“Too Many Pregnant Women are not getting timely dental care.”

- The New York Times
The Midwifery Profession

Frontline Promoters of Oral Health for Women and Newborns

Judith Haber, PhD, APRN, BC, FAAN

Associate Dean of Graduate Programs
The Ursula Springer Leadership Professor in Nursing
New York University College of Nursing
Oral Health in America (2000)
• **~130 million** US adults and children lack dental coverage (National Association of Dental Plans 2014)

• More than **75%** of pregnant women were declined dental services because of pregnancy (Morgan et al., 2009)

• Gingivitis affects **60-75%** of pregnant women (American Dental Association Council on Access, Prevention and Interprofessional Relations, 2006)

• ECC is one of the most common chronic diseases (Centers for Medicare & Medicaid Services, 2015)

• Application of fluoride varnish can reduce caries by **25-45%** (Marya & Dahiya, 2006)

• **50 million** school hours per year lost b/c of oral health related illness (pain, infection) (Gift, 1997)
Leading Health Topics

- Access to Health Services
- Clinical Preventive Services
- Environmental Quality
- Injury and Violence
- Maternal, Infant, and Child Health
- Mental Health
- Nutrition, Physical Activity, and Obesity
- Oral Health
- Reproductive and Sexual Health
- Social Determinants
- Substance Abuse
- Tobacco
Integration of Oral Health and Primary Care Practice

U.S. Department of Health and Human Services
Health Resources and Services Administration
February 2014

HEENOT article


Competency Domain 1: • Risk Assessment

Competency Domain 2: • Oral Health Evaluation

Competency Domain 3: • Preventive Intervention

Competency Domain 4: • Communication and Education

Competency Domain 5: • Interprofessional Collaborative Practice
Interprofessional Patient Care

Core Competencies for Interprofessional Collaborative Practice

Sponsored by the Interprofessional Education Collaborative*

Report of an Expert Panel

May 2011
Team Building

- Interprofessional Teamwork and Team-based Practice
- Interprofessional Communication Practices
- Values/Ethics for Interprofessional Practices
- Roles and Responsibilities for Collaborative Practice

COMMUNITY AND POPULATION ORIENTED

Patient and Family Centered
Increased Oral and Overall Health Outcomes

Health & Education Systems

Collaborative Practice

Increased Access to Oral Healthcare, Reduced Oral Health Disparities

Community

IP Oral-Systemic Education

Builds Primary Care Oral Health Workforce Capacity

Fragmented Oral Healthcare System

National Oral Health Needs

Curriculum Overview

www.smilesforlifeoralhealth.org

8 annotated 50 minute modules: Web and Powerpoint

- Oral to Systemic Health
- Children’s Oral Health
- Adult’s Oral Health
- Acute Dental Problems
  - Pregnant Patient
  - Fluoride Varnish
  - Oral Exam
- Geriatric Oral Health

8 annotated 50 minute modules: Web and Powerpoint

www.smilesforlifeoralhealth.org
Curriculum Impact

- Downloads
- In over 100 schools & training programs
- Core curriculum for NIIOH
  - Nurses
  - Midwives
  - Physicians
  - Physician assistants
  - Dentists
  - Dental Hygienists

www.smilesforlifeoralhealth.org
Post Assessment

In order to receive credit for this course you must score a minimum of 80% on this assessment. If you do not score a minimum of 80%, you will have to retake the test in order to receive credit.

1. Which of the following is a FALSE statement?
   - A. Gingivitis is very common in pregnancy
   - B. Periodontitis is associated with preterm birth
   - C. Treatment of periodontitis in pregnancy decreases the risk of preterm birth
   - D. Deep root scaling to improve periodontitis is safe during pregnancy

2. Which of the following is a TRUE statement:
   - A. Mothers with caries pass their genetic predisposition for caries on to their babies
   - B. Mothers with caries pass caries-causing bacteria to their babies in utero
   - C. Mothers with caries pass caries-causing bacteria to their infants early in life via saliva transmission
   - D. All of the above

3. A pregnancy granuloma:
   - A. Has malignant potential and should be biopsied
   - B. Should be excised during pregnancy even if asymptomatic to avoid complications
   - C. Can be observed
   - D. Is not likely to recur if excised
Today’s Overview

• Oral Health in Pregnancy
• Tips for Moms
• Oral Healthcare Integration into Education
References


“It is vital for medical professionals caring for pregnant women to understand the relationship between oral infections and birth outcomes.”

