



MICHHC Oral Health Manual and Toolkit

For Maternal and Infant Community Health Collaborative (MICHHC) Partners and Prenatal/Perinatal Health and Dental Care Providers in New York State

693 East Ave., Suite 200
Rochester, NY 14607

585-546-4930
Fax: 585-546-3021

www.healthy-baby.net

Acknowledgment

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Executive Summary

BACKGROUND

Oral health is an integral component of overall health and well-being^{1,2,3}. The Surgeon General's report on oral health in 2000 stated that oral health means much more than healthy teeth or merely being free of chronic orofacial pain and pathologic conditions³. The mouth is an entrance to the rest of the body, and oral health affects people's eating, speech and their quality of life⁴. A growing body of research also shows a relationship between the bacterial infection and inflammation in the mouth and various diseases in the rest of the body⁵.



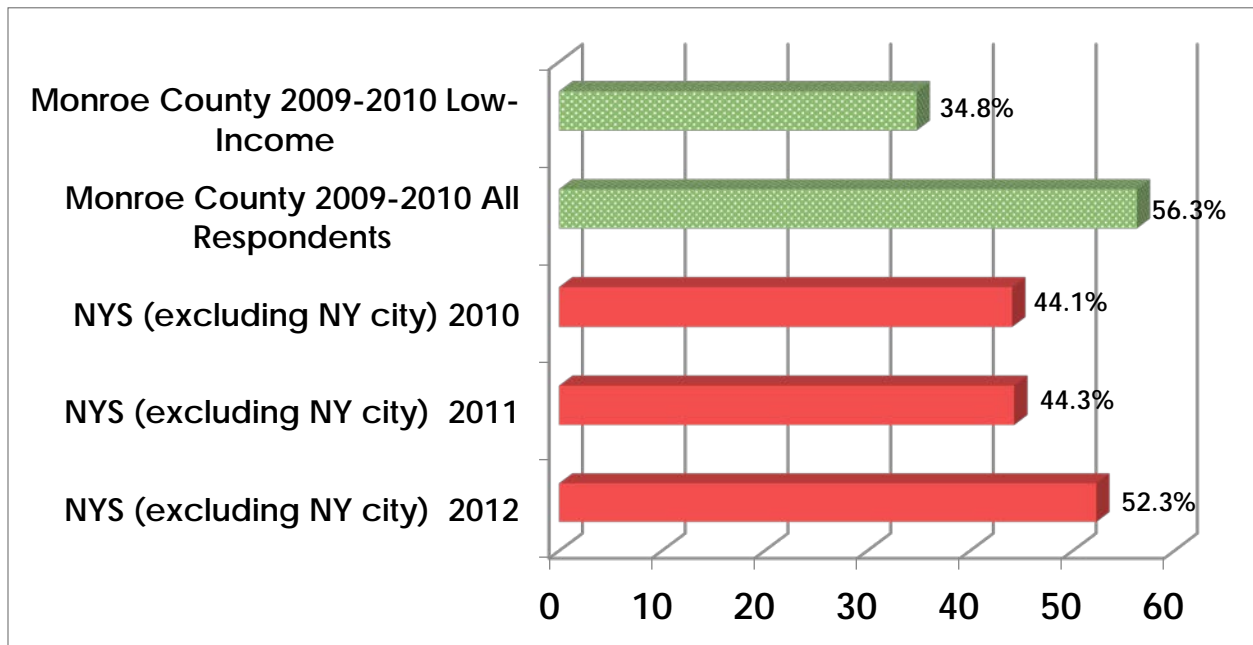
"The mouth is an entrance to the rest of the body"

During pregnancy, oral health problems such as swelling and bleeding from gums are common because of elevated hormone levels and soft tissue's exaggerated response to bacterial plaque⁶. Women tend to eat more frequently during pregnancy and the acidity in the mouth increases accordingly. It is reported that one in four women in reproductive age have untreated tooth decay³.

Pregnant women with poor oral health might be at an elevated risk of experiencing adverse birth outcomes, including pre-term births, low birth weight infants, preeclampsia, miscarriage, fetal growth restrictions, and gestational diabetes⁷⁻¹¹. Additionally, children born to mothers with poor oral health reportedly have a greater chance of developing dental caries as a consequence of behavioral risk factors and the decay-causing bacteria being passed from the mother to the infant's mouth through common saliva sharing practices such as sharing a spoon when tasting baby food or cleaning a dropped pacifier by mouth¹²⁻¹⁴.

Despite the heightened needs of dental care, about 50% of women make a dental visit and get their teeth cleaned during pregnancy according to the 2012 New York State Pregnancy Risk Assessment Monitoring System (PRAMS) data¹⁵. Data from the Monroe County PRAMS (2009-2010) shows that there is a disparity in the utilization of dental services during pregnancy. While 56% of pregnant women had their teeth cleaned during pregnancy, only 35% of low-income pregnant women had their teeth cleaned during pregnancy in Monroe County¹⁶.

PRAMS DATA- Percentage of Pregnant Women who got their teeth cleaned during pregnancy



The Health Resources and Services (HRSA) Administration’s Maternal and Child Health Bureau convened an Expert Workgroup and published the Oral Health Care during Pregnancy Consensus document² in 2012 in collaboration with the American College of Obstetricians and Gynecologists (ACOG) and the American Dental Association (ADA), and coordinated by the National Maternal and Child Oral Health Resource Center (NMCOHRC). The following year, HRSA established the Perinatal and Infant Oral Health Quality Improvement (PIOHQI) Initiative and funded three states through pilot grant programs to demonstrate a successful community-based approach to increase utilization of high-quality preventive oral health care and restorative services for at risk pregnant women and infants with a statewide reach.

New York State is one of three states that have received a PIOHQI pilot grant. In this four-year grant, NYS plans to integrate oral health services such as education, screening, and referrals into the statewide Maternal and Infant Community Health Collaboratives (MICHC) project designed to improve health outcomes of high-risk mothers and infants using a case management model to address various barriers among socioeconomically disadvantaged pregnant women and infants. The New York State Department of Health selected the Healthy Baby Network of Monroe County and New York State Oral Health Center of Excellence to test and demonstrate best practice approaches and develop materials to be used in the statewide MICHC programs in the future. Documentation of successful outcomes and lessons learned from New York State’s PIOHQI pilot grant project will inform a national strategic perinatal oral health framework that can be used to achieve statewide health care systems transformation.

OBJECTIVES

Objectives of the MICHC Oral Health Integration pilot program in Monroe County are:

- 1) To build a system of oral health support services within the MICHC program,
- 2) To train dental and perinatal health care providers as well as support service providers (Community Health Workers, Case Managers, Health Educators, and Outreach Workers) on evidence-based perinatal oral health practices, and
- 3) To establish an infrastructure for ongoing technical assistance to ensure MICHC providers' engagement in perinatal oral health intervention for high-needs pregnant women and their children.

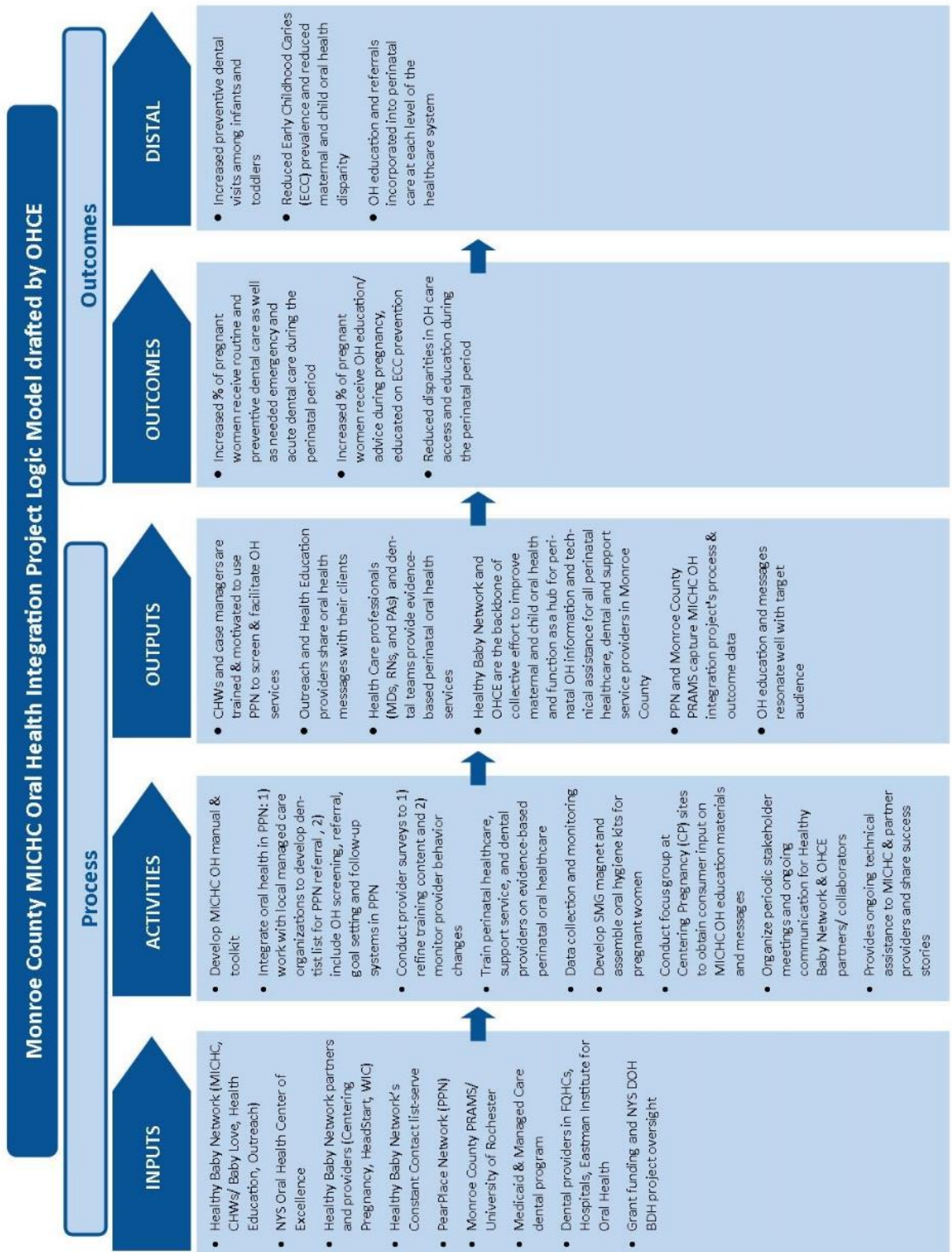
The goal of this program is to increase access to coordinated and evidence-based perinatal oral health services and enhance oral health self-management skills among high-needs pregnant women in the community and ultimately reduce disparity in maternal and child oral health in Monroe County.

