR = 2.4 (95% CI 1.1 - 5.5)**  
**Boggess 2003**
  
- **Periodontal disease increased the odds for preeclampsia**  
**OR = 3.47 (1.07- 11.95)**  
**Canakci 2004**

# **Diabetes**

- **Gestational type III - 2 to 5%**
- **Type II diabetes - insulin resistance**
- **Type I diabetes**
- **Importance of control**
- **Importance of oral health**

# **Use of heparin**

- **Thrombosis**
- **Adverse pregnancy outcome - pregnancy loss and/or FGR**
- **Thrombophilia**
- **Invasive dental care (SRP)**

# **FDA drug classification for pregnancy**

- **Combines risk statements including congenital anomalies, fetal effects, perinatal risks, and therapeutic risk-benefit ratio**
- **Untreated disease or condition may pose more serious risks to both mother and fetus than any theoretical risks from the medication**
- **Category A thru D and X**

# **FDA classification**

- **A - controlled studies in humans have demonstrated no fetal risks -**
  - very few such drugs - prenatal vitamins
- **B - animal studies indicate no fetal risks but no human studies OR adverse effects in animals but no well controlled human studies -**
  - PCN, cephalosporins, metronidazole, acetaminophen, morphine, merperidine

# **FDA Classification**

- **C - no adequate studies either human or animal OR adverse fetal effects in animals but no human data**
  - many drugs - codeine beta blockers, heparin, acyclovir
- **D - evidence of fetal risk but benefits outweigh risks - phenobarbital, phenytoin, valproic acid, lithium**
- **X - proven fetal risks too great - isotretinoin and thalidomide**

# **Prophylactic antibiotics**

- **Pregnancy is not an indication for prophylactic antibiotics**
- **Transient bacteremia**
- **Subacute bacterial endocarditis same criteria**

# **What do you expect from a prenatal care provider?**

- **Ask**
- **Assess**
- **Advise**
- **Arrange**
- **Assist**

# **Role of prenatal care providers**

- **Ask and advise**
  - **Do you have bleeding gums, toothache, cavities, loose teeth or other problems in your mouth?**
  - **Have you had a dental visit in the last 6 months?**

Do you have bleeding gums, toothache, cavities, loose teeth or other problems in your mouth?

YES

- Refer to a dentist
- Stress the importance of timely visit
- Inquire if the pregnant woman needs help in accessing dental care

**Do you have bleeding gums, toothache, cavities, loose teeth or other problems in your mouth?**

NO

-Ask the next question:  
Have you had a dental visit in the last 6 months?

YES

- Encourage the pregnant woman to keep the next appointment
- Reassure that dental care during pregnancy is effective and safe

NO

- Encourage the pregnant woman to make a dental appointment as soon as possible

# **Recommendations**

- **Encourage all women to schedule an oral health examination.**
- **Encourage patients to adhere to the recommendations regarding appropriate follow-up.**
- **Document in the prenatal care plan.**
- **Facilitate treatment by providing written medical clearance.**

**MEDICAL CLEARANCE FOR PREGNANT WOMAN  
TO RECEIVE ORAL HEALTH CARE**

**Estimated date of delivery:** \_\_\_\_\_

**Weeks gestation today** \_\_\_\_\_

**KNOWN ALLERGIES:**

**Is obstetrically cleared for routine dental evaluation and care, including but not limited to:**

- Oral health examination
- Dental x-ray with abdominal and neck lead shield
- Dental prophylaxis
- Local anesthetic with lidocaine and epinephrine
- Restorative dentistry (amalgam or composite)
- Scaling and root planing (deep teeth cleaning)
- Root canal
- Extraction

**If needed, patient may have Tylenol #3 pain control, unless allergic.**

**If needed, patient may have penicillin or cephalosporins.**

**DENTIST'S REPORT (for the Prenatal Care Provider)**

**NAME:** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

(Signature)

**Diagnosis:** \_\_\_\_\_

\_\_\_\_\_

**Treatment Plan:** \_\_\_\_\_

\_\_\_\_\_

# **Education - Include Dental Care:**

- **Dental care is safe and effective**
- **First trimester diagnosis and treatment can be undertaken safely**
- **Delay in treatment could result in adverse effects**