-Robert Kovarik, DMD, MS
Oral Health in Pregnancy

Mimi Niles, CNM, MSN, MPH
New York University College of Nursing
REALITY

A pregnant woman’s physical and oral health are key to responsible health planning and promotion.
GOAL

Ensure that every pregnancy is a healthy pregnancy.
Oral Health & Pregnancies

- Access to dental care is directly related to income level (ACOG, 2013)
- Yet, 40% of pregnant women have some form of periodontal disease (Lieff et al., 2004)
- 22-34% of all pregnant women visit the dentist (Silk et al., 2008)
- Only 50% of pregnant women with dental problem visit a dentist (Gaffield et al., 2001)
- Even among women with dental insurance, dental care declines during pregnancy
Oral Health Care Myths

- You shouldn’t have any dental work done during pregnancy
- For every pregnancy, you lose a tooth
- Fetus will be harmed by x-rays or medications used during dental visit
• Optimal maternal oral hygiene during the perinatal period may decrease the amount of caries-producing oral bacteria transmitted to the baby

• Studies show a possible association between periodontal infection and preterm birth

• Evidence fails to show improvement in outcomes after dental treatment after pregnancy

• NO research demonstrates negative effect of periodontal treatment during pregnancy
Risks In Pregnancy

- **Dental caries**: 1 out of 4 women (Silk et al., 2008)

- **Gingivitis**: most common oral disease with 75% incidence (Russell & Mayberry, 2008)

- **Periodontitis**: 1 out of 3 women (Stefanac, 2001)
Gingivitis and Periodontal Disease

- **Gingivitis** affects 25 – 75% of pregnant women (Clark et al., 2010)
- **Periodontitis** is a severe form of gum disease causing destruction of gums and bones leading to tooth loss
- You don’t have to lose a tooth with each pregnancy!
Untreated Periodontal Disease

- Bacteria from the mothers’ mouth can reach the systemic blood stream and consequently reach the baby. When left untreated it may be associated with:
  - Pre Term Labor
  - Pre Term Birth
  - Poor glycemic control
Enamel Erosion and Pregnancy Granulomas

- **Enamel erosion**: Caused by vomiting or reflux & can be reduced by having woman rinse with water or water with baking soda after vomiting.

- **Granuloma**: 5% of pregnant women are affected (Clark et al., 2010)
  - Usually resolves itself after delivery.
  - If bleeding or problems with chewing occur, refer for removal.

- **Caries**: Mothers with high rates of caries are more likely to have children with high rates of caries.
What’s a Midwife to do?

- Address **dental hygiene** as a part of well women health
- Include **HEENOT** exam every trimester
- **Proactively** recommend dental care during pregnancy
- **Reassure** patients that prevention, diagnosis and treatment of oral conditions including dental x-rays (with abdominal shielding), and local anesthesia (lidocaine with or without epinephrine), are **safe** during pregnancy
What’s a Midwife to do?

• Include questions on oral health on patient-intake form or initial visit
• Establish community partnerships
• Integrate oral health topics in prenatal classes
• Provide ongoing nutritional support
What's a Midwife to do?


Pharmacological Considerations for Pregnant Women

The pharmacological agents listed below are to be used only for indicated medical conditions and with appropriate supervision.

