Planning a Healthy Pregnancy

Tanya called in on a Monday morning. “I’m getting married in a few months and we want to start trying to get pregnant right away. What should I be doing now to have the best chance of a healthy baby?”

Preconception health and pregnancy planning present a terrific opportunity to assess a wide range of factors that can give your baby the best start. This blog will outline the things to consider, as I relayed to Tanya:

Your Personal Health

Are you generally healthy? If you already get headaches or have acid reflux, know that pregnancy can make these more frequent. Ask your doctor if the way you treat these common conditions should change once you are pregnant. Ask about your current exercise routine and if you need to alter it during pregnancy. Get checked for sexually transmitted infections because some may not show symptoms. Also discuss your medications – some should be stopped before you start trying to conceive, such as Valproic acid, leflunomide (e.g. Arava®), teriflunomide (Aubagio®), methotrexate, and isotretinoin (e.g. Accutane®) to name just a few. For others, you’ll want to weigh the risks vs. the benefits with your health provider before you conceive. Talk with your doctors now to make a plan.

Caffeine

Do you drink caffeinated coffee, tea, or soda? What about energy drinks, protein powders, or Kombucha? MotherToBaby’s fact sheet on caffeine may put your mind at ease and encourage you to think about all your beverage options.

Body Weight

Is your weight a concern? One of the best things you can do before conception is to get to a healthy weight. Women who are overweight or obese have increased risks for miscarriage, birth defects, gestational diabetes, high blood pressure and preeclampsia, and unplanned cesarean birth. Now is a good time to meet with a nutritionist or go on a sensible diet to get to a healthy weight in anticipation of pregnancy. Once you are pregnant, continue to watch what you eat but don’t try to lose weight. Weight gain is inevitable during pregnancy but guidelines from the American College of Obstetricians and Gynecologists (or ACOG, the leading professional society for OB/GYNs) advise women to gain anywhere from 11-40 pounds, depending on your pre-pregnancy weight. It’s a myth that you need to “eat for two,” so don’t set yourself up for postpartum weight gain by eating more than you should. After delivery of an average 7-8 lb. baby, you may lose 2 lbs. in amniotic fluid, 1.5 lbs. of placenta, 5-7 lbs. in blood volume, and 2 lbs. as the uterus returns to its normal size. That could still leave you with 10 pounds of excess weight, or more if you gained more weight during the pregnancy. Some women never take off those extra pounds, and their weight creeps up with successive pregnancies and age, which can lead to pregnancy complications and chronic health problems later on. See our exercise fact sheet for more information.

Chronic Health Conditions

Do you have chronic health conditions like diabetes, high blood pressure, migraines, asthma, high cholesterol, heart conditions, varicose veins, or anemia? Do you have an autoimmune disease like Crohn's or ulcerative colitis, lupus, rheumatoid arthritis, ankylosing spondylitis, multiple sclerosis, psoriasis or psoriatic arthritis? Meet with your obstetrician for a "preconception" appointment to discuss how a pregnancy might impact your health, and how your health might affect a future pregnancy. Your specialist can provide an important opinion too. A maternal-fetal medicine specialist (MFM) is a doctor who specializes in high-risk pregnancies, and consulting with a MFM once you are pregnant could help you learn how to optimize your and your baby's health.

Mental Health

What about your mental health? If you have a history of anxiety or depression, ADHD or other conditions, ask your psychiatrist and OB about treatment, and don't make changes before you do. Many medications can be continued during pregnancy and while breastfeeding. In fact, mental health is incredibly important – for example, when a woman doesn't treat her mood disorder or inadequately treats it, some studies suggest risks for miscarriage, premature birth, low birth weight, and preeclampsia. Talk therapy is vitally important too. And if you struggle with mental health concerns during the pregnancy, you are at risk for postpartum depression. Let's face it – pregnancy and caring for a new baby is stressful, so now is the time to marshal your helpers – friends, relatives, therapists and doctors – to ensure you have enough support. Your obstetrician should ask about mental health but if not, speak up. Your doctor can be your ally here, helping you get treatment and addressing concerns related to pregnancy and postpartum mental health. And MotherToBaby can give you an overview of the research related to any prescriptions you might choose to take.

Dental Health

Have you seen a dentist lately? Oral health can impact a pregnancy, meaning that if you have swollen or bleeding gums, a toothache or an infection, it can increase risks to the pregnancy. If you need to have a dental x-ray, take antibiotics, or have local anesthesia for a dental procedure, these are generally acceptable during pregnancy, but best to complete before you get pregnant. Contact MotherToBaby for more details.

Your Workplace

Where do you work? MotherToBaby can give you information to minimize exposures in a veterinarian office, dry cleaners, salon, laboratory/hospital, imaging center, pest control service, or other business. Your occupational safety department can recommend personal protective equipment (PPE) and tell you about ventilation that may be in place to ensure workplace safety. Safety data sheets (SDS) give an overview of chemicals used in industry and are available online or at work.