HOW THIS MANUAL and TOOLKIT CAN BE USED

This manual and toolkit are largely divided into two parts: 1) Oral Health Recommendations and Provider and Consumer Tools to promote perinatal oral health and 2) Provider-type specific practice recommendations and tools.

This manual and toolkit is a living document and will be updated periodically.

LOGIC MODEL FOR THE MICHC ORAL HEALTH INTEGRATION (TOOL #1)



A logic model, as used for the MICHC Oral Health Integration (Tool #1) is a planning tool to clarify and graphically display what your project intends to do and what it hopes to accomplish and impact¹⁷. A logic model summarizes key program elements, explains rationale behind program activities, clarifies intended outcomes and provides a communication tool.

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Perinatal Oral Health Practice Recommendations

The prenatal/perinatal period provides opportunities for oral health intervention such as assessing, assisting, and addressing oral health needs. High-risk women who otherwise do not have any access to health care systems are likely to be enrolled in prenatal care programs during pregnancy. Extended Medicaid eligibility during the perinatal period also theoretically increases access to comprehensive dental services among women. Additionally, a pregnant woman may be more receptive to changing health behaviors that may negatively affect her unborn child.

In this chapter, we provide lists of oral health recommendations during the pregnancy and postpartum and early childhood along with useful tools that can be used by all levels of MICHC and dental providers.

DURING THE PREGNANCY

Every pregnant woman should be advised about the following four oral health practices:

- Get professional oral health care
- Practice good oral hygiene
- Eat healthy foods
- Practice other healthy behaviors (e.g., no smoking, etc.)



Providers should keep in mind that MICHC clients or high-needs pregnant women are likely to face various life-stresses and getting their teeth cleaned or a cavity treated may not be at the top of their priorities.



Some pregnant women may previously have had an unpleasant dental experience or may have heard from friends or family members that dental treatment is not recommended during pregnancy.

Pregnant women's literacy level, cultural background and beliefs/self-efficacy also influence their ability and willingness to comprehend and act on oral health recommendations¹.

READINESS + WILLINGNESS + ABILITY = ORAL HEALTH ACTION

Oral health recommendations largely require behavior change at the individual level. It is important, therefore, that every provider who encounters a high-needs pregnant woman examines her level of readiness and barriers to practicing good oral health and making behavior changes for healthy family oral health through the Motivational Interviewing (MI) technique (Tool #2) and guide an appropriate oral health intervention and action plan over time ^{2,3}.



DURING THE POSTPARTUM PERIOD AND EARLY CHILDHOOD

The postpartum period is critical for the maintenance of good maternal and family oral health behavior and providing informational and enabling support services for mothers to carry out infant oral health care recommendations.^{4,5}

Continue motivating and guiding the client for behavior change and oral health self-management goals during this critical period for prevention of Early Childhood Caries (tooth decay).

Every parenting woman should be advised



- * Maintain good maternal and family oral health—it helps prevent transmission of decay causing germs⁶.
- * Breastfeed your baby – Breast milk is the best food for baby⁶.
- * Avoid putting the child to bed with a bottle⁶.
- * Repeated use of a sippy or no-spill cup with sugar-containing drinks (e.g., juice, formula, soda) increases the risk of caries.
- * Wipe the infant’s gums and teeth with a washcloth after feeding⁶
- * Use a smear or rice grain size of fluoride toothpaste when wiping or brushing the child’s teeth⁶.
- * Make the child’s first dental visit or ask the pediatrician to screen the child’s mouth before the child’s first birthday⁶.

Research shows that human milk and breast-feeding of infants provide good general health, nutritional,

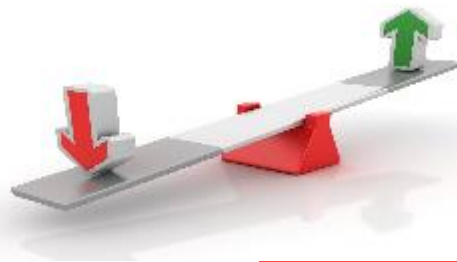
developmental, psychological, social, economic, and environmental advantages while significantly decreasing risk for a large number of acute and chronic diseases⁷. The American Academy of Pediatric Dentistry encourages breast-feeding of infants to ensure the best possible health and developmental and psychosocial outcomes, with care to wiping or brushing as the first primary tooth begins to erupt and other dietary carbohydrates are introduced⁸.

ABOUT EARLY CHILDHOOD CARIES

Early childhood caries (ECC) is a form of tooth decay that affects the baby teeth of infants, toddlers and preschool children.⁶



- ECC is preventable. However, it occurs as a result of repetitive imbalance between risk and protective factors in the mouth while it is preventable.
- ECC can form in the child's mouth as early as <1 year of age and progress rapidly resulting in pain and distress.
- Human breast milk is uniquely superior in providing the best possible nutrition to infants and has not been epidemiologically associated with caries^{9,10}. Dental caries has been associated with prolonged breast feeding.
- Because young children often cannot tolerate dental treatment in dental chair, ECC is usually treated under general anesthesia in the hospital, costing an average of \$1500¹¹ and can be as high as \$5500¹² per child.
- Children with ECC tend to experience more cavities in adult teeth than those who had no ECC during early childhood.
- Children who lose baby teeth early because of decay may also be at risk for crooked teeth as baby teeth are important to save spaces for adult teeth⁶.



Protective factors

- Fluoride in drinking water and toothpaste
- Healthy eating and drinking habits
- Daily brushing and flossing
- Regular preventive dental visit

Risk factors

- Inappropriate bottle/sippy cup use
- High-sugar in diet and liquids
- Lack of oral hygiene practices
- Primary care giver with untreated tooth decay

PERINATAL ORAL HEALTH MOTIVATIONAL INTERVIEWING (TOOL #2)

Motivational Interviewing (MI) is a collaborative conversation to strengthen a person's own motivation for and commitment to change¹³. Successful collaborative conversation may be outlined as follows:

Step 1: Open-ended questions to encourage self-exploration

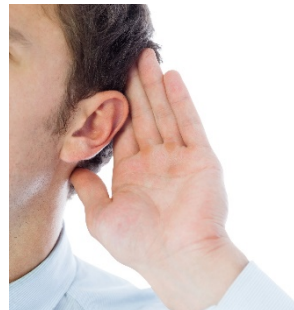
Examples:

- "What do you think about the condition of your teeth and gums?"
- "What do you do to keep your teeth and gums healthy?"
- "What does healthy teeth/loosing teeth mean to you?"
- "How do you feel about going to a dentist?"

Step 2: Reflective listening and affirmation

Examples:

- "It sounds like you are really trying .."
- "What I hear you saying is that you are concerned about.... but"
"Did I get that right?"



Step 3: Find out what the client already knows about oral health and prevention of dental diseases

Examples:

- "What do you know about preventing tooth decay/gum disease?"
- "What do you know about how fluoride/diet affects the health of your teeth?"
- "What do you know about tooth decay in young children?"



Step 4: Ask permission for advice/feedback

Examples:

- “Would it be alright if I share some information with you about how to improve your own and your baby’s oral health?”
- “I would like to give you some information about the benefit of having your teeth cleaned during pregnancy. Would you be interested in hearing that?”
- “There are things we typically discuss with pregnant women to promote healthy teeth in their families: healthy eating, limiting/avoiding sugar-sweetened beverages, good self-care and the importance of regular professional care. I am wondering if you would be interested in exploring one of these topics or perhaps something else?”



Please see Tool #3
for ideas of oral
health messages
and advice

Step 5: Assessment of Readiness



Use the Perinatal Oral Health Self-Management Goal Menu (Tool #4) to explore which new behavior is most likely to be implemented.

Examples:

- “On the scale from 1 to 10, where 1 is definitely not ready and 10 is definitely ready, what number best reflects how ready you are at the present time to”

Step 6: Planning for Change* --Negotiate an oral health agenda based on a menu of options

Examples:

- “Is there anything you would like to try for your oral health in the next week or two?”
- What do you think you want to try for your family’s oral health as a starter?”

* Acknowledge that the client is the expert on her own life and encourage her to use the information in the way that suits her best.

When developing a plan for change toward oral health self-management goals, plan to

- Build patient commitment and confidence in the plan
- Treat the plan as an experiment

Step 7: Self-Summarization and Clarification

Example:

- “Can you repeat your plan so I am sure you have understood?”



Working with Resistance

Resistance + Sustain Talk

= Discord + Change talk

= Movement in the direction of change

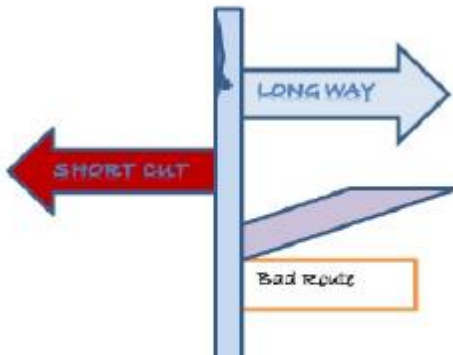


Resistance means the patient is not ready to make a change.

Signs of resistance might include:

- Interrupting
- Ignoring
- Arguing
- Denying

When a client shows resistance to oral health behavior change, instead of being confrontational or directional, you may use a technique called "**Therapeutic Paradox**," and emphasize that the client has a choice and control over the goals, and plan to follow-up at a later time.



Examples of Therapeutic Paradox talk:

- "Maybe what I am asking is just too difficult for you."
- "Maybe now is not the right time for you to make changes for your baby's oral health."
- "So it sounds like you have a lot going on with trying other things and these priorities are competing with your oral health goals at this time. Maybe you are not ready to make changes for your oral health at this time."

KEY ORAL HEALTH MESSAGES DURING THE PERINATAL PERIOD (TOOL #3)

Providers may share the following oral health messages and recommendations with pregnant women and parenting women when making oral health advices as part of MI or providing oral health education to a group of pregnant women or parenting women.



DURING THE PREGNANCY


- * Dental visit during pregnancy is safe and recommended by medical and dental experts^{4,14,15}.
- * Baby teeth start forming at 8 weeks of pregnancy, and mother's healthy diet and healthy teeth and gums are important for baby's oral and overall health outcomes¹⁶.
- * Early Childhood Tooth Decay is preventable⁶.

DURING THE POSTPARTUM AND EARLY CHILDHOOD


- * Baby teeth are important – they help a child eat, talk, smile, and hold space for adult teeth¹⁶.
- * Untreated tooth decay can lead to pain and a serious infection⁶.
- * Decay causing germs can be passed from mother to infants and toddlers during early childhood through common saliva-sharing activities (i.e. sharing utensils, pre-tasting/chewing foods, or cleaning baby's pacifier in mom's mouth before giving it to the baby)⁶.
- * Dentists and pediatricians recommend all children receive dental examination before the first birthday⁶.
- * Fluoride is a natural mineral that helps prevent tooth decay⁶.