<table>
<thead>
<tr>
<th>Pharmaceutical Agent</th>
<th>Indications, Contraindications, and Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analgesics</strong></td>
<td></td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>May be used during pregnancy.</td>
</tr>
<tr>
<td>Acetaminophen with Codeine, Hydrocodone, or Oxycodone</td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td></td>
</tr>
<tr>
<td>Meperidine</td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>May be used in short duration during pregnancy; 48 to 72 hours. Avoid in 1st and 3rd trimesters.</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td></td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
</tr>
<tr>
<td><strong>Antibiotics</strong></td>
<td></td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>May be used during pregnancy.</td>
</tr>
<tr>
<td>Cephalosporins</td>
<td></td>
</tr>
<tr>
<td>Clindamycin</td>
<td></td>
</tr>
<tr>
<td>Metronidazole</td>
<td></td>
</tr>
<tr>
<td>Penicillin</td>
<td></td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>Avoid during pregnancy.</td>
</tr>
<tr>
<td>Clarithromycin</td>
<td></td>
</tr>
<tr>
<td>Levofloxacin</td>
<td></td>
</tr>
<tr>
<td>Moxifloxacin</td>
<td></td>
</tr>
<tr>
<td>Tetracycline</td>
<td>Never use during pregnancy.</td>
</tr>
<tr>
<td><strong>Anesthetics</strong></td>
<td></td>
</tr>
<tr>
<td>Local anesthetics with epinephrine (e.g., Bupivacaine, Lidocaine, Mepivacaine)</td>
<td>May be used during pregnancy.</td>
</tr>
<tr>
<td>Nitrous oxide (30%)</td>
<td>May be used during pregnancy when topical or local anesthetics are inadequate. Pregnant women require lower levels of nitrous oxide to achieve sedation; consult with prenatal care health professional.</td>
</tr>
<tr>
<td><strong>Over-the-Counter Antimicrobials</strong></td>
<td>Use alcohol-free products during pregnancy.</td>
</tr>
<tr>
<td>Cetylpyridinium chloride mouth rinse</td>
<td>May be used during pregnancy.</td>
</tr>
<tr>
<td>Chlorhexidine mouth rinse</td>
<td></td>
</tr>
<tr>
<td>Xylitol</td>
<td></td>
</tr>
</tbody>
</table>
Pregnancy may be the **only time** that dental care is covered by a public insurance dental benefit!

- Keep the pregnancy healthy by keeping the pregnant mouth healthy!
- Consistent and regular dental visits are key especially important during pregnancy.
- It is not only safe to see the dentist, it is the **right choice** for mother and baby!
- Get to know the dentists in your area and refer all pregnant women!
• Demonstrate inclusion of oral health in the HEENT components of the comprehensive history and physical exam (HEENOT)

• Develop a risk profile that includes oral and/or oral-systemic health problems

• Collaboration and Referral
Develop a patient-centered management plan that includes oral health interventions related to overall health

- Smoking Cessation
- Tooth Brushing and Flossing
- Fluoride Varnish Application
- Oral Cancer Screening
- Engaging Patients in Behavioral Change using Motivational Interviewing
- Parental Anticipatory Guidance
  - Lifestyle Counseling
  - Eating Disorders
  - Diabetes
  - Hypertension
  - Sexually Transmitted Diseases
  - Dentures
- Symptom Management
  - Xerostomia
  - Mucositis
  - Oral Lesions
Oral Health Care During Pregnancy: A National Consensus Statement
References


“Many pregnant women don’t seek dental care, perhaps out of misplaced fear or neglect.

