

PregNancy Together™

*The importance of
maintaining the health
of your mouth and teeth
during pregnancy*

DEVELOPED BY
The Children's Oral Health Institute
with content contributed by
national health care experts

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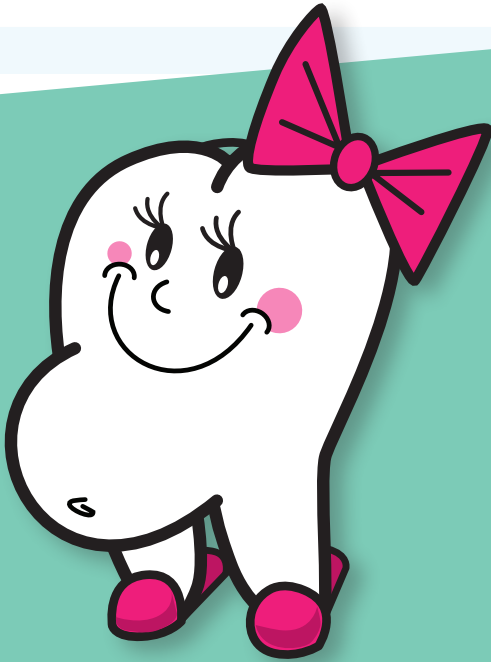
by Deborah L. Cartee, RDH, MS and Marian C. Manski, RDH, MS

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PregNancy Together™

Teeth to Toes

Pregnancy is a time for expecting mothers to evaluate and improve their well-being. These brochures are dedicated to educating and empowering pregnant women and families from conception and beyond about the correlation between pregnancy, oral health and systemic health. The **PregNancy Together** brochure and manual have been developed by The Children's Oral Health Institute as an endearing resource for expectant parents. The compiled content has been contributed by highly respected health care experts.

There exists a strong link between a mother's oral and systemic health and that of their developing child. All expecting mothers should consider the effects of oral disease, systemic infection, nutrition, and medications taken during pregnancy. The importance of preventive behaviors, maintenance and management of the expectant mother's health and the developing fetus is shared through these important discussions. Read more about the experts and their full explanations at www.mycohi.org. For more information about ensuring your baby develops optimal oral health, speak with your dentist and physician.

About The Children's Oral Health Institute

The Children's Oral Health Institute (COHI) is a 501(c)3 organization created to combat dental neglect and oral abuse among children. Disease prevention education and early health promotion are top priorities. These goals aim to help improve the attitudes and behavior of children and families on a variety of oral health issues for more information and to download copies of the **PregNancy Together** brochure, please visit www.mycohi.org.

I.

PregNancy & Maintaining Your Dental Health

by Dr. Cynthia E. Hodge

There is a connection between a mother's and a child's teeth as bacteria can be passed between mother and baby, which makes it easier for children to get cavities. To minimize having your child deal with cavities, ensure that you maintain your oral and dental health. This includes attention to pre-pregnancy health to assure a healthy mom and baby.



Once the decision to conceive is made a thorough oral/dental and physical examination is a priority. The oral/dental examination should include x-rays, oral hygiene care with home care instructions, and elimination of all cavities and gum infections.

Recommendations for PregNancy to keep teeth healthy:

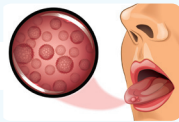
- Keep your regular dental checkups during your pregnancy.
- Let your dentist know that you are pregnant.
- Enjoy sweets in moderation. Rinse with water afterwards.
- Brush your teeth at least twice each day with fluoridated toothpaste.
- Floss between your teeth at least once a day.
- Rinse your mouth with water or with a fluoride rinse after vomiting, and remember NOT to brush your teeth right after vomiting, wait about 30–60 minutes.
- Drink more water and try sugarless candy or gum to increase saliva production.
- Eat a balanced diet to ensure you get enough calcium, vitamin A, C, D as well as protein and phosphorus. Eating well also allows you to build strong teeth and bones in your baby as well. ●

II.

PregNancy, Oral Health & Human Papilloma Virus

by Dr. Teresa P. Diaz-Montes

Human papilloma virus (HPV) is the most common sexually transmitted infection in the United States. There are hundreds of HPV types. Some types are considered low risk and are related to the development of genital warts. Other types are considered high risk and related to cancer development. Many women are exposed to HPV in their lifetime. Most women will clear the HPV infection within one to two years, however, some of them may have persistence of the infection for years. Persistence of the infection is associated with pre cancer lesions and eventual cancer development. HPV has been associated with several cancers including cervical cancer, anal cancer, vaginal cancer, vulvar cancer, penile cancer (in men) and oropharyngeal cancer (back of the throat, including base of the tongue and tonsils).