Food Safety

Read up on food safety and learn how to minimize your exposure to foods that have commonly been associated with foodborne illness such as E. coli or listeria. Get in the habit of washing your fresh fruits and vegetables well. Check out other blogs on our website too.

Vitamins and Supplements

Have you started taking a prenatal vitamin? Are you getting enough folic acid? ACOG recommends that women take at least 400 mcg of folic acid before getting pregnant and at least 600-800 mcg/day once they are pregnant. This can help prevent birth defects of the brain and spinal cord. Call MotherToBaby if you want to learn the recommended daily intake for specific vitamins or minerals. In general, taking more than what is recommended is not advisable – we haven't studied how mega-doses of vitamins may impact a pregnancy. Other supplements beyond taking a prenatal vitamin are not advisable either – the Food & Drug Administration (FDA) doesn't supervise their manufacturing plants and past surveys have shown some supplements actually contain contaminants. Furthermore, we've seen instances where the label didn't match the contents of the bottle and could cause ill effects. Pregnant and breastfeeding women should avoid herbal supplements unless specifically recommended by your doctor.

Alcohol, Cannabis, and Tobacco

Do you smoke cigarettes? Do you use cannabis for medicinal or recreational purposes? Do you drink alcohol? Recent research has demonstrated that marijuana use very early in pregnancy causes changes in brain development, which could result in behavioral or learning challenges we see later in the child's life. Cigarettes increase risks for pregnancy loss, among other things. And alcohol is known to cause a variety of birth defects known as fetal alcohol spectrum disorder (FASD). We don't believe that there is a "safe" amount of alcohol which when consumed doesn't cause issues for a developing child. Now is the time to quit smoking, drinking, and using cannabis – your baby will be heathier for it. MotherToBaby can provide resources, or check with your doctor.

Vaccinations

Are you up to date on all your vaccines? Did you get a flu shot this past season? You don't want a vaccine-preventable illness to have an impact on your pregnancy. Flu infection can increase risks for more severe symptoms, longer-lasting illness, pregnancy loss and premature delivery, which can have a lifelong impact on your baby. Flu vaccine helps prevent infection. Another benefit to vaccinating during pregnancy? Studies show the protection extends to your baby, and gives them a little extra immunity from birth until they can receive vaccines. Also good to know: some vaccines can be given and are recommended during pregnancy, like a flu shot or TDAP, but others are best given before you conceive to avoid a small risk of spreading the illness to the fetus (e.g. the measles, mumps, and rubella (MMR) vaccine, as well as the Varicella (chicken pox) vaccine) – so try to get these done at least a month before trying to conceive. Check your medical records to see the last time you received any of these vaccinations. If you don't know if you were previously vaccinated, your doctor can draw blood to check if you have immunity.

Your Pets

Do you have a cat? There is some concern in pregnancy about an infection called toxoplasmosis, which is caused by a parasite that can be found in cat feces. Read our blog for more info on what you can do to prevent this infection if you have a fur baby at home.

Other Illnesses

Do your upcoming travel plans involve travel to a warm tropical place? Check out our Zika fact sheet to learn more before you book nonrefundable tickets. In general, women will want to wait to try to conceive for eight weeks from the time of your return home; the wait time is three months if your male partner travels with you. COVID-19 is also spreading around the globe and our fact sheet can give you the latest information on whether and how it could affect a pregnancy.

Finally, your obstetrician or primary care doctor would be glad to see you for a Preconception consultation. Make an appointment to discuss your personal history and health. It's a great way to get you and your baby off to the best start.

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Planning a Healthy Pregnancy

By Lauren Kozlowski, MSW, MPH, MotherToBaby Georgia

Carly called and I could hear the stress in her voice immediately. She had been smoking marijuana on weekends and having a glass of wine most evenings with her dinner. She just found out she was pregnant with her fifth child. Carly knew her baby could suffer if she did not change her use of alcohol and marijuana. Carly was scared, so she contacted MotherToBaby. We were able to discuss what kinds of risk the substances she had used may have, and I shared information with her that she could talk to her doctor about. Carly's story immediately came to mind when talking about Birth Defects Prevention Month's **Tip #5: Boost your health by avoiding harmful substances during pregnancy, such as alcohol, tobacco, marijuana and other drugs.**

Alcohol

Alcohol is actively advertised as a way to relax after a hard day, and it's almost always a part of celebrations. Alcohol is legal to purchase in any amount for most adults 21 and older, making it very accessible. Changing your lifestyle to not drink any alcohol during pregnancy may seem hard, but it is worth it for the health of your developing baby. Though having one drink likely does not mean your baby will automatically have health problems, no amount of alcohol has been proven safe during pregnancy. This means that not drinking alcohol at all during pregnancy is your best bet. Alcohol can cause a range of issues for the health of your child. Some are physical birth defects, while others are related to controlling emotions effectively and learning abilities. Some of these issues last long after birth and can have lifelong effects on your child.