- The New York Times
Tips for Moms

Jill Fernandez, RDH, MPH
Clinical Associate Professor
NYU College of Dentistry, New York University
**Principal Investigators**

- **Donna Hallas PhD, CPNP, FAANP, Principal Investigator**  
  - *NYU College of Nursing*

- **Jill B. Fernandez, RDH, MPH**  
  - *NYU College of Dentistry*

- **Dr. Peter Catapano, DDS,**  
  - *Bellevue Hospital, Pediatric Dentistry*

- **Lily Lim, DMD**  
  - *NYU College of Dentistry*

*This study was funded, in part, by the American Dental Association, Samuel D. Harris Fund for Children’s Dental Health*
Determine impact of interprofessional collaborative oral health educational program for mothers of newborns prior to hospital discharge from post partum unit on oral health status of infants 6-months and 12-months old
• Prospective randomized controlled trial was conducted from September 30, 2010 - October 31, 2011

• Randomization to either treatment or control group of mothers on the postpartum unit at Bellevue Hospital
TREATMENT GROUP

• Enter Study
• Consent Signed
• Pretest: Oral Health
• Treatment Intervention
  - Oral Health Education DVD
• 6 Month follow-up visit
  - Post-test Oral Health
  - Caries Risk Assessment
  - Infant Oral Health Assessment & Fluoride
    - Education
CONTROL GROUP

• Enter Study
• Consent Signed
• Pretest: Oral Health
• Control Intervention
  - Routine Infant Care DVD
• 6 Month follow-up visit
  - Post-test Oral Health
  - Caries Risk Assessment
  - Infant Oral Health Assessment & Fluoride
  - Education
Follow-up Visits

6-12 MONTHS OLD
• N = 94 mothers and their newborn infants (all single births)
  - N = 49 mothers spoke Spanish:
    10 of them spoke both English and Spanish
  - N = 45 English Speaking mothers and other languages including 1 Chinese, 5 Bangledesh, 2 Russian, 1 Turkish

• N = 47 in treatment group
• N = 47 in control group

* All babies were between 1 and 5 days old when the mothers were enrolled in the study.
Parental education during the newborn/maternal postpartum period is the ideal time to begin primary prevention strategies to prevent cavities in infants as mothers are excited to learn about caring.
Knowledge on infant oral health should be added to the undergraduate and graduate nursing curriculum.
“Giving birth to my sons was the most important event in my life.”

-Ruth Lubic
A Natural Combination!
Integrating Oral-Systemic Health Competencies in a Midwifery Education Program

Erin Hartnett  DNP, APRN-BC, CPNP
Program Director
Oral Health Nursing Education and Practice (OHNEP)
Teaching Oral Systemic Health (TOSH)
How are you planning to include oral health into your midwifery program and/or practice when you come home?
HEENOT:

- Health History
- Oral-Systemic Risk Assessment
- Physical Health Exam
- Action Plan (preventive interventions, management within scope of practice)
- Collaboration
- Referral

Essential Oral Health Documents

- Advancing Oral Health in America
- Improving Access to Oral Health Care for Vulnerable and Underserved Populations
- Measuring Interprofessional Collaborative Patient Workshops
- Integration of Oral Health and Primary Care Practice
- Public Health Learning Modules: Using Health Literacy to Improve the Oral Health of Vulnerable Populations
- Oral Health Care During Pregnancy: A National Consensus Statement
- Core Competencies: Interprofessional Oral-Systems Simulation and Case Study Examples
- Faculty Interprofessional Education (IPE) Facilitation Guide: Interprofessional Oral-Systems Simulation and Case Study

U.S. Department of Health and Human Services
Health Resources and Services Administration
February 2014
OHNEP: Resource Hub

Feeling Good in Your Neighborhood

OHNEP LEADS THE WAY

OHNEP is at the vanguard of helping nurse practitioners, nurse-midwives, nurses, and other health professionals incorporate oral health into patient care.

Why? Oral health and general health are interconnected. Research is finding that poor oral health like periodontal disease is associated with diabetes, cancer, heart and lung diseases, and progression of dementia and Alzheimer's, among others. Yet few health professionals are prepared to do routine oral health assessments.

OHNEP is changing that.