Oral HPV is transmitted to the mouth by oral sex. HPV is thought to cause about 70% of oropharyngeal cancers in the United States. It takes years after being infected with HPV for cancer to develop. It is still unclear which factors could cause cancer to develop as not all people who are exposed to HPV will develop cancer. If you are exposed to HPV and have practiced oral sex, you should let your dentist

know so a complete oral exam is performed. Symptoms of oral cancer to watch include:

- Long lasting sore throat
- Earaches
- Hoarseness
- Swollen lymph nodes
- Pain when swallowing
- Unexplained weight loss

Women who have been exposed to HPV may worry of the HPV causing harm during pregnancy, particularly to the developing baby. HPV does not affect the pregnancy or the baby. There is no increased risk of miscarriage, premature delivery, or other pregnancy related complications due to an infection with HPV. Also, the risk of transmitting HPV to the baby is extremely low. HPV could cause changes in the cervix that could require care. Women should visit their gynecologist in a regular basis to make sure that they are up to date on their Pap smear test. A Pap smear test is intended to detect early changes in the cervix that could lead to cancer. It can also detect an HPV infection. HPV infections do not cause any symptoms. There is also no treatment for HPV once a woman is infected. If a Pap smear test has not been done, then it should be obtained during each pregnancy. Any changes detected, then should be treated by your gynecologist.

HPV infection can be prevented by the practice of safe sex and vaccination. Ideal candidates

for vaccination are those that have not been sexually active as vaccines can only prevent infection, not cure existing ones. People who are already sexually active and who could have been exposed/infected with HPV should talk to their health care provider as the vaccine may protect from the other types of HPVs that they have not been infected/exposed with.

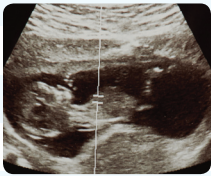
Prior guidelines recommend HPV vaccination for females between the ages of 11 and 26, and for males through age 21. Current guidelines state that both women and men who were not previously vaccinated are eligible up to age 45. The complete vaccination series could consist of two to three doses depending on the age of vaccination. ●

III.

PregNancy, Healthy Eating & Baby's Developing Teeth

by Dr. Alisha Reynolds

At birth, your child's teeth cannot be seen, but they will exist under the gums. You see, children's baby teeth begin forming at about the sixth week of pregnancy in the womb. These teeth start mineralizing — building the bone-like inner tooth layer (called dentin) and the super-hard enamel layer that covers it —



around the fourth month of pregnancy. When you become pregnant, it's important to start considering the best practices to ensure your baby has healthy teeth!

As with all systems of your baby's physical development before birth, much depends on how well you take care of yourself. Developing teeth need the proper nutrients to grow effectively, so if you don't get them through your diet, your baby won't receive them either. Likewise, you'll have to eliminate your intake of substances that could harm your baby's teeth in utero. Here is a brief summary of what to seek and what to avoid.

Always Eat Right

Certain nutrients are particularly important for prenatal tooth development.

Calcium, a vital mineral, is the main ingredient used to make teeth. A deficiency in calcium from your diet will result in a transfer of calcium from other bones in your body (excluding your teeth) to support the growth of the fetus.

This process benefits your baby, while weakening your body. The best sources of dietary calcium are found in dairy foods (i.e., milk, cheese, and yogurt), broccoli, and kale.

Vitamin A and **Beta Carotene** are included in milk, eggs, liver, carrots, spinach, broccoli, sweet potatoes, pumpkin, yellow fruits, and cantaloupe. These nutrients help the growth of teeth and bones. **Vitamin C** is included in citrus fruits, bell peppers, green beans, strawberries,

papaya, potatoes, broccoli, and tomatoes. The benefits include tissue repair, wound and bone healing, and healthy skin. This nutrient helps your baby to build strong bones and teeth. Phosphorous, also a mineral, is responsible for the hardness of teeth. It is a universal component of all of the body's cells. Foods include meat, milk, and many cereals. Of all the nutrients needed for your child's teeth, this is the easiest to find in foods.

Vitamin D helps the body absorb and keep calcium and phosphorous. This nutrient is more difficult to find in food. Examples include milk and salmon. These help the fetus use calcium for strong teeth and bones. Vitamin D is also naturally produced by your body when you expose your skin to sunlight. In order to prevent the negative effects of excessive sun exposure, your physician may prescribe Vitamin D supplements.

Protein is naturally the most plentiful substance in your body, following water. It is responsible for building, maintaining and renewing the body's tissues. In fact, there is a specific protein that is responsible for causing calcium-phosphate crystals to produce tooth enamel, as opposed to forming bones. Some of the building blocks of proteins do not occur naturally in the body and are necessary to include in your diet. Meats and dairy products are the most protein-rich foods. It is possible to get all the different proteins your body requires from a vegetarian diet. Try to adopt a diet that will supplement you with all the amino acids.

Avoid

Harmful substances that act to irreversibly alter growth, structure or function of the developing child, including their teeth, are called teratogens. These bad materials should be avoided at all costs. These include viruses, environmental actors (i.e., hyperthermia and irradiation), chemicals (i.e., alcohol), and therapeutic drugs (i.e., ACE inhibitors, thalidomide, isotretinoin, warfarin, and carbamazepine). ●

IV.

Pregnancy & Healthy Eating

by Dr. Marianna Wetherill

During pregnancy your body is working hard to build another human being. Good nutrition is very important throughout pregnancy to support healthy child growth and development that can be of benefit for a lifetime.