# **Advise women that the following actions will improve their health:**

- **Brush twice daily with a fluoride toothpaste and floss**
- **Eat foods containing sugar at mealtimes only, and limit the amount**
- **Avoid carbonated beverages**
- **Choose fruit rather than fruit juice**

# **Recommendations**

**Suggest the following to reduce tooth decay in women with nausea and vomiting:**

- **Eat small amount of nutritious yet noncariogenic foods throughout the day**
- **Use a teaspoon of baking soda (sodium bicarbonate) in a cup of water and rinse after vomiting to neutralize acid**
- **Chew sugarless or xylitol gum after eating**
- **Use gentle tooth brushing to prevent damage to demineralized tooth surfaces**

# **Advise women that the following actions may reduce the risk of caries in children:**

- **Wipe an infant's teeth after feeding**
- **Supervise children's brushing and use a small (size of child's pinky nail) amount of toothpaste**
- **Avoid putting the child to bed with a nursing bottle or "sippy cup" containing sugary liquids**
- **Feed foods containing sugar at mealtimes only, and limit the amount**
- **Avoid saliva-sharing activities between adults and child (i.e. tasting baby food)**
- **Alter saliva sharing activities between children via toys, pacifiers etc.**
- **Visit the oral health professional with the new child between 6 months and first birthday**

# **Questions that a dentist may ask**

- **Can I take x-rays?**
- **Can I inject local anesthesia with epinephrine?**
- **Can I administer 30% nitrous oxide for analgesia?**
- **What medications can I prescribe?**
- **Are topical agents safe?**
- **When should restorations and other necessary be performed?**
- **Can I use mercury restorations?**

# **Is it safe to take x-rays?**

- **“No single diagnostic procedure results in a radiation dose significant enough to threaten the well-being of the developing embryo and fetus.”**

**American College of Radiology**

- **“Undergoing a single...X-ray...does not result in radiation exposure adequate to threaten the well-being of the developing preembryo, embryo or fetus and is not an indication for an abortion.”**

**American College of Ob-Gyn**

# **Precautions**

- **Use abdominal and thyroid shields**
  - **Use health history and clinical judgment**
  - **Limit the number of x-rays**

# Antepartum Dental Radiography and Infant Low Birth Weight

Philippe P. Hujoel, PhD

Anne-Marie Bollen, PhD

Carolyn J. Noonan, MS

Michael A. del Aguila, PhD

**P**REPUBERTAL, ADOLESCENT, AND pregnant females exposed to ionizing radiation may be at an increased risk for delivering a low-birth-weight (LBW) infant (<2500 g). In prepubertal girls, high-dose therapeutic radiation for childhood cancers has been associated with an increased risk for future LBW offspring, and a direct relationship has been reported between the radiation dose and LBW risk.<sup>1-3</sup> In adolescents, diagnostic radiation for idiopathic scoliosis was also associated with a dose-dependent increased LBW risk.<sup>4</sup> In pregnant women, medical x-ray radiation, not dental x-ray radiation, has been associated with an increased LBW risk,<sup>3</sup> and exposure to the atomic bomb explosion in Hiro-

**Context** Both high- and low-dose radiation exposures in women have been associated with low-birth-weight offspring. It is unclear if radiation affects the hypothalamus-pituitary-thyroid axis and thereby indirectly birth weight, or if the radiation directly affects the reproductive organs.

**Objective** To investigate whether antepartum dental radiography is associated with low-birth-weight offspring.

**Design** A population-based case-control study.

**Participants and Setting** Enrollees of a dental insurance plan with live singleton births in Washington State between January 1993 and December 2000. Cases were 1117 women with low-birth-weight infants (<2500 g), of whom 336 were term low-birth-weight infants (1501-2499 g and gestation  $\geq$ 37 weeks). Four control pregnancies resulting in normal-birth-weight infants ( $\geq$ 2500 g) were randomly selected for each case (n=4468).

**Main Outcome Measures** Odds of low birth weight and term low birth weight by dental radiographic dose during gestation.