PERINATAL ORAL HEALTH SELF-MANAGEMENT GOAL MAGNET (TOOL #4)


Oral Health Goals During Pregnancy and Early Childhood




Regular Dental Visit during Pregnancy




Floss Daily & Brush with Fluoride Toothpaste




Balanced & Healthy Diet




Drink & Cook with Tap Water with Fluoride




Breastfeed Baby



Let Baby Sleep Without a Bottle




Avoid Sweet Liquid in Bottle & Clean Baby's Gums and Teeth After Feeding




1st Dental Visit Before Age 1

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Objetivos De Salud Oral Durante El Embarazo Y La Primera Infancia




Visita dental regular durante el embarazo




Utilice hilo dental diariamente y cepillo con pasta dental con fluoruro




Dieta equilibrada y saludable




Beber y cocinar con agua del grifo con fluoruro




Amamantar al bebé con



Dejar que el bebé duerma sin una botella



Evite líquidos dulces en la botella y limpiar la encías de bebé y los dientes después la lactancia materna



Primera visita al dentista antes de la edad 1

New York State Oral Health Center of Excellence
www.nysoralhealth.org | 585-325-2280 | info@nysoralhealth.org

SAMPLE ORAL HEALTH BROCHURE (TOOL #5)

After Your Baby Is Born

After your baby is born, it is important for you to keep brushing with toothpaste. You also need to follow eat healthy foods, and get dental care. When your mouth is healthy, your baby is more likely to have a healthy mouth, too.

Care for Your Baby's Gums and Teeth

- Breast milk is best! Breastfeed your baby for 6 months or longer if you can.
- Gums can pass from your mouth to your baby's mouth. Use a different spoon to taste your baby's food. Clean your baby's pacifier with soap. Do not use your mouth to clean it.
- Clean your baby's gums after every feeding even before her first teeth come in. Use a clean, damp washcloth or a toothbrush with soft bristles and a small head made for babies.
- When your baby gets her first tooth (usually around 6 to 10 months), begin brushing his teeth with toothpaste with fluoride twice a day. Use a small amount of toothpaste.
- Do not put your baby to sleep with a bottle filled with breast milk, formula juice, or sugary drinks. Use fruit-flavored drinks or pop (soda).
- Take your baby to the dentist by the time she is 1 year old to have her teeth and gums checked.



Two Healthy Smiles

Tips to Keep You and Your Baby Healthy

Taking care of your mouth while you are pregnant is important for you and your baby. Brushing, flossing, eating healthy foods, and getting dental checkups and treatment will help keep you and your baby healthy.

Resources

Finding a Dentist

- <http://www.aapd.org/FindADentist>
- <http://www.aapd.org/FindADentist/FindADentist.aspx>
- <http://www.aapd.org/FindADentist/FindADentist.aspx>

Finding Low-Cost Dental Care

- <http://www.aapd.org/FindADentist/FindADentist.aspx>
- <http://www.aapd.org/FindADentist/FindADentist.aspx>

Finding Dental Insurance Coverage

- <http://www.aapd.org>

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 Washington, DC 20036-5120
 Website: <http://www.mchoralhealth.org>



Changes to your body when you are pregnant can make your gums sore, puffy, and red if you do not brush and floss every day. This problem is called gingivitis (gin-gih-vee-tis). If gingivitis is not treated, it may lead to periodontal (pee-ri-oh-don-tal) disease. This disease can cause tooth loss.

After your baby is born, take care of your baby's gums and teeth too.

Give your baby a healthy start! Here are tips to keep you and your baby's teeth and gums healthy.



While You Are Pregnant

Brush and Floss

- To prevent or control tooth decay, brush your teeth with a soft toothbrush and toothpaste with fluoride (floo-ide) twice a day.
- Floss once a day before bedtime.
- If you cannot brush your teeth because you feel sick, rinse your mouth with water or a mouth rinse that has fluoride.
- If you vomit, rinse your mouth with water.

Eat Healthy Foods

- Eat fruits, vegetables, whole-grain products like bread or crackers, and dairy products like milk, yogurt, or cheese. Lean meats, fish, chicken, eggs, beans, and nuts are also good choices. Eat foods that have sugar or maltilaas only.
- Drink water or low-fat milk instead of juice, fruit-flavored drinks, or pop (soda).
- Drink water at least a few times a day, especially between meals and snacks.
- Eat fewer sweets like candy, cookies, or cake. Drink fewer sugary drinks like fruit-flavored drinks or pop (soda). Eat sweets or drink sugary drinks at mealtimes only.
- Look for products, like chewing gum or mints, that contain xylitol (zy-hi-tohl).

Get Dental Care

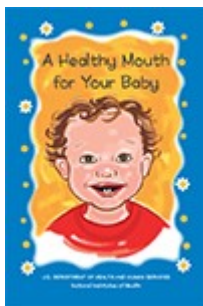
- Get a dental checkup. It is safe to have dental care when you are pregnant. Do not put it off until after you have the baby.
- Tell the dental office staff that you are pregnant and your due date. This will help the dental team keep you comfortable.
- The dental team may recommend rinses with fluoride or chewing gum with xylitol, which can help reduce bacteria that can cause tooth decay and gingivitis.
- Talk to your doctor if you need help getting dental care or making an appointment.



Source: Holt K, Clark M, Barzel R. 2009. *Two Healthy Smiles. Tips to Keep You and Your Baby Healthy (rev.)*. Washington, DC: National Maternal and Child Oral Health Resource Center. Available at: <http://www.mchoralhealth.org/PDFs/pregnancybrochure.pdf>

LIST OF NIDCR PEDIATRIC ORAL HEALTH BROCHURES FREE TO ORDER (TOOL #6)

Available at <http://www.nidcr.nih.gov/OralHealth/OralHealthInformation/ChildrensOralHealth/>



A Healthy Mouth for Your Baby

This easy-to-read brochure is for parents of infants or toddlers. It explains why baby teeth are important, gives tips on how to prevent early childhood tooth decay, and promotes the age 1 dental visit.



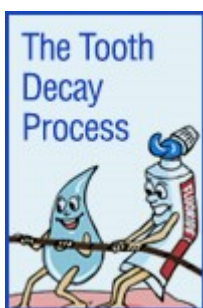
A Healthy Mouth for Your Baby (for American Indians and Alaska Natives)

This easy-to-read brochure is for parents of infants or toddlers. It explains why baby teeth are important, gives tips on how to prevent early childhood tooth decay, and promotes the age 1 dental visit.



Open Wide and Trek Inside

For use with students in grades 1 and 2, this curriculum supplement focuses on oral health and the science of the oral environment. Includes educational videos and games (in English and Spanish).



The Tooth Decay Process: How to Reverse It and Avoid a Cavity

Information for parents of school-age children on how the tooth decay process starts and how it can be stopped (Available only on the web and in English and Spanish)

COMMON PERINATAL ORAL HEALTH QUESTIONS AND ANSWERS (TOOL #7)

Q. What are the healthy snacks for teeth and gums?

A. Fresh fruits, vegetables, cheese, and plain yogurt are low in sugars and nutritious compared to candy, cookies, cake, and chips that are high in sugar/fat and/or stick to teeth for a long time.

Drinking milk and fluoridated tap water are healthy choices for your teeth while juice, fruit-flavored drinks, and pop (soda) are not. Eating a variety of foods including meats, fish, eggs, beans and nuts are also important for health of gums¹⁷.



Q. Are there any oral health tips for a pregnant woman who experiences nausea with tooth brushing?

A. Try using a small amount of fluoridated, alcohol-free mouthwash after meals and before going to bed¹⁸.

Also rinsing after vomiting with a cup of water with a teaspoon of baking soda added helps neutralize acids in the mouth¹⁸.

Q. When is the best time during pregnancy to have a dental visit?

A. Throughout the pregnancy. If the pregnant woman has not had a dental exam or tooth cleaning for more than 6 months, it is time for her to see a dentist. While some pregnant women may be uncomfortable about sitting or reclining on the dental chair during the late third trimester, there is no time during pregnancy that a dental visit is contraindicated and no dental procedures that should be avoided during pregnancy^{4,5}.

Q. Are there any types of pain medicine or antibiotics that pregnant women can use for toothache and/or infection?

A. In general, acetaminophen and penicillin are the analgesic and antibiotic of choice for pregnant women. However, the patient's dental provider should consult with her OBGYN or primary health care provider before making a recommendation.^{4,5}

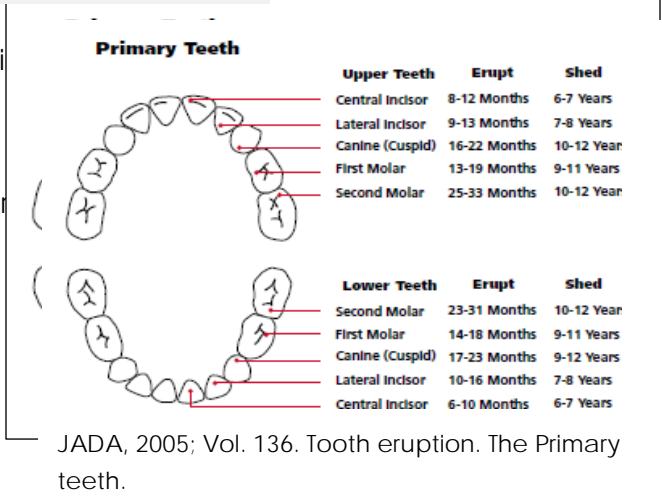
Moreover, it is highly recommended to refer such a pregnant woman with dental conditions to a dentist ASAP so that the cause of the toothache and infection is properly addressed. For more information regarding pharmaceutical considerations for pregnant women, please see Tool #15 on page 51.



Q. At what age does the first tooth appear in the baby's mouth?

A. At around 6 months, most children get their first tooth. It is usually one of the lower front teeth.

There are a few babies, however, who are born with a baby tooth at birth or get a tooth soon after the birth. Such babies should have a dental visit (to a pediatric dentist, if possible) ASAP to establish a dental home earlier than the general recommendation (by the first birthday) and have professional guidance on feeding and care for natal or neonatal teeth from the dentist.



Q. At what age should a child start using toothpaste that contains fluoride?

A. The American Dental Association recommends using a smear or rice grain size amount of fluoride toothpaste when the first tooth erupts until 3 years of age. So mothers can put very small amount of fluoride toothpaste on a washcloth or a soft bristled tooth brush and wipe/brush to protect her baby's teeth from tooth decay¹⁹.

A smear or rice grain size amount of fluoride toothpaste is safe even if infants/toddlers swallow most of it ¹⁹.