First Trimester: Your baby is very tiny right now, so you do not need to eat any more calories than you normally do, unless you are underweight. Folic acid and iron are very important nutrients at this time, so be sure to take your prenatal vitamin each day and eat foods rich in these nutrients. If you are having nausea, try eating small frequent meals that are either cold or at room temperature. Spicy and greasy foods can also make nausea worse.

Second Trimester: Your baby is noticeably increasing in size, and you now need to eat more to support its growth. If your weight is healthy, you will likely need to eat about 340 calories more each day. If you are overweight, talk to your doctor about your calorie needs. Most women will now need between 60 and 72 g protein per day to support healthy tissue building for their baby. Gas, bloating, and constipation can affect many moms at this stage. Staying hydrated with water, eating fiber-rich foods that are easy to digest (like fruit), and exercising daily can all help to provide relief.

Third Trimester: Your baby is almost ready to enter the world, and it needs more calories than

ever. For women who are at a healthy weight, an extra 450 calories each day is likely needed. If you have gained too much weight during pregnancy, you will not need this many calories. Protein needs are now higher, with 81 to 93 g per day being right for most women. Heartburn can be at its worst during this time. Focus on small meals, limit spicy, greasy and acidic foods, and avoid laying down for 3 hours after eating.

Throughout pregnancy: Water is a nutrient! Most women need to drink 10 cups per day. Try adding fresh fruit slices or fresh herbs to water for variety without the added sugar.

Nutrient Check: Iron, folic acid, calcium, vitamin D, choline, iodine, omega 3 fats, and protein are all important nutrients during pregnancy. Here are some low-cost examples of where to find these nutrients:

	Iron	Folic acid	Calcium	Vitamin D	Choline	Iodine	Omega 3s	Protein
Fortified cereals, like Total®	•	•	•	•				
Eggs				•	•	•		•
Peanuts and peanut butter					•			•
Almonds			•					•
Green leafy vegetables	•	•	•					
Navy beans	•	•	•					•
Ground flaxseed, chia seed, canola oil (all are mercury-free)							•	

Be sure talk to your doctor, midwife, or registered dietitian about any special nutrient recommendations for you. ●

V.

Diabetes, Pre-eclampsia, Dental Health & Pregnancy

by Dr. Robert C. Greenwell, Jr.

Pregnancy is a condition that is clearly an important part of the lives of most women. Pregnancy has important impacts on kidney function both in the normal kidney function patient, as well as the patient with Chronic Kidney Disease. Some of these changes are subtle and have little impact on the outcome of the baby and mother during the pregnancy, but others can be more significant and serious.

Dental research has discovered evidence that (1) pregnant women with periodontal disease

are more likely to develop gestational diabetes mellitus than pregnant women with healthy gums, and (2) pregnant women with severe gum disease are more than twice as likely to have preeclampsia compared to women with healthy gums. Experts hypothesize that this is because the infection causing periodontal disease may travel to the placenta or produce chemicals that can cause preeclampsia.

Women with Chronic Kidney Disease have additional risks and stresses with pregnancy. Pregnancy in these women will often not have a successful outcome and may lead to



irreversible worsening of an already reduced kidney function diagnoses. Medications used to manage the Chronic Kidney Disease, especially ace-inhibitor blood pressure medications and diuretics, can be dangerous and may possibly be stopped even before pregnancy begins. These issues make it imperative that a woman with Chronic Kidney Disease speak to her Ob-Gyn and her Nephrologist as early as possible about pregnancy to consider and coordinate treatment plans.

Pregnancy may even cause sudden, acute kidney disease in women who do not have any baseline kidney disease. This will usually happen as a complication of Preeclampsia/Toxemia.

This condition is seen in the Third Trimester of pregnancy and is associated with development of high blood pressure, leg swelling, and protein

in the urine. Urgent delivery of the baby is often the best plan if Acute Kidney Injury develops with Preeclampsia.

Finally, even normal pregnancy will affect many functions of the kidney, resulting in changes from Pre pregnancy levels. Pregnancy interacts with the normal kidney to cause fluid retention, a lower sodium on blood tests, a lower creatinine level on blood tests, and a lower blood pressure. These are temporary changes that are usually tolerable to the patient and do not require intervention. Recovery to pre pregnancy levels will occur after delivery. You should not skip dental checkup appointment simply because you are pregnant. Routine exams are very important, because pregnancy causes hormonal changes that may put you at increased risk for periodontal disease. ●

VI.

PregNancy & Periodontal Health

by Dr. Louise T. Veselicky

All women of child-bearing age need to take special care of their mouths including the gums as well as the teeth.

During pregnancy, there are hormonal changes that may lead to changes in the immune response to the plaque biofilm (bacteria) that forms on the teeth and gums. When plaque is allowed to remain on the teeth, it also collects along the gum line and under the gums in the sulcus (the space between the gum and the tooth). As the plaque matures, the body builds an immune response resulting in gingivitis.



Gingivitis can be mild, moderate, or severe. Bleeding gums are a sign of inflammation of the gums. You should pay special attention to areas that bleed and be sure to clean them properly each day. Gingivitis is reversible with good oral hygiene (brushing and flossing) as well as regular professional preventive dental care. Gingivitis can also progress into periodontitis, a condition that includes loss of connective tissue and bone around the tooth. Studies have shown that the presence of gum disease during pregnancy may lead to preterm birth and low birth weight babies. Thus, another very important reason to take good care of your teeth and gums during pregnancy. ●

VII.