**Results** An exposure higher than 0.4 milligray (mGy) during gestation occurred in 21 (1.9%) mothers of low-birth-weight infants and, when compared with women who had no known dental radiography, was associated with an adjusted odds ratio (OR) for a low-birth-weight infant of 2.27 (95% confidence interval [CI], 1.11-4.66,  $P=.03$ ). Exposure higher than 0.4 mGy occurred in 10 (3%) term low-birth-weight pregnancies and was associated with an adjusted OR for a term low-birth-weight infant of 3.61 (95% CI, 1.46-8.92,  $P=.005$ ).

**Conclusion** Dental radiography during pregnancy is associated with low birth weight, specifically with term low birth weight.

JAMA. 2004;291:1987-1993

www.jama.com

**Odds Ratios and 95% Confidence Intervals for LBW and TLBW associated with Ionizing Radiation during gestation and the Impact of controlling over the risk factors.**

	> 0.4 mGy		0.1 – 0.4 mGy	
	Unadjusted	Adjusted	Unadjusted	Adjusted
LBW	1.80 (1.09 – 2.97)	2.27 (1.11 – 4.66) *	1.09 (0.87 – 1.36)	1.20 (0.88 – 1.63) *
		2.54 (1.23 – 5.21) **		1.29 (0.95 – 1.76) **
TLBW	3.05 (1.53 – 6.08)	3.61 (1.46 – 8.92) *	1.30 (0.92 – 1.85)	1.66 (1.09 – 2.53) *
		3.54 (1.40 – 8.96) **		1.66 (1.08 – 2.56) **

\* Adjusted for Smoking, chronic hypertension, preeclampsia, alcohol use, marital status, diabetes: Indicator variables. Duration of dental insurance eligibility, weight gain, pre-pregnancy weight: Continuous var.

\*\* Adjusted for above variables + dental procedures (preventive, restorative, endodontic, periodontal, fixed and removable prosthodontic, oral surgery and orthodontic).

# **Editorial comments**

- **JAMA - Reiman, Duke; Lockhart, Dickson Institute for Health Studies, Charlotte**
- **JADA - Moore and Preece, University of Texas at San Antonio**
- **Journal of Radiological Protection - Boice, Vanderbilt and International Epidemiology Institute, Stovall, MD  
Anderson, Green, Roswell Park Cancer Institute**

# Guidelines For Prescribing Dental Radiographs

Patient Category <i>(Adult)</i>	Dentulous
New Patient	<ul style="list-style-type: none"><li>- Post. bite-wings &amp; selected periapicals</li><li>- Full mouth intraorals (if clinical evidence of generalized disease/extensive R)</li></ul>
Recall Patient	<ul style="list-style-type: none"><li>- Post. bite-wings, 12-18 month interval</li></ul>
No clinical caries/ High risk factors for caries	<ul style="list-style-type: none"><li>- Post. bite-wings, 24-36 month interval</li></ul>
Periodontal Disease/ History of periodontal treatment	<ul style="list-style-type: none"><li>- Selected periapical &amp;/ bite-wings for areas where periodontal disease is clinically demonstrated</li></ul>

# **Is it safe to inject local anesthetic?**

- **Yes.**
  - **Lidocaine 2% category B**
  - **Mepivacaine 3% category C**
  - **Epinephrine**

# **Is it safe to administer nitrous oxide?**

- **Should be used only when local anesthesia is not adequate**
- **Concerns**
  - **Occupational hazard**
  - **Aspiration**
  - **Hypoxia**
  - **Hypotension**
  - **Second trimester procedures**

# Antibiotics

<b>Recommended</b>	<b>Not recommended</b>
<b>Penicillin</b> <b>Amoxicillin</b> <b>Cephalosporins</b> <b>Clindamycin</b> <b>Erythromycin (except estolate form)</b>	<b>Tetracycline</b> <b>Erythromycin estolate</b> <b>Quinolones</b> <b>Clarithromycin</b>

# Analgesics

<b>Recommended</b>	<b>Not recommended</b>
<ul style="list-style-type: none"><li>• <b>Acetaminophen</b></li><li>• <b>Codeine</b></li><li>• <b>After 1<sup>st</sup> trimester</b></li><li>• <b>NSAID</b><ul style="list-style-type: none"><li>– <b>Ibuprofen</b></li><li>– <b>Naprosyn</b></li></ul><b>(for 24 to 72 hours only)</b></li></ul>	<p><b>Aspirin</b></p>