As a national voice promoting interprofessional oral health, OHNEP advocates, educates, creates and promotes resources that primary care clinicians can use to improve the quality of oral health care in their patients. The OHNEP website serves as a knowledge center and portal for best practices.

www.ohnep.org
The OHNEP Interprofessional Oral Health Faculty Toolkit

Nurse Midwifery Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Midwifery Health Assessment of Women & Gynecology
- Midwifery Care During Pregnancy
- Midwifery Care of Women During Labor, Birth, Postpartum & Care of Newborns
- Resources

www.ohnep.org/faculty-toolkit
Midwifery Care During Pregnancy Course

<table>
<thead>
<tr>
<th>ENTRY LEVEL ASSESSMENT</th>
<th>SUMMATIVE ASSESSMENT</th>
<th>INTER-PROFESSIONAL PARTNERSHIP &amp; COLLABORATIVE PRACTICE FOR OPTIMIZATION OF PATIENT HEALTH OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1) EXPOSURE</strong></td>
<td><strong>2) IMMERSION</strong></td>
<td><strong>3) COMPETENCY</strong></td>
</tr>
<tr>
<td><strong>KNOWLEDGE: ORAL HEALTH IN PREGNANCY MYTHS</strong></td>
<td><strong>SKILL/BEHAVIOR</strong></td>
<td><strong>SKILL/BEHAVIOR</strong></td>
</tr>
<tr>
<td>Goal: Identify common myths about oral health during pregnancy</td>
<td>Goal: Demonstrate ability to dispel a common myth about oral health during pregnancy</td>
<td>Goal: Demonstrate ability to analyze contemporary issues, policies, and health care system(s) factors that influence oral-systemic health outcomes for mother and baby</td>
</tr>
<tr>
<td>- Read: Oral health care during pregnancy: national consensus statement (Shannon et al., 2012)</td>
<td>- Conduct a literature review and write an evidence-based argument to dispel one of the common myths about oral health during pregnancy</td>
<td>- Identify a policy that would help pregnant women in your catchment area overcome barriers to accessing oral health care. Prepare a brief evidence-based speech to present this policy to your local representative.</td>
</tr>
<tr>
<td>- Committee opinion no. 568: oral health care during pregnancy and through the lifespan (ACOG, 2013)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>KNOWLEDGE: PREGNATAL ORAL HEALTH CARE</strong></td>
<td><strong>SKILL/BEHAVIOR</strong></td>
<td><strong>SKILL/BEHAVIOR</strong></td>
</tr>
<tr>
<td>Goal: Describe oral exam of the pregnant woman</td>
<td>Include oral health history, risk assessment and HEDNOT in prenatal care in simulation lab</td>
<td>Demonstrate competency in oral health history, risk assessment and HEDNOT in prenatal visit in clinical setting</td>
</tr>
<tr>
<td>- Complete Smiles for Life, Module 5</td>
<td>- Discuss SFL Oral Health in Pregnancy Case Study 1 (Appendix 4)</td>
<td>- Review Putting the Mouth Back in the Head: HEDNOT to HEENT (Haber et al., 2015)</td>
</tr>
<tr>
<td>- Complete Quizzes for SFL module 5 (Appendix 1)</td>
<td>- Discuss safe antibiotic choices for pregnant women</td>
<td>- Document HEDNOT findings in electronic health record</td>
</tr>
<tr>
<td>- Submit SFL certificate of completion</td>
<td>- Discuss risk factors for periodontal disease in pregnancy</td>
<td>- Develop a community dental resource network and have a list of accessible dental providers, including those who accept Medicaid, to offer to your pregnant patients</td>
</tr>
<tr>
<td><strong>KNOWLEDGE: COMMON DISCOMFORTS OF PREGNANCY</strong></td>
<td><strong>SKILL/BEHAVIOR</strong></td>
<td><strong>COLLABORATIVE CASE PRESENTATION</strong></td>
</tr>
<tr>
<td>Goal: Describe common oral problems in pregnancy and how they can influence oral-systemic health outcomes for mother and baby</td>
<td>Demonstrate understanding of health literacy and strategies to improve oral health behaviors</td>
<td>Goal: Identify a collaborative care plan for pregnant patient with periodontal disease</td>
</tr>
<tr>
<td>- Read: Oral Health During Pregnancy (Silk et al., 2008)</td>
<td>- Review Two Healthy Smiles Brochure (Appendix 5) and comment on discussion board</td>
<td>- Midwifery and dental student to collaborate on case presentation, including comprehensive antepartum plan of care for the mother and baby, for a pregnant woman with periodontal disease</td>
</tr>
<tr>
<td>- Review SFL Prental Pocket Card (See Appendix 2)</td>
<td>- Review Tips for Good Oral Health During Pregnancy (Appendix 6)</td>
<td>- Read: Evaluation of periodontal pathogens in amniotic fluid and the role of periodontal disease in pre-term birth and low birth weight (Ercan et al., 2013)</td>
</tr>
<tr>
<td>- Complete APTR Oral Health Learning Module Part 2: Oral Health For Pregnant Women and Their Newborns</td>
<td>Following health literacy principles, prepare a FAQ sheet about dental care during pregnancy for pregnant women</td>
<td>- Refer at risk, first-time pregnant women to the local NFP program</td>
</tr>
<tr>
<td>- Read Pharmacological Considerations for Pregnant Women (Appendix 3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.ohnep.org/faculty-toolkit
### Midwifery Care of Women During Labor, Birth, Postpartum & Care of Newborns Course