PregNancy & Postpartum Depression

by Ms. Shelly Bray

Postpartum Depression falls under a broader category of maternal mental health, known as Perinatal Mood and Anxiety Disorders (PMADs). PMADs are very common, occurring in at least 1 in 7 women. Symptoms of PMADs can occur anytime during pregnancy or after birth, more commonly beginning during the first year after delivery. Some symptoms of Perinatal Mood and Anxiety Disorders can include:

- Feeling sad or depressed
- Not feeling like yourself
- Feeling more irritable or angry
- Having difficulty bonding with your baby
- Feeling anxious or panicky
- Having problems with eating or sleeping
- Having upsetting thoughts that you can't

get out of your mind

- Feeling as if you're "out of control" or "going crazy"

If you find yourself experiencing any of the above symptoms, please discuss with your doctor. Always keep your doctor informed if you have any concerns with how you are feeling and/or any concerns/questions about your mood! The good news is that there is help available for PMADs, and with help, you will feel better!



All of the above information was gathered from Postpartum Support International www.postpartum.net. Postpartum Support International contains further information about signs/symptoms of PMADs, how and where to seek help, local help/resources, online support groups, and much more! ●

VIII.

Post PregNancy & Your Infant's New Teeth*by Dr. Sterling Roberts*

It is important to bring the child to the dentist once the first tooth erupts or by the first birthday to ensure a healthy mouth!

- Even though your baby does not have teeth it is important to remove all milk and/or formula residue from the gums, cheeks and tongue when possible.
- Make you baby's first dental visit by the appearance of the 1st tooth or the 1st birthday (which ever occasion comes first).
- A parent's dental health and hygiene can also affect the outcome of the infants developing teeth. To prevent the transmission of cavity causing bacteria: Avoid kissing your baby on the or near the mouth.
- Do not allow family member to kiss the baby's mouth or hands, as babies frequently put their hands in their mouths
- Do not "clean" pacifiers, feeding utensils or bottles with your mouth.
- Use of fluoride toothpaste if your baby is older than 6 months is one of the first steps to stronger teeth



Mothers spend a significant amount of intimate time with infants it is therefore imperative that mothers maintain a healthy oral cavity. This practice should be applied to fathers as well. Routine dental visits, chewing sugar free gum, brushing properly with fluoridated toothpastes are all steps mothers can take to avoid their own encounters with dental decay, thus reducing the chances of transferring the harmful disease-causing bacteria to a infant/young child.

The incidence of cavities can be greatly decreased with good dental habits. These habits include:

- Wiping a young infant's (younger than 6 months) gums, tongue and cheeks after feeding
- Brushing with a rice size (age 6 month to 3 years) or pea size (older than 3 years) amount of fluoride toothpaste two times a day, especially before bedtime.
- Limiting fruit juice intake to 6 oz per day
- Diluting fruit juice with 50% water or more
- Limiting sugary snacks, while increasing fruit and vegetables

Childhood tooth decay, or cavities, is one of the most common diseases affecting children ages 0-5 years old. The incidence of cavities can be greatly decreased with good dental habits. ●

IX.

PregNancy, Dental Health & Male Fertility*by Dr. Dawud O. Lankford*

There seems to be a positive association between male infertility and dental health status. More emphasis should be paid to oral health care and its implications on the paternal health.

Men with poor oral health — whether from untreated cavities or periodontal disease — are more likely to face male factor infertility, especially when compared to men with normal sperm health according to some studies.

Low sperm count, poor sperm motility (that's how the sperm swim), abnormal sperm morphology (that's the shape of sperm), and evidence of bacterial infection in the semen are associated with various dental and oral health problems. While erectile dysfunction isn't a common sign of male infertility (most men with infertility have few to no visible symptoms), those who do experience erectile dysfunction are more likely to have gum disease.

First, cavities, tooth infections, and gum disease

all involve high levels of bacterial growth in the mouth. High levels of bacteria in the mouth may lead to increased levels of bacteria in other areas of the body.

Bacteriospermia is when a bacterial infection (or evidence of infection) is found in semen. In a semen analysis, an abnormally high white blood cell count would

indicate possible bacteriospermia. Studies have found that poor oral health is associated with an increased risk of bacteriospermia. Some research has found that treating cavities and oral infection has led to a reduction or elimination of bacteriospermia.

Secondly, when your body is fighting an infection (and tooth decay is an infection), your body's immunological response may go into overdrive. The infection and immunological response may be concentrated in the mouth,



but this can still result in increased inflammation throughout the body. This in turn may lead to the immune system attacking healthy, non-threatened cells—like developing sperm cells.

Thirdly, it's possible that risk factors for poor oral health are also risk factors for infertility. For example, consider smoking. Smokers are at an

increased risk of developing periodontal disease and smoking may negatively impact infertility.

More emphasis must be given to educating the expectant couples about the importance of their oral health and the invaluable task of maintaining the teeth and gums throughout life. ●

X.