A smear or rice grain size toothpaste on a child-size toothbrush

Q. How should a mother who plans to, or is already feeding her baby with powdered formula and is concerned about the risk for fluorosis, be advised?

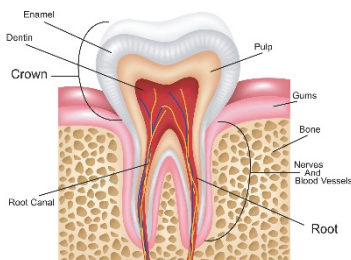


A. The mother should be advised that the chance of her baby getting fluorosis that is esthetically noticeable from the use of infant formula reconstituted with fluoridated community water is unlikely.

Exclusive feeding of infant formula mixed with optimally fluoridated water could theoretically increase the risk for mild fluorosis on permanent incisors. However, the critical time for such risk is usually after most infants start mixed feeding (start eating baby food in addition to formula), and the outcome is mild fluorosis at the most, and this is usually not noticeable to a lay person's eyes.

For that reason, the expert panel of American Dental Association said it is okay to recommend the use of optimally fluoridated water to mix infant formula ²⁰. If a mother is still concerned about the chance of mild fluorosis, she should be advised to breastfeed the baby, use ready-to-feed formula, or use non-fluoridated bottled water to reconstitute powdered infant formula.

Q. What are the mechanisms in the potential relationship between gum disease and birth outcomes?



Human Tooth Anatomy

Inflammation caused by gram negative bacterial infection in the advanced stage of gum disease can enter the blood stream and reach the placenta, and then activate the inflammatory mediators resulting in clinical outcomes (i.e. infection, hemorrhage, placental ischemia, stress) that could ultimately cause various adverse birth outcomes.

Q. How does the transmission of decay-causing bacteria from mother to her child occur?

While oral flora is fairly stable in the adult's mouth, infants and toddlers usually acquire decay-causing bacteria (i.e. Mutans Streptococci) from primary care givers through common saliva sharing activities as follows by the time baby teeth appear in the mouth:

- Sharing utensils
- Putting a pacifier into caregiver's mouth before putting in baby's mouth
- Pre-chewing food for baby

Transmission of decay-causing bacteria can be largely prevented if an infant's caregiver has no untreated decay, and therefore low-level of decay-causing bacteria in the mouth.



MYTHS AND FACTS ABOUT ORAL HEALTH RELATED, CULTURALLY INFLUENCED, BELIEFS (TOOL #8)

People say, “When we know better, we do better”. However, many oral health beliefs and behaviors are inherited over generations in the community and deeply rooted in family’s cultural background. Providers who identify misconceptions related to oral health that compromise their patient’s optimum oral health should guide them to resolve the misconception using MI (See Tool#2) and provide enablers and social support. Here are some examples of such myths and facts.



MYTH #1 “Bottled water is safer than tap water”

FACT: Bottled water and tap water are both regulated by the government (bottled water by Food and Drug Administration [FDA]; tap water by Environmental Protection Agency [EPA] and State Health Department), ensuring its quality and safety in the US. While people may think bottled water is of higher quality or purer than tap water because they are buying it or how it is advertised in the market, Natural Resources Defense Council (NRDC) says it is not the case. They found that potentially harmful chemical contaminants are sometimes found in some brands of bottled water. Researchers in North Carolina also found that bottled water can contain more trihalomethanes, a complex mixture of disinfectant by-product, than disinfected tap water²¹. Distrust toward municipal water quality in subgroups of US population, e.g., Latino immigrants, may be rooted in their previous experience and cultural beliefs.

MYTH #2 “Prenatal fluoride helps prevent cavities in children”

FACT: While fluoride can cross the placenta, there is no scientific evidence suggesting that maternal intake of fluoride will make her baby’s teeth stronger and protected from dental caries²². However, pregnant women are recommended to use fluoridated dentifrices (i.e. toothpaste and mouth rinse) and drink fluoridated water to prevent and control dental caries on their own teeth, which ultimately helps prevent early childhood caries in their children.

MYTH #3 “ Pre-chewing food helps baby’s health”

FACT: There are some hypothetical health benefits of pre-chewing or premastication discussed in the literature including psychological benefit (i.e. enhancing mother-child bonding), nutritional benefit for weaning infants (i.e. supplement iron, zinc, and vitamin B12 when baby still has few teeth to chew grains and meats), immunological benefits (i.e. promoting immune tolerance help to moderate allergic reaction), in addition to socioeconomic benefit (i.e. easier and more practical than purchasing or cooking baby foods). However, the mechanisms of such health benefits of premastication are poorly understood or supported by scientific evidence and controversial. In fact, there is a growing body of evidence suggesting the increased risk for transmission of diseases and pathogens such as HIV, EBV (Epstein–Barr Virus; aka Infectious Mononucleosis/Human Herpes Virus 4/Kissing Disease; spreads most commonly through bodily fluids, primarily saliva), and dental caries through regular saliva exchanges from caregivers to infants.²³

MYTH #4 “Pregnancy leaches calcium from your teeth”

FACT: The fetus does not take calcium from its mother’s teeth. Tooth enamel is the hardest substance in the body. Adult tooth development starts early and completes maturation by age 16. By age 16, the teeth are no longer developing and the strong enamel layer no longer requires nutrients from the bloodstream. The calcium the baby needs is provided by the mother’s diet not from the teeth. If the mother’s intake of calcium is inadequate during pregnancy, her bones – not her teeth – will provide the calcium her growing baby needs.

MYTH #5 “One tooth is lost with every pregnancy”.

FACT: A pregnant woman with poor oral health and with no access to care, or with nutritional habits that promote poor dental health can easily lose a tooth. Tooth loss occurs due to untreated dental disease (most commonly gum disease or dental caries) and not because of pregnancy. A pregnant woman can follow some simple guidelines for preventing tooth decay and gum disease- Brushing with toothpaste and mouth rinse containing fluoride; chewing sugarless gum containing xylitol after eating to reduce bacteria and clean teeth. For those pregnant women who suffer from “morning sickness”- Rinsing with a teaspoon of baking soda dissolved in a cup of water will help neutralize the acids remaining in the mouth after vomiting. A pregnant woman’s teeth will remain healthy with proper hygiene at home and professional help from the dentist.

GUIDELINES AND RECOMMENDATIONS FOR ORAL HEALTH CARE FOR PREGNANT AND LACTATING WOMEN

FROM:

The American Dental Association (2016)

Available at <http://www.mouthhealthy.org/en/pregnancy/>

The American Academy of Pediatric Dentistry (2011)

Available at

http://www.aapd.org/media/policies_guidelines/g_perinataloralhealthcare.pdf

The American Congress of Obstetricians and Gynecologists (2013)

Available at <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Oral-Health-Care-During-Pregnancy-and-Through-the-Lifespan>

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Oral Health Guide and Tools for MICHC Support Service Providers (i.e. Community Health Workers, Case Managers, and Home Visitors)

The primary role of Community Health Workers (CHW), Case Workers, and Home Visitors in the MICHC Oral Health Integration project is to provide their clients with 1) oral health screening (**ASSESS**), 2) perinatal oral health messages (**ADVISE**), and 3) oral health referrals as needed (**ARRANGE**).

ASSISTING WOMEN AND YOUNG CHILDREN'S DENTAL VISIT

Historically dentists had been hesitant to see patients during pregnancy and early childhood and have recommended pregnant patients return to the dental clinic after the delivery or the child return to the clinic when he/she can sit on a dental chair by himself/herself. Outdated and insufficient knowledge and experience among dentists may be a part of this problem. Furthermore, a shortage of dentists who accept Medicaid beneficiaries only adds more barriers for MICHC clients to access dental care during the perinatal period¹⁻⁴. A high rate of no shows is one of the concerns often reported by dentists in private practices as a reason for not participating in the Medicaid program⁵. Effective strategies are needed to be implemented to reduce the no show rate^{6,7}.

As noted in the previous chapter, pregnant women may have competing priorities, fear about going to a dentist, or concerns about safety of dental procedures during pregnancy. In addition, MICHC clients may not be aware of professional recommendations regarding a child's first dental visit and how to prevent tooth decay.

MICHC clients' oral health should be addressed collaboratively among perinatal health care providers, support service providers, dental care providers, and the women and their families. Fragmented systems and services make high-needs families more likely to fall through the cracks and leave their oral health needs unmet. Support service providers are, therefore, important players in coordinating information, assistance, and services for MICHC clients' oral health and follow up with them to ensure oral health interventions are provided during the perinatal period.





Keeping the above perinatal oral health barriers in mind, MICHC support service providers are expected to provide pregnant women and mothers and infants with the following interventions:

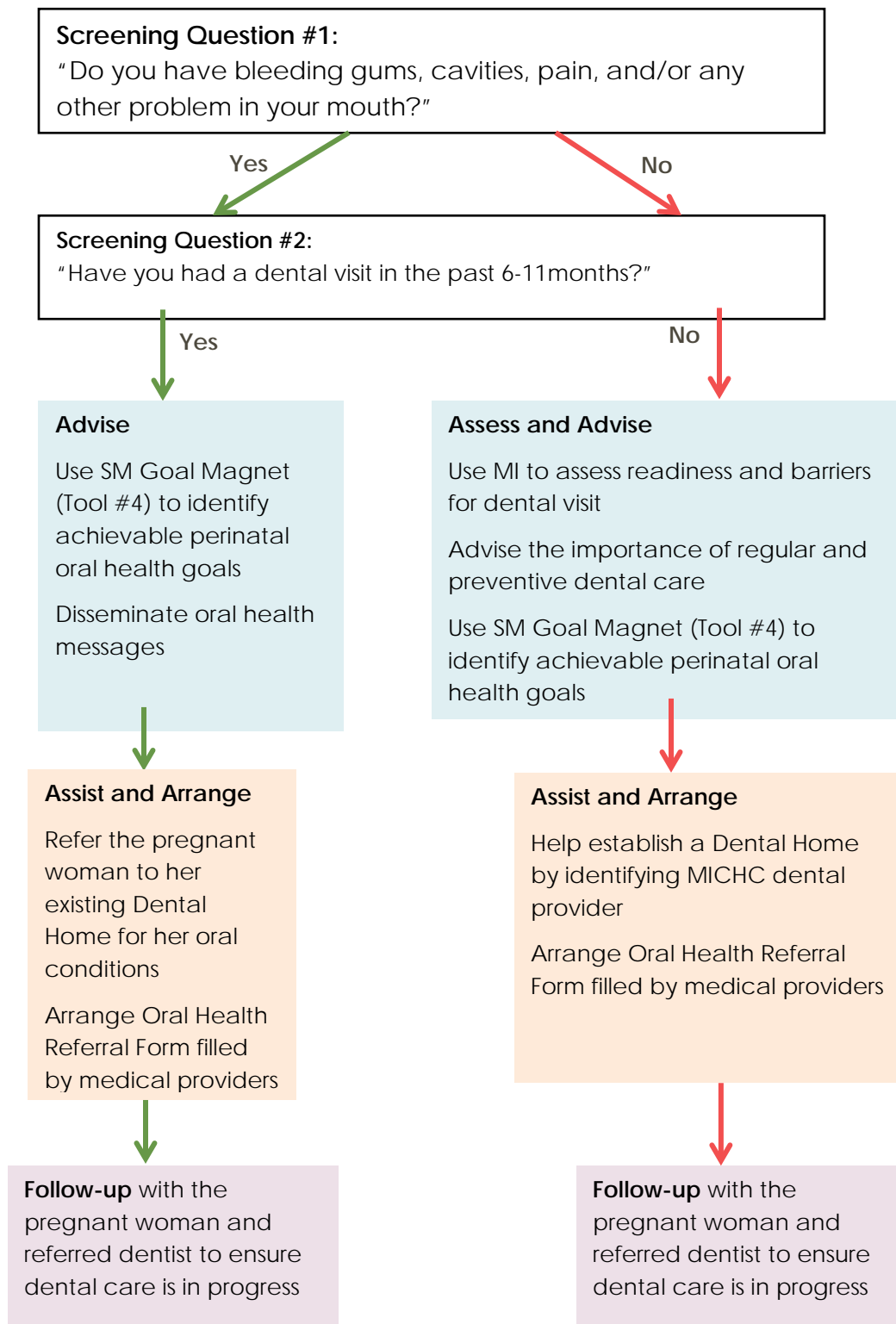
- Assess oral health needs by asking the pregnant or parenting woman:
 - 1) If she has had bleeding gums, cavities, pain, and/other problems in her mouth
 - 2) If she had dental visit in the past 6-12 months
 - 3) If her baby had or is planning to have a dental visit within the 6 months after tooth eruption or before the first birthday
- Conduct MI to assess her oral health knowledge level, readiness, and barriers to effectively advise her on perinatal oral health and facilitate critical behavior change (See Tool #2 and 3 for more information).
- Provide assistance for the pregnant or parenting woman and a dentist to arrange:
 - 1) A dental appointment (see Tool#9: Decision and Action Tree for Dental Referral), and
 - 2) A prenatal dental care referral form completed by the pregnant woman's medical provider (see Tool #10: Rx Dental Care Referral Form)

What is a Dental Home? Why is it important during the perinatal period?

A Dental Home is an approach to provide continuous, comprehensive, compassionate, and patient- and family-centered dental care^{8,9}. We recommend that all high-needs women establish a Dental Home during the pregnancy because pregnancy is the time when women have heightened dental needs (clinical care and education). Having a Dental Home for the mother assures her baby's healthy start in his/her mouth and timely referral for his/her first dental visit^{10,11}.

Support Service Providers are the critical players in a Perinatal Dental Home especially for high-needs families. Providing information and assistance for transportation services to a dentist, dental insurance, phone call to a dentist, referral letter and effective motivations might be the important ingredients of the Dental Home for some high-needs women overcoming barriers.

PRENATAL ORAL HEALTH REFERRAL—DECISIONS and ACTION TREE (TOOL #9)



PRENATAL DENTAL CARE REFERRAL FORM (TOOL #10)

PERINATAL ORAL HEALTH CONSULTATION FORM

Referred To: _____ Date: _____

Patient Name: Last _____ First: _____

DOB: _____ Estimated Delivery Date: _____ Week of Gestation Today: _____

Known Allergies: _____

Precautions: None Specify (If any): _____

This patient may have routine dental evaluation and care, including but not limited to: (Check all that apply)

<input type="checkbox"/> Oral health examination	<input type="checkbox"/> Dental X rays with abdominal and neck lead shield	<input type="checkbox"/> Dental treatment with local anesthetics (Extractions/Root canals/Fillings as appropriate/Deep cleaning)
--	--	--

Patient may have: (Check all that apply)

<input type="checkbox"/>	Acetaminophen with codeine for pain control
<input type="checkbox"/>	Alternative pain control medication: (Specify) _____
<input type="checkbox"/>	Penicillin
<input type="checkbox"/>	Amoxicillin
<input type="checkbox"/>	Clindamycin
<input type="checkbox"/>	Cephalosporins
<input type="checkbox"/>	Erythromycin (Not estolate form)

Prenatal Care Provider: _____ Phone: _____

Signature: _____ Date: _____

DO NOT HESITATE TO CALL FOR QUESTIONS

DENTIST'S REPORT (for the Prenatal Care Provider)

Diagnosis: _____

Treatment Plan: _____

Name: _____ Date: _____ Phone: _____

Signature of Dentist: _____

Source: New York State Department of Oral Health Care during Pregnancy and Early Childhood.
August 2006

ORAL HEALTH RECOMMENDATIONS CHART

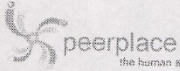
Pregnancy by itself is not a reason to defer routine dental care and necessary treatment for oral health problems

- Dental treatment is safe and effective throughout pregnancy
- In the 1st trimester, dental x-rays are safe to diagnose dental problems for urgent and immediate treatment.
- The best time for dental treatment is in the 2nd trimester. However, routine dental care is recommended at any time during pregnancy.
- Both mother and child are at risk if dental treatment is delayed
- Elective treatment can be deferred but emergency treatment is important anytime during pregnancy
- Throughout pregnancy and after: Brush twice for two minutes; Use Fluoride Toothpaste; Floss between teeth
- For Moms: Have fruit, not fruit juice; Drink water or low fat milk; Limit food containing sugars
- Advise Moms to:
 - Wipe infant teeth/gums after feeding with soft bristle brush or soft cloth
 - Supervise children's brushing with an amount of toothpaste that is rice grain size for less than 3 year olds and pea size for more than 3 year olds
 - Avoid putting your child to bed with a bottle
 - After breastfeeding at night, wipe infant's teeth and gums with soft bristle brush or soft cloth
 - Avoid sharing spoon for tasting food; Avoid cleaning dropped pacifier by mouth
- Visit dentist by age 1

Source: New York State Department of Health. Oral Health Care during Pregnancy and Early Childhood. August 2006

ORAL HEALTH SCREENING AND REFERRAL USING PEERPLACE NETWORK (TOOL #11)

PeerPlace - Screening and Referral
Page 1 of 2



Test (test), Test
Client ID: 00142-00490-0000101137

User Name: sherita.bullock.perinatal
Program: Perinatal Network Outreach
User Role: Program Admin

• Client Status is Stable Housing as of 10/24/2014.

[Search](#) [Queue](#) [Logout](#)

Screening and Referral

Date:

Screening and Referral
[Referrals Sent to PeerPlace Programs](#)
[Other Referrals](#)

Eligibility Screening Questions

All screening eligibility questions should be completed to get the best referral results.

Date of Birth:

Zipcode:

Annual Income:

% Poverty Level:

Homeless: No Yes

If pregnant, Due Date:

Gravida (# pregnancies including this one):

Youngest Child's Age:

Service Category *:

Person Requesting Services:

Enrollment Status:

Best Time to Contact:

History of previous preterm births: No Yes

Have you had a regular or preventative dental visit within the last six months: No Yes

Age:

Geography:

in Household:

Health Ins Provider:

Pregnant:

Weeks Pregnant:

Parity (# previous live births):

Service Type *:

Referred by:

Issues/Needs:

Pets in home (list):

DOB of youngest child:

Are there any problems in your mouth? (Bleeding gums, toothaches, loose tooth, etc.): No Yes

Comments:
(0 characters of 512 allowed)

Additional PRF Demographics

Height (inches):

BMI:

LMP Date:

If pregnant, have you begun prenatal care: No Yes

Billing Prenatal Care Provider:

Provider Name / Physician:

Provider Phone: - -

Diagnosis:

Current Pregnancy Risk:

Medical Risks - Yes:

Medical Risks - On Meds:

Weight (pounds):

Due Date Determined By:

EDC Date:

Date of First Prenatal Visit:

Do you have a family planning provider: No Yes

Billing Group Number:

Hospital:

Contract #/Member ID #:

PRF Risk Factors

Social Risks:

Pregnancy Risks - Prior:

Pregnancy Risks - Current:

Consents

I attest that I have obtained consent from the client to share client profile information with the agency(ies) selected. *:

I attest that consent has been given to disclose general medical information *:

<https://connect.peerplace.com/peerplace/pages/common/anyForm.jsp?action=ExecuteA&act...> 3/2/2016

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Oral Health Guide and Tools for Perinatal Health Care Providers

The primary role of perinatal health care providers such as physicians, nurses, and midwives is two fold: 1) to encourage pregnant women and mothers of infants to adhere to the evidence-based oral health recommendations (**ADVISE**) and 2) answer questions that dentists or pregnant women may ask about safety and medical implications of dental care (**ASSURE**). In the perinatal care programs that do not have support service providers such as case workers or care coordinators available, perinatal health care providers should assess oral health needs and arrange oral health referrals for pregnant women and infants.

THE ROLE OF PRENATAL HEALTH CARE PROVIDERS

During pregnancy, many pregnant women and dental providers have concerns about the effect of dental visits and dental treatments on pregnancy¹⁻⁴. It is critical for prenatal health care providers to understand the evidence-based oral health recommendations^{5,6} and be able and available to effectively and timely address such concerns. Prenatal health care providers are also in the perfect position to educate high-needs pregnant women about the importance of oral health to overall health and a healthy pregnancy.



See Tool #3 and #7 for perinatal oral health messages and also common QandAs on oral health during pregnancy and early childhood.

ORAL HEALTH REFERRAL FORM- A Tool to Communicate with the Dentist

While pregnancy is not a pathological condition but physiological condition in women, many dentists feel that dental visits should be postponed until after the delivery based on outdated knowledge and myths regarding the effect of dental procedures on pregnancy¹. Please use the Prenatal Oral Health Referral Form (Tool #10) to communicate the pregnant woman's medical history, presence of any co-morbid conditions (i.e. gestational diabetes) and/or precautions, and oral health needs and concerns with a dentist. Please also provide your contact information to ensure timely communication and completion of needed dental care during the pregnancy.

ONLINE TRAINING RESOURCES

Smiles for Life: Course 5 – Oral Health and the Pregnant Patient⁷

Available at:

<http://www.smilesforlifeoralhealth.org/buildcontent.aspx?tut=560&pagekey=61366&cbreceipt=0>

This course addresses the importance of oral health before, during, and after pregnancy. Information is provided on the prevalence of oral disease during pregnancy and its consequences for both mothers and children, as well as a review of dental treatment guidelines for pregnant women. Continuing education credit is available.