**1) EXPOSURE**

#### KNOWLEDGE: INFANT ORAL HEALTH EDUCATION FOR NEW MOTHERS

- **Goal:** Describe importance of oral health for mother and baby
- **Watch:** *Teeth for Two* Online Educational Presentation (Password: nys2014)
- **Read:** *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Theme 7: Promoting Oral Health* (Hagan et al., 2008)

#### KNOWLEDGE: ORAL HEALTH CARE OF INFANT

- **Goal:** Describe oral exam and oral care of newborn
- **Read:**
  - *Perinatal and Infant Oral Health Guidelines* (CDA Foundation et al., 2010)

#### KNOWLEDGE: INFANT FEEDING

- **Goal:** Describe relationship between infant feeding decisions and oral health
- **Read:**
  - *Focus On Sub-specialists Forehead for breastfed tongue-tie infants: a fresh look at an old procedure* (Mayer, 2012)
  - *Double-blind, randomized, controlled trial of tongue-tie division and its immediate effect on breastfeeding* (Berry et al., 2012)

**2) IMMERSON**

#### SKILL/BEHAVIOR

- **Goal:** Identify strategies for educating new mothers about infant oral health care
- **Read:** *Nursing strategies to reduce the incidence of early childhood caries in culturally diverse populations* (Hallas et al., 2011)
- **Review:** *Lift the Lip Pamphlet* (Appendix 1)
- **Review:** *Cavity Free Kids Family Engagement Tools* (WDSF, 2014)
- **Watch:** *A Healthy Mouth for Your Baby* video (NIDCR, 2013)

### 3) COMPETENCY

#### SKILL/BEHAVIOR

- **Goal:** Develop a comprehensive, collaborative infant oral health education plan for postpartum mother
- **Midwife and Pediatric Nurse Practitioner student collaborative to provide oral health education and anticipatory guidance for parent of newborn at pediatric clinic**
- **Review:** *Human Papillomavirus Laryngeal Tracheal Papillomatosis Case Study* (Alfano, 2014)

#### SUMMATIVE ASSESSMENT

- **Goal:** Demonstrate competency in oral health history, risk assessment and HEENOT in postpartal and neonatal periods in clinical setting
- **Review:** *Putting the Mouth Back in the Head: HEENOT to HEENOT* (Jaber et al., 2015)
- **Document:** HEENOT findings in EHR
- **Develop:** A community dental resource network and have a list of accessible pediatric dental providers, including those who accept Medicaid, to offer to new mothers
- **Implement:** An oral health anticipatory guidance session with a new mother during the postpartum visit