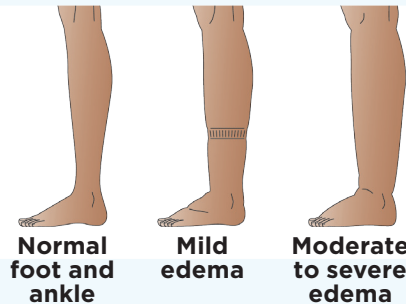
PregNancy & Foot and Ankle Health

by Dr. Crystal Murray Holmes

Hormones and Edema

The pregnant body is rapidly changing due to hormones. The hormone relaxin allows ligaments to become mobile and results in the pelvis moving to allow delivery affects the entire body; including the feet. In the feet, relaxin contributes to the feet stretching. It is normal to increase shoe size by a half to a full size and in many cases it can be permanent. The hormones cause skin, ligaments, and other soft tissue structures to expand. Because of this it also causes an increase in body fluid called edema. As a result of this swelling, or edema, it is very common for pregnant women to complain of edema in the hands, face, gums, legs, ankles, and feet. While swelling in the ankles and feet is expected here are some helpful management tips:

- Wear flexible, breathable shoes
 - Elevate and rest
 - Drink plenty of fluid and avoid dehydration



- Minimize salt intake
- Avoid long periods of standing
- Avoid crossing legs when sitting

Ingrown Nails

Another common complain includes ingrown nails. Tight fitting shoes can increase the risk of ingrown nails. Make sure shoe wear is well fitting and avoid trying to cut off ingrown nails yourself or performing “bathroom surgery”. This can increase your risk of infection and be harmful to you, as well as the baby.

Foot Pain

Heel pain, tendonitis, and ligament sprain can all occur during pregnancy. This is again related to soft tissue structures expanding, as well as increase in weight. Stretching, wearing supportive shoes, and avoiding going barefoot can all be helpful at keeping you healthy, comfortable, and active during pregnancy. Also consider modifying activity that is high impact such as running, if that is uncomfortable, and doing a lower impact activity such as swimming, which is a great form of exercise but not as hard on the joints. ●

XI.

Medications, Breastfeeding & PregNancy

by Dr. Alexandria M. Borden

Not all medications are safe to take while pregnant or breastfeeding. The safety of medications can change depending on the stage of pregnancy and lactation. Some medications are safe to take in early pregnancy but may cause harm in the later stages of pregnancy. The safety of some medications and supplements have not been established. Certain medications should be avoided during pregnancy since they can cause serious harm to your baby.



Acetaminophen may be used for pain relief during pregnancy and breastfeeding. Non-Steroidal Anti Inflammatory (NSAID) medications such as ibuprofen and naproxen can safely be used for pain relief during breastfeeding.

Opioids can cause birth defects, preterm delivery or withdrawal symptoms in your baby even if you take the medication as prescribed. If you were prescribed an opioid prior to becoming pregnant, stopping suddenly may also cause harm to your baby. If you are breastfeeding, pregnant, or planning to become pregnant, discuss your medications with your healthcare provider.

There are some antibiotic medications that could cause permanent staining and

discoloration to your child's teeth if taken during pregnancy. If you have an infection that requires treatment with antibiotics, it is important to tell your doctor if you believe you are pregnant. Due to its adverse effects and ability to cross-placental barrier, the Tetracycline class of antibiotics (doxycycline and minocycline) is contraindicated in pregnancy and in children.

Macrolide antibiotics are commonly used to treat both acute and chronic infections. The four most frequently used include azithromycin, clarithromycin, erythromycin, and roxithromycin.

They are widely used to treat infections in pregnant women with suspected penicillin allergies, but research has shown associations between macrolides and increased risk of heart arrhythmia and cardiovascular mortality, as well as miscarriage in pregnant women.

If you are breastfeeding, pregnant, or planning to become pregnant, discuss your medications with your healthcare provider. Together you, your physician and pharmacist can determine if the benefits of you taking a medication outweigh any potential risks to your baby. ●

XII.

Oral Body Art & PregNancy

by Deborah L. Cartee, RDH, MS and
Marian C. Manski, RDH, MS

Body modification, also referred to as body alteration, or body art, commonly includes ear piercing, body piercing, including the mouth, uvula, lips and nose, microdermal implants (or “single point piercings”) and temporary or permanent tattooing.