University of Washington, School of Dentistry Continuing Dental Education Online Course- OC 1504: Managing and Treating Pregnant Patients⁸

Available at:

<https://dental.washington.edu/continuing-dental-education/online-courses/oc1504/>

The course teaches dentists and other dental professionals to manage and treat pregnant patients. It is designed to educate dental professionals on the important health implications of oral disease in a pregnant woman and her baby. The course highlights the evidence-based guidelines for delivering care to pregnant women, including the use of medications and x-rays, positioning the patient, educational messaging, and also addresses dentists' liability concerns. The course includes a presentation on the lack of liability from a Northwest Dentists Insurance Company representative.

COMMITTEE OPINION: The American College of Obstetricians and Gynecologists

Oral Health Care during Pregnancy and Through the Lifespan. No. 569. August 2013⁹

Available at:

<http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Oral-Health-Care-During-Pregnancy-and-Through-the-Lifespan>

THE ROLE OF PEDIATRIC HEALTH CARE PROVIDERS

During infancy and early childhood, children have multiple well child visits and are much more likely to encounter pediatric health care providers than dental providers. Given the shortages of pediatric dental specialists¹⁰, it is important for pediatricians, pediatric nurses and physician assistants to conduct oral health screenings and risk assessments, parental counseling, and appropriate oral health interventions (i.e. fluoride varnish application for high risk children and referrals to dental providers for more comprehensive services)¹¹⁻¹³.

In general, the child's first dental visit is recommended to occur before the first birthday so that a comprehensive oral examination and anticipatory guidance are provided to high-risk mothers and children before early childhood caries (ECC) appears in the child's mouth. However, per pediatric health care providers' comfort level, availability of pediatric dental providers for referral, and clients' preference and oral health needs, infants and toddlers could remain in pediatric health care systems as long as oral health needs are addressed.



Pediatric health care providers serving for MICHC clients should be able to effectively interview mothers of infants and toddlers using MI techniques (Tool #2), connect them with needed support services and the dental home, and guide prevention of ECC.

ONLINE TRAINING RESOURCE

Smiles for Life: Course 6 – Caries Risk Assessment, Fluoride Varnish and Counseling¹⁴

Available at

<http://www.smilesforlifeoralhealth.org/buildcontent.aspx?tut=584&pagekey=64563&creceipt=0>

This course focuses on caries prevention. It offers a brief review of Early Childhood Caries (ECC) and addresses how the use of fluoride is part of a comprehensive approach to a child's oral health. Specifically, clinicians will learn the benefits, appropriate safety precautions, and dosing for fluoride, as well as how to apply fluoride varnish and provide adequate follow-up care. Continuing education credit is available.

US PREVENTIVE SERVICES TASK FORCE RECOMMENDATIONS

Prevention of Dental Caries in Children from Birth Through Age 5 Years (May 2014)¹⁵

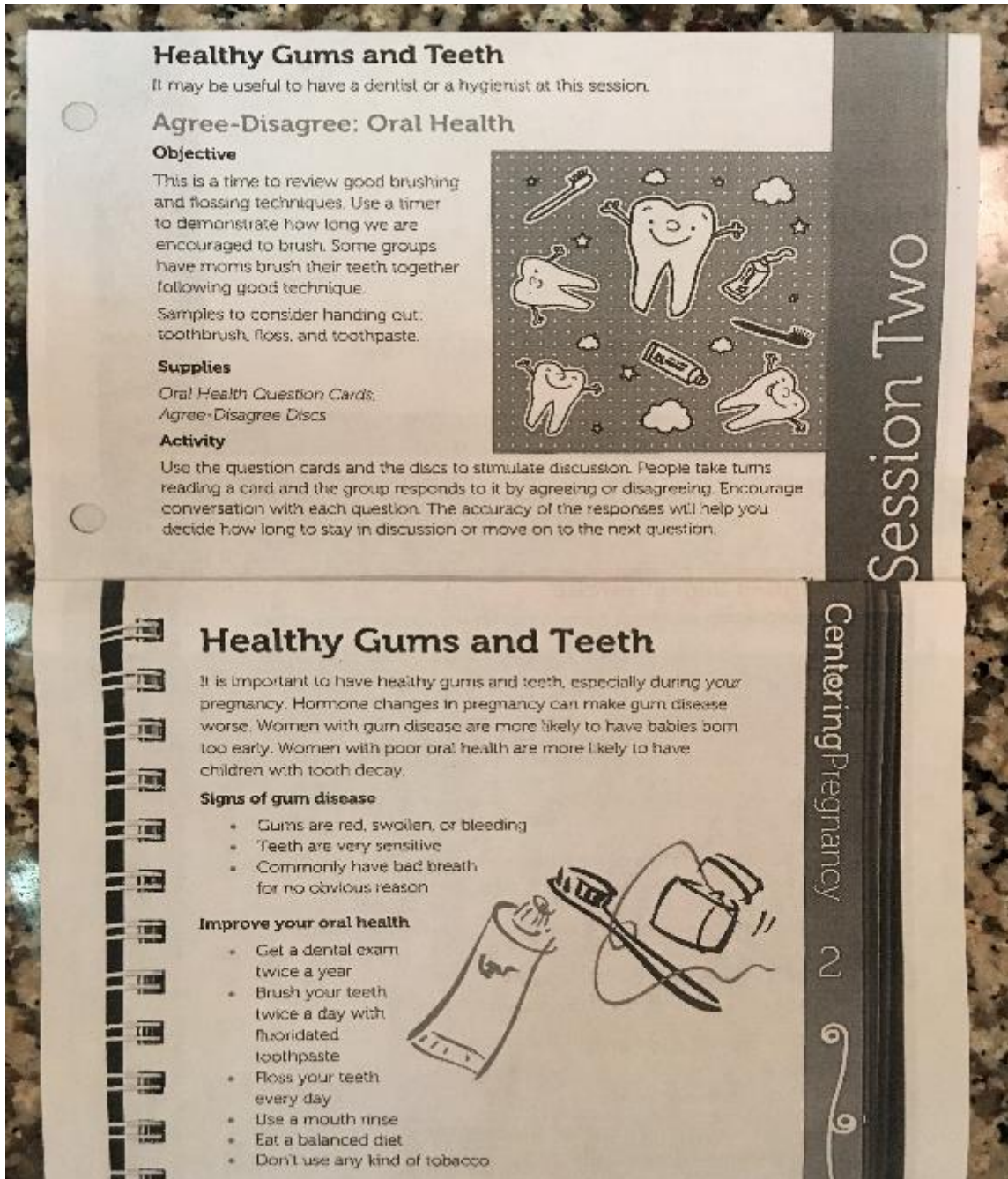
Available at:

<http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/dental-caries-in-children-from-birth-through-age-5-years-screening>

Population	Recommendation	Grade of Evidence
Children from 0-5 years	Primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride	B
Children from 0-5 years	Primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption	B
Children from 0-5 years	The current evidence is insufficient on routine screening examinations for dental caries performed by primary care clinicians	I

CENTERING PREGNANCY ORAL HEALTH SESSION STRATEGIES AND RESOURCES

Oral health education can be incorporated into centering pregnancy programs. The importance of oral health is addressed in the 2nd session (16- 20 weeks) and is included in the centering curriculum (Tool #12).



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Practice Recommendations and Tools for Dental Care Providers

THE ROLE OF DENTAL CARE PROVIDERS

When MICHC clients have a dental visit, they may be informed about the importance of dental care during the perinatal period either by support service providers or prenatal health care providers. Dental teams, i.e. dentists, dental hygienists, dental assistants, and administrative office staff, have the following two roles:

- 1) Develop, discuss and provide a comprehensive care plan that includes prevention, treatment, and maintenance of oral health during the perinatal period and beyond and address pregnant women's oral health needs (urgent as well as regular dental care needs).
- 2) Educate pregnant women about the prevention of ECC and provide them with appropriate self-management skills and anticipatory guidance for good family oral health¹.

During pregnancy, women may be concerned about the effect of dental treatments on their fetus, i.e. dental x-rays and local anesthesia.

Some pregnant dental patients may have co-morbidities such as diabetes, hypertension, or a cardiac condition that may affect management of oral problems in the dental office.

Pregnant women in MICHC program most likely have other priorities and keeping their dental appointment might not be their top priority.



- The dental team works in collaboration with health care and support service providers in the prenatal health care systems to optimize MICHC clients' oral health care,
- The dental team and pregnant patient make an informed decision after clearly discussing the benefits and risks of dental treatment and alternatives of treatments, and
- The dental team uses standard and evidence-based dental practices² (i.e. use lead apron to protect patient and fetus when obtaining x-rays, high-speed vacuum and rubber dam isolation when placing restorative materials and performing endodontic procedures).

ONLINE GUIDELINE RESOURCES

- New York State Practice Guidelines- Oral Health Care during Pregnancy and Early Childhood (2006)³
Available at <https://www.health.ny.gov/publications/0824.pdf>
- Oral Health Care During Pregnancy: A National Consensus Statement⁴
Available at <http://www.mchoralhealth.org/PDFs/Oralhealthpregnancyconsensusmeetingsummary.pdf>

CARIES RISK ASSESSMENT

Caries Risk Assessment (CRA) is a cornerstone of the disease prevention and management approach^{5,6}. CRA involves two parts: 1) an interview with the patient or a caregiver of child patient and 2) clinical examination to guide clinicians to identify the level of protective and risk factors as well as disease indicators.

Protective Factors	Risk Factors	Disease Indicator
Fluoridated water	Frequent sugar intake	Early demineralized enamel surfaces (white spot)
Use of fluoridated toothpaste/mouth rinse	Inadequate exposure to fluoride	Cavitated lesions
Daily brushing and flossing	Medications/medical conditions that cause dry mouth	Remineralized lesions
Saliva and Sealants	High-level of decay-causing bacteria	Plaque
		Lack of salivary flow

Although there is very little evidence to support the universal adoption of a CRA tool, CRA is an essential first step to aid the provider in determining a preventive and restorative treatment plan and the patient’s recall periodicity (three months, six months, or one year).

ADA CODES FOR CARIES RISK ASSESSMENT

ADA Codes	Description	Note
D0601	Low risk for caries	Per use of caries risk assessment instrument and documentation
D0602	Moderate risk for caries	
D0603	High risk for caries	

LIST OF CRA FORMS

- ADA Caries Risk Assessment Form for Child >6 years and Adult⁷

Available at

http://www.ada.org/~media/ADA/Science%20and%20Research/Files/topic_caries_over6.ashx

- ADA Caries Risk Assessment Forms for Children 0-6 years⁸

Available at

http://www.ada.org/~media/ADA/Member%20Center/Files/topics_caries_under6.ashx

- CAMBRA CRA Resources⁹

Available at

http://www.cda.org/Portals/0/journal/journal_102007.pdf

Please refer Chapter 2 Guide and Tools for more information on Motivational Interviewing Techniques, Early Childhood Caries, Oral Health Messages and Qs and As.