### INTER-PROFESSIONAL PARTNERSHIP & COLLABORATIVE PRACTICE FOR OPTIMIZATION OF PATIENT HEALTH OUTCOMES

- **Goal:** Identify a collaborative care plan for infant with ankyloglossia
- **Midwifery and dental student to collaborate on case presentation, including parent education on benefits of frenotomy and comprehensive care plan, for infant with tongue-tie**
- **Identify:** A list of pediatric dentists and/or oral surgeons in the community who perform frenotomies
- **Refer:** At risk moms to the WIC program

[www.ohnep.org/faculty-toolkit](http://www.ohnep.org/faculty-toolkit)
Toolkit Endorsers
How to Begin

Read Putting the Mouth back in the Head: HEENT to HEENOT

Identify Oral Health Champions

Implement faculty & preceptor development workshops

Pick & choose assignments from the Midwifery Template
23 Midwifery Programs Incorporating Oral Health in 18 states!
We need YOUR help
References


HOT TOPICS in MIDWIFERY: HPV ASSOCIATED HEAD and NECK CANCER

Jacquelyn L. Fried, RDH, MS
Associate Professor and Director of Interprofessional Initiatives, University of Maryland School of Dentistry
jfried@umaryland.edu
Head and Neck Cancers

Oropharyngeal Cancer

Oral Cancer
The Red Flag: 1988-2004
Incidences Rates of OPC

- HPV status of 271 patients with OPC
- HPV positive cancers by 225%
- HPV negative cancers by 50%

(Chaturvedi, E. 2011)
Incidence of HPV-related OPCs, 1999-2008

Men in all age groups

Women, 15-64 years of age

(Cancer Facts and Figures, 2012)
Incidence of HPV-related OPCs, 1999-2008

4.4% per year

1.9% per year

no significant changes in other racial and ethnic groups
50 percent of Sexually Active males and females contract HPV infection sometime during their lives.
HPV Infection

Two Assumptions:

Genital infection precedes majority of oral infections

Oral HPV infection precedes development of HPV+ HNSCC
Do high risk sexual behaviors cause oral HPV infections?

Oral sex: has been strongly associated with oral HPV infection and increased odds of HPV-OSCC.

- Oral-genital contact
- Oral-anal contact
- Oral-oral contact: French kissing?
- May only be caused by deep penetrating sex
Risk Behaviors for HPV 16 positive OPSCCs

<table>
<thead>
<tr>
<th>Behavior</th>
<th>HPV + OR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime vaginal-sex partners &gt;26</td>
<td>4.2</td>
</tr>
<tr>
<td>Lifetime oral-sex partners &gt;6</td>
<td>8.6</td>
</tr>
<tr>
<td>Casual-sex partner</td>
<td>2.4</td>
</tr>
<tr>
<td>&lt;18 yrs. at first intercourse</td>
<td>2.1</td>
</tr>
<tr>
<td>Rare condom use</td>
<td>2.1</td>
</tr>
<tr>
<td>Sexual partner with h/o</td>
<td>3.9</td>
</tr>
</tbody>
</table>

HPV associated cancer

(Gillison, 2009; D’Souza, 2007); *adjusted for age, gender, family history, oral hygiene, alcohol, tobacco
(Gillison, 2012)

- HPV - not likely to spread through kissing or casual contact
- Most cases of oral HPV can be traced to oral sex
- "There is a strong association for sexual behavior, and that has important implications for public health officials who teach sexual education...."
Oral HPV infection confers a 14-fold increase in risk of HPV cancer

(Gillison et al, 2012)
Carcinoma of soft palate and tonsillar area --
Asymptomatic, pebbly erythematous area.