Body modification may cause complications during pregnancy. Piercings in particular, may become infected. An emergency situation can arise during labor and delivery requiring general anesthesia. Oral and nasal piercings are of particular concern for an anesthesiologist, as they may interfere with airway management and may be swallowed and aspirated; therefore, it is advisable to remove jewelry prior to labor and delivery.^{1,2} Piercings can be intraoral, and also include the peri-oral areas such as the cheeks, nose and brows.³ Complications from infections after a piercing is placed can be concerning for the pregnant patient. Professional piercers will not perform a piercing on a pregnant patient as there are concerns with infection. For example, infections such as Ludwig's Angina, candidiasis, Hepatitis, excessive bleeding, pain injuries and allergies are considerations regarding piercings. During a dental examination, piercings need to be removed so that the oral health professional may examine and perform a complete inspection of the head and neck area and not interfere with x-rays if necessary. Patients should be encouraged to bring sterile, non-metal “retainers” as patients with piercings are concerned that the tract may begin to close.⁴

Oral piercings can interfere with speaking, eating, and may cause excessive salivating. Dental problems such as gingival pulls/

recession and chipping and cracking of teeth can occur with oral piercings. Pregnant or nursing women should be made aware of rare complications that can occur regarding piercings.⁴ After delivery, nipple piercing can impair breastfeeding. Scar tissue created by the piercing may constrict milk ducts and interfere with milk flow.⁵ Jewelry should be removed prior to nursing as it can cause trauma to the lips, tongue, gums, or palate of infants and any part of the jewelry can be aspirated and swallowed by the infant.⁶

If you do you choose to express yourself with piercings, be aware that in the oral cavity it is imperative that good oral hygiene is practiced by brushing twice daily, flossing once a day and using an antimicrobial rinse and a tongue scraper. Contact your oral health professional at the first sign of any pain or problems. Damage to teeth, gums or possible aspiration may occur even with the utmost care.⁷ From a dental perspective, it is not recommended to receive an intraoral piercing, however, if one chooses to do so, be aware that there are risks and concerns associated with piercings and one should be vigilant on the care of piercings and recognize the need for health professionals to examine and fully assess any risk or injuries associated with oral piercings to assure a healthy pregnancy. Furthermore, the maintenance of preventive oral care before, during and after pregnancy by receiving a dental hygiene checkup is imperative for both mother and child. ●

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True or false?

- It is **not** true that you lose a tooth for every pregnancy. Decay is often the cause of tooth loss.
- Calcium is **not** taken from the mother's teeth for the baby's growth. This is provided through the mother's diet and if it is inadequate then it is taken from the mother's bone.
- Hypersalivation does **not** affect the baby as such. However, if the excessive production of saliva leads to significant nausea and vomiting, inadequate intake of nutrients or energy loss can occur. ●

Special Notice: COVID-19 and Pregnancy

It is always important for pregnant women to protect themselves from illnesses. COVID-19 is caused by a coronavirus called SARS-CoV-2. This is an extremely serious viral infection. The best way to protect yourself is to avoid being exposed to this virus that causes COVID-19. It is an illness that can spread from person to person. The Centers for Disease Control (CDC) and American College of Obstetricians and Gynecologists both currently recommend that pregnant women follow the same precautions as others in their communities.

The virus that causes COVID-19 is a new coronavirus that emerged in 2019 and has spread throughout the world. To learn more about pregnancy, breastfeeding and the coronavirus, visit <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/pregnancy.html> ●

References

Visit these websites for more information about all of the health education information and resources communicated in this publication, including:

- American Academy of Pediatric Dentistry www.aapd.org
- American Dental Association www.ada.org
and ADA Mouth Healthy www.mouthhealthy.org/en/pregnancy/concerns
- Dental Care and Pregnancy:
WebMD www.webmd.com/oral-health/dental-care-pregnancy
Center for Disease Control and Prevention
www.cdc.gov/oralhealth/publication/features/pregnancy-and-oralhealth.html
- American Diabetes Association www.diabetes.org/resources/women/prenatal-care
- Mayo Clinic www.mayoclinic.org/diseases-conditions/preeclampsia/symptoms-causes
- Office of Women's Health www.womenshealth.gov
- Postpartum Support International www.postpartum.net or 1-800-944-4773
In a crisis, please call 911 or dial The National Suicide Prevention hotline: 1-800-273-TALK (8255)
- www.nationaleatingdisorders.org
- <https://www.preeclampsia.org>
- The Children's Oral Health Institute www.mycohi.org
- <http://dentalcare.com> ●

Glossary of Terms

ACE-inhibitor — high blood pressure drugs that widen or dilate the blood vessels to improve the amount of blood the heart pumps and to lower blood pressure.

Antimicrobial — a substance or material that kills microorganisms or stops their growth.

Anxiety — a feeling of fear, dread, and uneasiness.

Aspirate — to inhale (fluid or a foreign body) into the bronchi and lungs.

Cavity — a hole that can grow bigger and deeper over time.

Depression — a mood disorder; may be feelings of sadness, loss, or anger.

Diuretic — medications designed to increase the amount of water and salt expelled from the body as urine.

Edema — swelling caused by excess fluid trapped in body tissue.

Hormone — a regulatory substance produced in an organism and transported in tissue fluids such as blood to stimulate specific cells or tissues into action.

Inflammation — refers to your body's process of fighting against things that harm it, such as infections, injuries, and toxins, in an attempt to heal itself.

Immunological — refers to the immune system which is made up of special organs, cells and chemicals that fight infection.

Perinatal — relating to the time, immediately before and after birth.

Perioral — around the mouth.

Pre-eclampsia — high blood pressure during pregnancy.

Mineral — a solid inorganic substance of natural occurrence.

Nutrient — a substance that provides nourishment essential for growth and the maintenance of life.

Oropharyngeal — the part of the throat at the back of the mouth behind the oral cavity.