COMMUNICATING RISK AND BENEFIT OF DENTAL TREATMENT WITH PREGNANT DENTAL PATIENT (TOOL #13)

To successfully manage a pregnant woman's dental needs, a dentist and dental team should be able to effectively communicate risks and benefits of dental care and prepare instructional resources that assist her informed decision making. Good dentist-patient relationship, clear communication between a dentist, pregnant dental patient, and her obstetrician, and documentation of communication and procedures are integral components of risk management in any dental practice. Here are some of common scenarios and example conversations in a dental office explaining dental procedures to a pregnant patient:

SCENARIO #1: Dental x-rays/radiographs and timing of dental treatment

Stacy, a 23-year-old woman who is in the 11th week of pregnancy, comes to your clinic, referred by MICHC Community Health Worker, for initial exam with a chief complaint of a "cavity" in the mouth. She reports no spontaneous pain, and her dental referral form indicates no significant medical history or at-risk pregnancy. After conducting the patient interview, you clinically examine the patient's mouth and complete clinical charting. The patient receives oral hygiene instructions and education, scaling, prophylaxis, and fluoride varnish application with a dental hygienist. You are going to talk to Stacy about your plan of taking some x-rays in order to complete your treatment planning and recommend her to return for restorative treatment.

Examples of communication

Stacy, I found some cavities in your mouth with my visual exam and would like to take 4 bitewing x-rays to better diagnose the extent of decay. Taking several diagnostic dental x-rays presents virtually no risk to your fetus because we use fast x-ray film to reduce radiation exposure and you will wear a protective lead apron—that is the standard of care we practice for any patient. Please be reassured that the radiation exposure from x-rays taken in a dental office is minimal and does not pose any risk to you or your baby when appropriate precautions are taken.

The first trimester is the time when fetal structural and organ development occurs and this is the time when any exposed risk would have the most impact on your baby. However, national experts of obstetricians and dentists say dental treatment is safe throughout the pregnancy^{3,4}. As you are currently in your late first trimester and you are not presently experiencing a toothache, how about taking diagnostic dental x-rays when you return for treatment in your second trimester? We can schedule these appointments for you today."

SCENARIO #2: Use of Local Anesthesia and restorative dental treatment

Stacy returned to your clinic when she is in the 18th week of pregnancy for restorative treatment on tooth #14 (occlusal caries). You update her medical history and there is no contraindication for dental treatment. You are going to inform her about today's dental procedure that involves the use of local anesthesia, rubber dam, and direct restoration.

Examples of communication

Stacy, I am going to fix a cavity on your upper left molar today. In order to prevent pain and discomfort while I remove decay on your tooth, I am going to numb the gum and tooth locally. Lidocaine that contains epinephrine is most widely used for the purpose in dentistry because of its effectiveness and safety. I feel comfortable using the local anesthesia on you because there is no proven ill effect reported during pregnancy and your obstetrician reported to me that your pregnancy is going well and approved the use of local anesthesia (have the copy of perinatal dental referral form in the dental chart) (Tool #10).

The second trimester is the best time to receive regular dental treatment^{3,4} like this, and if the cavity is left untreated, it could possibly cause a toothache and infection while you are in labor or after your baby is born.

There are a few options of dental material that I can use to fix your tooth. Amalgam filling is a silver-color, mercury containing dental material that has been used in dentistry for many years. There are no studies in humans that have shown an ill effect on pregnancy from placing this dental material or that the mother's existing amalgam fillings cause any adverse effect to the fetus^{10,11}. We will also use a high-speed vacuum to minimize your exposure to the vapor of Amalgam. Composite resin is a tooth-color dental material. It relies on bonding technology so I will have to ensure that the tooth will stay dry while I place it.

In either case, whether you choose amalgam or composite resin, I would like to place a rubber dam in your mouth so that the tooth and the filling will remain dry and clean. It also prevents you from swallowing bad tasting decay and dental materials etc. If you have any problem keeping it in your mouth, you can always let me know.

SCENARIO #3: Dental extraction and endodontic dental treatment

Anne, 27-year-old woman who is in the 28th week of pregnancy, visits your clinic with a chief complaint of toothache on tooth #19. As she is not your regular dental patient, you make a phone call to her prenatal care provider to confirm her medical history and any perceived contraindication for dental treatment while your dental hygienist is taking a periapical x-ray of the affected tooth. The radiographic image shows a periapical abscess on tooth #19, and you clinically observe large MO surfaces of the crown missing due to caries. Her obstetrician gives you clearance for dental treatment. Anne seems to be a bit nervous on the dental chair, and you are going to discuss treatment options with her.

Example of communication

Your tooth has large decay and infection causing an abscess and pain. There are a few treatment options that I will explain to you and would like you to think about carefully. One is to remove the tooth. This procedure is covered by your dental insurance and also it can be done today. The procedure is to numb your tooth and gums locally and remove the affected tooth. This is a procedure that I do every day.

If you are feeling too nervous to take your tooth out, I can discuss with you and your obstetrician about the option of using low dose of laughing gas or referring you to an oral surgeon who does sedation to manage your anxiety better during the extraction.

The other treatment option is to have root canal treatment to save the tooth. Your dental insurance unfortunately will not cover this treatment and I do not perform root canal on molars. So, if you would like this option, I will refer you to the nearby dental school or to a specialist (endodontist). As root canal treatment usually requires more than a few dental visits to be completed, it is possible that the treatment won't be completed before you deliver your child and you may continue to experience some discomfort in your mouth. After the completion of root canal treatment, you will need to have a crown because so much tooth structure is gone because of cavity. Your dental insurance will not cover crowns, but our clinic can provide you with sliding fee schedule and payment plan if necessary. It is very important to maintain good oral hygiene if you would like a good prognosis of these treatments. Our dental hygienist can teach you how to keep your teeth healthy at home. Otherwise, you will end up having this tooth with a costly root canal and crown removed a few years later.

My professional recommendation for you is to have the tooth removed today because infection from the tooth could spread out to your body while you are waiting for consultation and root canal treatment. Prolonged use of antibiotics and pain medicine is not good for your health and health of your fetus. What do you think about these options and how can I help you?

MEMOS ON DENTAL RADIOGRAPHS

- No increase in congenital anomalies or intrauterine growth retardation has been reported for x-ray radiation exposure during pregnancy totaling less than 5-10 cGy.
- A full-mouth series of dental x-rays results in only $8-10^{-4}$ cGy.
- A bitewing and panoramic radiographic result in about 1/3 of radiation exposure associated with full-mouth series with E-speed film and rectangular collimated beam.

ADA's Professional Guideline for Dental Radiographic Examinations: Recommendations for Patient Selection and Limiting Radiation Exposure (2012)² is available at

http://www.ada.org/~media/ADA/Member%20Center/Files/Dental_Radiographic_Examinations_2012.ashx

MEMOS ON LOCAL ANESTHESIA

- 2% Lidocaine with 1:100,000 epinephrine (the most widely used local anesthetic in dentistry) is Category B drug for use during pregnancy
- Prilocaine is also Pregnancy Category B drug.
- Mepivacaine, Septocaine, and Bupivacaine are in Pregnancy Category C.
- In a healthy pregnant patient, local anesthesia with 1:100,000 epinephrine concentration used in dentistry is safe if administered using proper aspiration technique, preventing intravascular injection and its use is limited to the normal dose^{3,4}.

MEMOS ON GENERAL ANESTHESIA AND SEDATION DRUGS¹²

- The U.S. Food and Drug Administration (FDA) is warning that repeated or lengthy use of general anesthetic and sedation drugs during surgeries or procedures in children younger than 3 years or in pregnant women during their third trimester may affect the development of children's brains.
- Consistent with animal studies, recent human studies suggest that a single, relatively short exposure to general anesthetic and sedation drugs in infants or toddlers is unlikely to have negative effects on behavior or learning. However, further research is needed to fully characterize how early life anesthetic exposure affects children's brain development.
- **Health care professionals** should balance the benefits of appropriate anesthesia in young children and pregnant women against the potential risks, especially for procedures that may last longer than 3 hours or if multiple procedures are required in children under 3 years. Discuss with parents, caregivers, and pregnant women the benefits, risks, and appropriate timing of surgery or procedures requiring anesthetic and sedation drugs.
- **Parents and caregivers** should discuss with their child's health care professional the potential adverse effects of anesthesia on brain development, as well as the appropriate timing of procedures that can be delayed without jeopardizing their child's health.
- **Pregnant women** should have similar conversations with their health care professionals. Also talk with them about any questions or concerns.

POSITIONING PREGNANT PATIENT ON DENTAL CHAIR (TOOL #14)

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

PHARMACOLOGICAL CONSIDERATIONS FOR PREGNANT WOMEN (TOOL # 15)

Recommendations by a national expert workgroup¹³

<http://www.mchoralhealth.org/PDFs/OralHealthPregnancyPharmacological.pdf>

Pharmacological Considerations for Pregnant Women

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

Pharmaceutical Agent	Indications, Contraindications, and Special Considerations
Analgesics	
Acetaminophen	May be used during pregnancy.
Acetaminophen with Codeine, Hydrocodone, or Oxycodone	
Codeine	
Meperidine	
Morphine	
Aspirin	May be used in short duration during pregnancy; 48 to 72 hours. Avoid in 1st and 3rd trimesters.
Ibuprofen	
Naproxen	
Antibiotics	
Amoxicillin	May be used during pregnancy.
Cephalosporins	
Clindamycin	
Metronidazole	
Penicillin	
Ciprofloxacin	Avoid during pregnancy.
Clarithromycin	
Levofloxacin	
Moxifloxacin	
Tetracycline	Never use during pregnancy.
Anesthetics	
	Consult with a prenatal care health professional prior to using intravenous sedation or general anesthesia.
Local anesthetics with epinephrine (e.g., Bupivacaine, Lidocaine, Mepivacaine)	May be used during pregnancy.
Nitrous oxide (30%)	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.
Antimicrobials	
	Use alcohol-free products during pregnancy.
Cetylpyridinium chloride mouth rinse	May be used during pregnancy.
Chlorhexidine mouth rinse	
Xylitol	

Source: Reproduced, with permission, from Oral Health Care During Pregnancy Expert Workgroup. 2012. *Oral Health Care During Pregnancy: A National Consensus Statement*. Washington, DC: National Maternal and Child Oral Health Resource Center.