# **When should restorations/ necessary work be performed?**

- **Needed treatment should be provided any time**
- **Second trimester - early 14 to 20 weeks is preferred**
- **Pre-anesthesia evaluation may require addressing loose teeth and restorations prior to time of delivery**

# **Is it safe to use mercury restorations?**

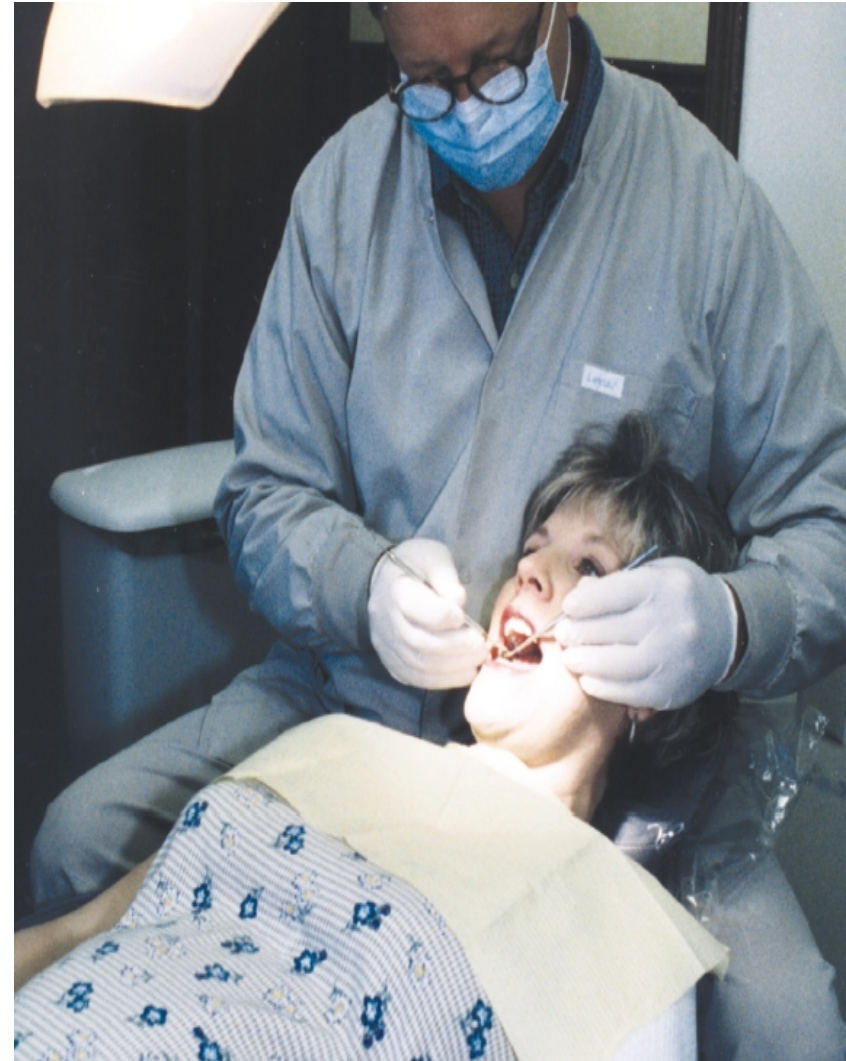
- **No evidence of harmful effect (FDA 1997; LSRO 2004)**
- **Benefits outweigh risks**
- **Canada, Germany, and New Zealand have some restrictions**

# **Are topical agents safe?**

- **Fluoride**
  - **Toothpaste & mouthrinse**
- **Xylitol chewing gum**
- **Chlorhexidine (11% alcohol)**
- **No over the counter mouthrinses with alcohol (Listerine 20% alcohol)**

# How should the pregnant woman be positioned?

- Flat position may cause hypotension and hypoxia
- Place a small pillow under right hip - left lateral displacement
- Head above feet



# **Your role in improving maternal-child health**

- **Educate providers and patients**
  - **Oral health is part of overall health**
  - **Dispel myths and misconceptions**
  - **Incorporate oral health care into routine prenatal care**
- **Partner with prenatal providers**
- **Provide treatment when needed**