Symptom — a sign of the existence of something.

Teratogen — any agent that causes an abnormality following fetal exposure during pregnancy.

Toxemia — blood poisoning by toxins from a local bacterial infection. Another term for preeclampsia.

Therapeutic — a medicine or therapy that cures disease or relieves pain.

Transmission — the act or process by which something is spread or passed from one person or thing to another.

Uvula — a fleshy extension at the back of the soft palate which hangs above the throat.

Vaccine — a substance used to stimulate the production of antibodies and provide immunity against one or several diseases.

Vaccination — treatment with a vaccine to produce immunity against a disease. ●

About the Experts

- **Alexandria Borden, Pharm.D.**, is the procurement pharmacist for Gulf Coast Veterans Health Care System (GCVHS). She graduated from Xavier University of Louisiana College of Pharmacy in 2011. Dr. Borden began her career with the Veteran Administration as an outpatient clinical pharmacist in Biloxi, Mississippi. She currently serves as the procurement pharmacist responsible for securing specialty medications. In this role she utilizes pharmaco-economic analysis and institutes the use of informatics applications. She is committed to opioid safety and has been an active member of the GCVHS pain team since 2014. Dr. Borden serves as a preceptor for the University of Mississippi, William Carey University, Xavier University of Louisiana, and Samford University McWhorter School of Pharmacy.
- **Shelly Bray, LCSW-C** is a Certified Licensed Clinical Social Worker. She earned her Bachelor of Arts degree in Social Work from Michigan State University and her Master of Social Work degree from Wayne State University. Ms. Bray currently heads the Perinatal Depression & Anxiety Outreach Program at Sinai Hospital in Baltimore. She also heads the Postpartum Support Group through "Population Health."

- **Ms. Deborah L. Cartee, RDH, MS** is Clinical Associate Professor, Division Chief, and Junior Clinical Coordinator in the Dental Hygiene Program at the University of Maryland School of Dentistry. She earned her M.S. in Management (Health Care Administration) at the University of Maryland, University College, Bachelor of Science degree in dental hygiene at the University of Maryland School of Dentistry (UMSOD), and an Associates of Arts degree in dental hygiene at Baltimore City Community College. Ms. Cartee has over 35 years of clinical experience and has been teaching full-time for the last 14 years. She is published in the *Journal of Dental Hygiene*, and *Dimensions of Dental Hygiene* and *Access*. Ms. Cartee is an active member of the American Dental Education Association and the American Dental Education Association. Cartee holds membership in Sigma Phi Alpha and Phi Kappa Phi Honor Societies.
- **Teresa P. Diaz-Montes, MD., MPH, FACOG**, is a Board-Certified Gynecologic Oncologist. She graduated from the University of Puerto Rico School of Medicine in 1999 and completed her fellowship in Gynecology Oncology at the Johns Hopkins Medical Institute in 2006. She serves as the

Associate Director of The Lya Segall Ovarian Cancer Institute. She is a noted expert and gynecologic oncologist with The Gynecologic Oncology Center at Mercy Medical Center in Baltimore. Dr. Teresa Diaz-Montes provides diagnosis and treatment for gynecologic cancers including ovarian cancer, cervical cancer, uterine cancer, vaginal cancer and vulvar cancer.

- **Robert C. Greenwell, Jr., MD** is Board Certified in Internal Medicine and Nephrology. He received his Medical Degree from the University of Maryland and completed a three-year Internal Medicine Residency at Mercy Medical Center and a Nephrology Fellowship from Johns Hopkins/Francis Scott Key Medical Center. Dr. Greenwell is Chief of Nephrology at Mercy Medical Center and Medical Director of the DaVita Mercy Hemodialysis Clinic. He is in Private Practice with Mid Atlantic Nephrology Associates in Baltimore. His Primary office is at Mercy Medical Center.
- **Cynthia E. Hodge, DMD, MPH, MPA** is a Principal at DeSti Consulting, LLC. She earned a Master of Public Health degree and an Oral Medicine certificate from the University of North Carolina at Chapel Hill, a Master of Public Administration degree at the JF Kennedy School of Government at Harvard University, and completed the Minority Health Policy Fellowship and earned the Dental Public Health certificate at Harvard School of Medicine. Dr. Hodge was in private practice for 15 years, where she provided compassionate care for medically compromised patients. Prior to retiring she served as the Associate Dean for the Office of Community Outreach Programs and Assistant Dean for Admissions at the University of Connecticut School of Dental Medicine.
- **Crystal Murray Holmes, DPM** is a Podiatric Physician and Certified Wound Specialist. She graduated from the Kent State College of Podiatric Medicine and completed her residency training at the University of Texas in San Antonio. Dr. Holmes is a clinician, researcher, and educator. She is an Associate Professor at the University of Michigan, and she currently serves as the podiatry program director. Her clinical and research interests are in diabetic foot complication management, with an emphasis on wound care, Charcot neuroarthopathy and the prevention of limb loss for at risk populations.
- **Dawud O. Lankford, MPH, MD, FACS** is a Board-Certified Urology Specialist in Oakland, California. He graduated with honors from Meharry Medical College School of Medicine in 2007 with dual degrees. He completed his residency in urology at New York Medical College, and fellowship in urologic oncology at the National Cancer Institute. His undergraduate education was completed at University of California at Berkeley in 2001. Dr. Lankford is a Fellow of the American College of Surgeons. He has more than 13 years of diverse experience in research and health care leadership.