Recently, the United States Food and Drug Administration set forth new guidelines for pregnancy and lactation labelling of medications^{14,15,16}. This new labelling rule went into effect on June 30, 2015 but its implementation will take place over a 3-5 year period. This new labelling requires changes to the content and format of prescription drug labelling to help the practitioners make decisions based on updated evidence and has put the decision-making onus back on the individual practitioner¹⁶. The practitioner must continue to weigh the benefit of using the medication against all possible risks to patients before administering or prescribing it (For example, see table below)¹⁷.

Medications in pregnancy	Previous Classification	Comments
<u>Local anesthetics</u>		
Lidocaine	B	No known risks
Mepivacaine	C	No known risks
Bupivacaine	C	No known risks
Benzocaine	C	No known risks
Epinephrine	C	Reports of fetal malformations with intravenous doses; no documented risk when used in association with a local anesthetic
<u>Antibiotics</u>		
Amoxicillin	B	None
Penicillin	B	None
Amoxicillin and clavulanate potassium (Augmentin)	B	None
Clindamycin	B	None
Azithromycin	B	None
Metronidazole (Flagyl)	B	Fetal carcinogen in mammals; no proven risk in humans; contraindicated for use in first trimester as per manufacturer
<u>Analgesics</u>		
Ibuprofen	D	<ul style="list-style-type: none"> ●Associated with ductus arteriosus constriction when used during first trimester ●Associated with pulmonary hypertension when used in the third trimester
Acetaminophen	B	Frequent use may be associated with fetal abnormality
Opioids (oxycodone, hydrocodone, codeine)	C	<ul style="list-style-type: none"> ●First trimester use: low risk of neural tube defects ●Third trimester use: risk of fetal dependence and newborn respiratory depression
<u>Steroids</u>		
Dexamethasone	Not applicable	Low risk of oral clefts during first trimester
Triamcinolone	C	First trimester risk of oral clefts; continued use may restrict fetal growth
Prednisone	Not applicable	Low risk of oral clefts during first trimester

PHARMACOLOGICAL CONSIDERATIONS FOR LACTATING DENTAL PATIENTS

Knowledge about medication use during lactation or breastfeeding is extremely important. It is imperative to be up-to-date with information on medication use and its effect on the nursing infant during breastfeeding. Factors that reduce the ability of mothers to metabolize or excrete the drug may increase infant exposure to the drug¹⁸. Infants who breastfeed more often and consume a higher volume of milk are more vulnerable to maternal drugs than those who breastfeed less often and ingest a lower volume of milk¹⁸. Infant exposure to the drug can be reduced if the drug is used by the mother immediately before or after breastfeeding. Consultation with the obstetrician or pediatrician is very useful. Drugs that are known to be toxic to infants such as antineoplastic drugs, radioactive drugs or drugs of abuse are contraindicated during the breastfeeding period^{19,20}. It is beneficial to evaluate the risks versus the benefits of medications prior to administration to a nursing mother. (See table below for compatibility with breastfeeding of some commonly used medications in lactating dental patients)^{17,19,20}.

Medications compatible with breastfeeding	Safety Recommendation	Notes
<u>Local anesthetics</u>		
Lidocaine	According to FDA, compatible with breastfeeding	No studies found addressing presence of lidocaine in breast milk following a dental procedure
Epinephrine	Caution is advised because of possible effects on milk production	Limited studies found
Mepivacaine	Safety unknown	No study found
Bupivacaine	Safety unknown	No study found
<u>Antibiotics</u>		
Amoxicillin	Usually compatible	Penicillins incorporate into breast milk in small doses
Penicillin	Usually compatible	
Clindamycin	Usually compatible	Cephalosporin incorporates into breast milk in small doses
Azithromycin	Usually compatible	
Cephalosporin	Usually compatible	
Erythromycin	Usually compatible	Has shown to cause carcinogenesis in rodents but has not been shown to cause similar outcomes in humans
Metronidazole (Flagyl)	Caution is advised	
<u>Analgesics</u>		
Aspirin	Potential toxicity	Give with caution; should be given at low doses (<150 mg/d); consider alternate choice if possible
Acetaminophen	Usually compatible	
Celecoxib	Usually compatible	No risk to infant at normal doses
Diclofenac	Usually compatible	
Ibuprofen	Usually compatible	
Indomethacin	Usually compatible	
Ketorolac	Usually compatible	
Naproxen	Usually compatible	Black box warning that it is contraindicated because of potential adverse effects

<u>Opioids</u>		
Codeine	Caution is advised	When given at low levels, is present in breast milk in small amounts; Some infants possess the ability to rapidly metabolize the drug causing high levels in the blood Hydrocodone has been shown to reach as high as 9% of the maternal dose Tolerated well by infants and is preferable over codeine and hydrocodone use Moderate amounts found in human milk Relatively high amounts found in human milk
Hydrocodone	Caution is advised	
Hydromorphone	Caution is advised	
Oxycodone	Caution is advised	
Meperidine	Not recommended	

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Oral Health Guide and Tools for MICHC Partner Programs (i.e. Head Start, WIC Programs)

The goal of this Tool Kit and Manual has been to introduce the topic of the importance of oral health screenings, care, and maintenance for Pregnant and Parenting women and to support women in obtaining the care and treatment they need to maintain good oral health for themselves and their children. MICHC partner programs play a key role in assisting pregnant and parenting women and their children to understand about the importance of learning, practicing, and maintaining good oral health habits. By providing screenings and asking women:

(1) Have you had a regular or preventative dental visit within the last 6 months, and
(2) Do you have any problems in your mouth (bleeding gums, toothache, loose tooth, etc.), and then educating women and connecting them to needed services or supports.

MICHC partners working with women are best positioned to assist them in exploring their barriers and crafting interventions and supports to navigate them.

TIPS FOR BUILDING ORAL HEALTH PROGRAMS

The MICHC program uses a variety of resources to provide oral health education to partners and consumers. We recommend that programs have a variety of educational information on hand for overview education, then assess their needs and utilize information that addresses barriers women presented.

SOME EXAMPLES ARE BELOW:

- **Oral Health and Health in Women: A Two-Way Relationship-** flyer that provides information and strategies about the importance of oral health across the lifespan and during pregnancy for health and human service providers (not recommended for consumers).
- **Two Healthy Smiles** – brochure in English and Spanish addressing oral health during and after pregnancy and for infants. (Recommended for use with consumers) **The National Center on Health has Healthy Habits for Happy** – 2-sided flyer that has English and Spanish versions of infant oral health information addressing teething pain and tips to help babies. (Recommended for use with consumers).

The Cavity Free Kids: An Early Start, Oral Health Education for Pregnant Women, Infants, and Toddlers, the companion curriculum to Cavity Free Kids: Oral Health Education for Preschoolers and Their Families. Developed by Delta Dental in conjunction with the Washington Dental Service Foundation, has parent resources in English and Spanish, can be delivered during home visits or in group settings, and has supporting materials (DVDs, handouts, etc.) that can be purchased. Recommended for use with consumers.

The Partners for a Healthy Baby Curriculum (for a cost – contact S. Bullock MICHC Program Director) includes oral health information for infants including, “Signs of Incoming Teeth”, “Teething and What To Do”, and “Bottle Use, Decay, and How to Prevent Tooth Decay”.

*****TO ASSIST A PREGNANT OR PARENTING WOMEN WITH REFERRALS FOR ORAL HEALTH OR OTHER SUPPORTS CALL THE HEALTHY BABY OUTREACH TEAM AT (585) 546 – 4930 OR ACCESS THE HEALTHY BABY RESOURCE DIRECTORY ONLINE AT (<http://www.pnmc-hsr.org/resources/directory/>)**

MICHC Oral Health Webinar

A webinar on training prenatal, perinatal and dental providers and support staff about oral health care during pregnancy was scheduled in September 2016 and thereafter the recording has been available at the Healthy Baby Network website as well as the Eastman Institute for Oral Health website.

MICHC Oral Health Contacts and Networking Tips

MICHC ORAL HEALTH PARTNER CONTACTS

Title	Name	Email	Phone No.
Healthy Baby Network of Monroe County			585-546-4930
Executive Director MICHC Director Healthy Start Director	Lauren Deutsch Sherita Bullock Valerie Garrison	lauren@healthy-baby.net sherita@healthy-baby.net valerie@healthy-baby.net	x214 x213 x204
Anthony Jordan Health Center			585-423-5836
Dentist Dental Hygienist	Mary Miller Tera Bell	mmiller@JordanHealth.org tbell@JordanHealth.org	
Eastman Institute for Oral Health			
<u>Community Dentistry</u> Dentist Dentist (Pediatric) Dentist (Pediatric) Dental Hygienist Senior Social Worker	Sangeeta Gajendra Chia Taw Huang Robby George Mary Pistilli Lenora Colaruotolo	sangeeta_gajendra@urmc.rochester.edu chiataw_huang@urmc.rochester.edu robby_george@urmc.rochester.edu mary_pistilli@urmc.rochester.edu lenora_colaruotolo@urmc.rochester.edu	585-275-5007
<u>Urgent Care</u> Dentist Dentist	Yanfang Ren Linda Rasubala	yanfang_ren@urmc.rochester.edu linda_rasubala@urmc.rochester.edu	585-273-2465
<u>Pediatric Dentistry</u> Dentist (Pediatric) Dentist (Pediatric)	Erin Shope Cynthia Wong	erin_shope@urmc.rochester.edu cynthia_wong@urmc.rochester.edu	585-275-5031
<u>General Dentistry</u> Dentist Dentist	Hans Malmstrom Jin Xiao	hans_malmstrom@urmc.rochester.edu jin_xiao@urmc.rochester.edu	585-276-5718
University of Rochester Strong			
Dentist	Sharon Elad	selad@urmc.rochester.edu	585-275-5531
New York State Department of Health, Bureau of Women, Infant, and Adolescent Health			
Perinatal & Infant Oral Health Quality Improvement	Ayodele Obashoro MBBS, MPH	ayodele.Obashoro@health.ny.gov	518-473-8753

With Special Thanks to:

Sangeeta Gajendra, DDS, MPH, MS
Associate Professor/Clinical Chief
Department of Community Dentistry and Oral Disease Prevention
Eastman Institute for Oral Health, University of Rochester
Rochester, NY 14620

Robby George, BDS, MDS
Assistant Professor
Department of Community Dentistry and Oral Disease Prevention
Eastman Institute for Oral Health, University of Rochester
Rochester, NY 14620

Neelam Jadeja, BDS, MPH
Former Dental Public Health Resident
Department of Community Dentistry and Oral Disease Prevention
Eastman Institute for Oral Health, University of Rochester
Rochester, NY 14620

Isma Khalid, BDS, MPH
Dental Public Health Resident
Department of Community Dentistry and Oral Disease Prevention
Eastman Institute for Oral Health, University of Rochester
Rochester, NY 14620