Courtesy of: Michael Finkelstein and Gilbert Lilly, University of Iowa College of Dentistry and Hardin MD, University of Iowa..
http://www.lib.uiowa.edu/hardin%5Cmd/ui/dent/mouthcancer2.html
Tonsillar Cancer:

Courtesy of Dr. Martin Tyler, McGill University, and PennWell Corporation
Tonsillar Cancer:

Courtesy of Dr. Martin Tyler, McGill University, and PennWell Corporation
Tonsillar Cancer:

Courtesy of Dr. Martin Tyler, McGill University, and PennWell Corporation
Squamous papilloma (wart)

Courtesy of J. Basile
Squamous papilloma (wart)

Courtesy of J. Basile
Secondary condyloma acuminata infection, venereal warts
Focal Epithelial Hyperplasia, AKA Heck’s Disease, typically found in children
Subtle Incipiency
Obvious Lesion
The Role of Midwives in Screening for HPV Oropharyngeal Cancer

- Examination
- Prevention
- Advocacy
- Referral
Vaccine Recommendation

- Advise ALL sexually active teen and adult woman to get vaccinated
- Two FDA-approved vaccines
  Quadrivalent vaccine – *Gardasil* 6,11,16,18 (31)
  Bivalent – *Cervarix* 16,18 (31,33,45)
- Preliminary *Cervarix* studies - promising re oral HPV
- Nonvalent vaccine currently going through clinical trials
- Provider recommendations most effective
Gardasil (approved 2006)

- Protects against cervical, vulvar and vaginal cancer, and venereal warts in males and females
- Recommended for males
- Target population – children $\geq 9$; individuals 27 or older
So little time....
so much more to say......

Thank you for your attention.
Pregnancy & Oral Health

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Good oral health is pivotal to a healthy pregnancy and infant
Background

• Many women do not receive prenatal care during their 1st trimester of pregnancy
• Relatively few women attend prenatal classes
• Many primary providers do not educate gravid patients to get dental care during pregnancy
• Many low income women do not know they are eligible for dental care during pregnancy
• Most low income women do not get their dental needs completed prior to delivery
• Myths exist about why one should not go to a dentist when pregnant
Many women do not know how to prevent dental caries [cavities] or gingivitis [gum disease]

Many women do not know what fluoride is and its role in preventing cavities

Many women do not drink tap water that is fluoridated and do not give it to their children
Impact of Pregnancy on Oral Health

• Morning sickness results in acidic saliva which contributes to erosion of tooth enamel
• Tiredness can result in not tending to proper oral hygiene which can result in gingivitis and periodontitis
• Hormonal changes lead to risk of gingivitis that can be prevented/controlled with good oral hygiene practices
• Consumption of sweet foods and drinks increases bacteria that causes dental caries
Dental Visits During Pregnancy

• Are highly recommended
• Are safe for the woman and infant
• Ensures all caries lesions [cavities] are restored [filled] prior to delivery
• Provides an environment for education to help the woman maintain healthy gums and avoid gingivitis
• Provides the mom education for her infant’s oral health
Oral Health Approach

- Assess
- Educate
- Refer
- Follow-up
Oral Examination
Extra-oral Exam: Structures to Palpate

• Anterior Border of Mandible
• Occipital Lymph Nodes
• Auricular Lymph Nodes
• Parotid Gland and Nodes
• Submental Lymph Nodes

• Submandibular Lymph Nodes
• Superficial and Deep Cervical Lymph Nodes
• Thyroid Gland
• Supraclavicular Lymph Nodes
• Temporomandibular Joint (TMJ)
Lesions You Might Encounter
Herpes Labialis, aka Fever Blister, Cold Sore
Aphthous Ulcer, aka Canker Sore
Pregnancy Gingivitis
Pregnancy Gingivitis
Tooth Decay
Tooth Decay
Maxillary Torus
The Oral Cancer Examination
How to Conduct an Oral Cancer Exam

• https://www.youtube.com/watch?v=rubX2CMRJcA
Extend tongue examining the lateral borders, ventral and dorsal surfaces. Look for tissue changes (e.g., white and red patches) and digitally palpate the tongue for raised lesions or masses.

NOTE: The tongue is the most common site of oral cancers in non-smokers.
Thank you!