He affiliates with many hospitals including Alta Bates Summit Medical Center, the John Muir Medical Center(s), Walnut Creek Campus, and Concord Campus and works closely with many other physicians and specialists in the medical community within the Bay area.

- **Marion C. Manski, RDH, MS**, Associate Professor and Director Fones School of Dental Hygiene, University of Bridgeport. She earned her certificate and associate's degree in 1983 from The Forsyth School for Dental Hygienists and Northeastern University in Boston Massachusetts. She earned her bachelor of science degree in dental hygiene at the University of Maryland School of Dentistry in 1988. Professor Manski also graduated from the University of Maryland Graduate School (UMB) with a master of science degree in 2004. She is an Associate Professor and serves as the Director of the program. She was Associate Professor and Director, and Director of Admissions at the University of Maryland School of Dentistry's Dental Hygiene Program prior to her current positions at the Fones School of Dental Hygiene. Ms. Manski serves on the editorial review board of *The Journal of Dental Education, Dimensions of Dental Hygiene and Perspectives of the Midlevel Practitioner*. She currently serves the Connecticut Dental Hygienists' Association as Trustee of Southeastern Connecticut Dental Hygienists' Association. She is an active member of the American Dental Hygienists' Association, and the American Dental Education Association. Manski is the recipient of numerous awards.
- **Alisha D. Reynolds, DDS** is a Board eligible Pediatric Dentist. She earned a Bachelor of Science in Biology from Emory University in 2011, and both a Doctor of Dental Surgery and Certificate in the Specialty of Pediatric dentistry from Howard University, in 2016 and 2018 respectively. She completed research on the Quality Assessment of Oral Health Outreach in DMV Area for Children in Terms of Childhood Healthy Nutrition, Physical Fitness, and Oral Hygiene. Dr. Reynolds is currently in private practice in Maryland.
- **Sterling Roberts, DDS, ABPD**, earned a Bachelor of Science Neuroscience and Behavioral Biology degree from Emory University, Doctorate of Dental Surgery from Howard University and Certificate in the Specialty of Pediatric Dentistry from New York University. Dr. Roberts is board certified and completed research on the Prevention of Early Childhood Dental Caries. Dr. Roberts is currently in private practice in New Orleans, Louisiana.
- **Louise T. Veselicky, DDS, MDS, Med** received her Doctorate of Dental Surgery from West Virginia University, School of Dentistry, and Certificate in Periodontics, Masters of Dental Science, and Master of Education degrees from University of Pittsburgh. She has served as dental and dental hygiene faculty both at the University of Pittsburgh and West Virginia University. Dr. Veselicky has

served as Interim Chair of the Department of Periodontics, Interim Associate Dean of Clinical Affairs, Senior Associate Dean and Interim Dean at West Virginia University School of Dentistry. She is currently the Associate Vice President of Academic Affairs for the WVU Robert C Byrd Health Sciences Academic Health Center. Her oversight in this role includes all health science academic programs, interprofessional education, faculty development, student affairs, and simulation.

- **Marianna Wetherill, PhD, MPH, RDN/LD** earned her bachelor of Nutrition Sciences in 2004, Master of Public Health in Health Administration and Policy in 2009 and Doctorate of Philosophy in Health Promotion Sciences in 2013, all from

the University of Oklahoma. She is an Associate Professor of Health Promotion Sciences at the Hudson College of Public Health and of Family and Community Medicine at the OU-TU School of Community Medicine, University of Oklahoma-Tulsa Schusterman Center. She is also a Board Certified Lifestyle Medicine Professional by the American College of Lifestyle Medicine. A registered dietitian, Dr. Wetherill works with individuals and communities to raise awareness of the healing power of nutrition self-care for current and future generations. Dr. Wetherill's research focuses on healthy eating interventions for children and adults. ●

Winifred J. Booker, DDS, ABPD, is the creator the character, **PregNancy Together™**. Her convening of these outstanding professionals has led to the groundwork of the compiled resources located in this insightful brochure. The unique design and the coordination of focused information is a deliberate effort to indulge and to capture the attention of pregnant women, fathers-to-be, partners, dentists, hygienists, and physicians.

Dr. Winifred Booker is the CEO & Director of Development of The Children's Oral Health Institute. She is a Board-Certified Pediatric Dentist and Fellow of the American Academy of Pediatric Dentistry.

She earned her Bachelor of Science Degree from Tennessee State University, Doctor of Dental Surgery degree from Meharry Medical College and Certificate in Pediatric Dentistry from the Children's National Medical Center. Dr. Booker serves on the Maryland Medicaid Advisory Committee and the American Dental Association Medicaid Provider Advisory Committee. She has been in private practice for 30 years and recently introduced an exciting practice model to the dental and medical professions for infants and toddlers known as *Highchair Dental Care*®. ●