Cigarettes & e-cigarettes

Smoking and the use of tobacco products are activities that many associate with stress reduction and, like alcohol, can be hard to stop. Cigarette smoke contains more than 4,000 chemicals and toxins, including nicotine, tar, arsenic, lead, and carbon monoxide. Some of these chemicals cross the placenta and lower the amount of oxygen and food available for a developing baby. Babies born to mothers who smoke are at increased risk for being born too small (with low birthweight) and prematurely (before 37 weeks of pregnancy). Babies born too small and too early are more likely than other babies to have health complications and may need to stay in the hospital longer. Some studies suggest that babies born to moms who smoke are at risk of having an oral cleft, a birth defect where the lip or roof of the mouth does not fully close. Not smoking is best for you and your baby during pregnancy. Every little bit counts, so even reducing the amount can be helpful to your baby!

In comparison to traditional cigarettes, we know very little about the safety of e-cigarettes (or vaping) during pregnancy. This is because e-cigarettes are largely unregulated, and little research has been done on them. While some moms-to-be may view e-cigarettes as safer alternatives than traditional cigarettes, e-cigarette solutions contain several of the same reproductive or developmental toxins that are found in traditional cigarettes, like nicotine, cadmium and lead. So until more studies have been done on the safety/risk of e-cigarettes, it is best for moms-to-be not to use them.

Marijuana and other street drugs

Another way to boost your health during pregnancy is to not use harmful drugs. For example, women may think marijuana may help with nausea and vomiting (morning sickness). Though we still need more research, studies in animals have shown that exposure to marijuana in the womb may harm a baby's brain development. Marijuana is unregulated in most places, so you don't know what may be in it – certain chemicals, pesticides or other drugs may cross the placenta and impact your baby. In addition to smoking marijuana, using substances that include THC (the active ingredient in marijuana), such as edibles and oils, carries the same potential to affect a baby's brain development. No amount of marijuana or THC has been proven safe to use during pregnancy.

Other street drugs, like cocaine, heroin, LSD, MDMA (ecstasy or Molly), and methamphetamine, also are harmful during pregnancy. Using these kinds of drugs during pregnancy increases a baby's risk for miscarriage, preterm birth, birth defects and neonatal abstinence syndrome (NAS). NAS is a group of conditions caused when a baby withdraws from certain drugs she's exposed to in the womb before birth. NAS is most often caused when a woman takes drugs called opioids during pregnancy. Not a single one of these drugs has a beneficial effect on pregnancy or a developing baby –

so for your baby's sake as well as your own, a drug-free pregnancy is a healthier pregnancy.

It is important to realize that giving birth to a baby with ten fingers and ten toes – who looks healthy at birth – is not the end of the story. Effects caused by the use of alcohol, tobacco and other drugs during pregnancy can take a while to show. As a child develops and reaches or fails to reach developmental milestones, only then is it possible to evaluate the long-term effects of prenatal substance exposure on things like the ability to learn and manage emotions. While every pregnancy carries some risk that is out of anyone's control, we want to encourage women to focus on areas of their health that they do have some control over. Taking care of yourself and your health means a healthier baby. Doing what you can to boost your health by avoiding harmful substances during pregnancy is a great place to start!

If you are struggling with substance addiction, talk to your health care provider. You can also find help and treatment referrals by visiting the Substance Abuse and Mental Health Services Administration (SAMSHA) website or by calling their national helpline, 1-800-662-HELP (4357).



Lauren Kozlowski, MSW, MPH is serving as the Program Coordinator for MotherToBaby Georgia. She graduated from Boston University with both a Masters of Social Work and a Masters of Public Health. She has experience working with families in both an educational setting, as well as in housing and health, allowing her to recognize the multiple factors contributing to the ability of women and children to thrive. She enjoys living in Atlanta and exploring what the city has to offer.

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Planning a Healthy Pregnancy

By Lorrie Harris-Sagaribay, MPH, Teratogen Information Specialist and Coordinator, MotherToBaby North Carolina

Back in the early 1970s, pregnant women and their health care providers didn't talk about alcohol and drugs in pregnancy. Birth defects caused by alcohol? Unheard of! Then, along came two pediatric specialists at the University of Washington who changed everything: Drs. David W. Smith and Kenneth Lyons Jones noticed that a group of babies who had been exposed to high amounts of alcohol during pregnancy were all born with a similar pattern of unusual facial features and developmental delay. Their astute observations, along with further research and collaboration, led them to coin the term Fetal Alcohol Syndrome (FAS) in 1973.

The discovery that alcohol was a teratogen (an exposure that can cause birth defects) fueled the research on other exposures and opened up a world of questions. What about other drugs? What about medications? In order to share findings from the limited but ongoing research, Dr. Jones established the first teratogen information service in 1979, housed in a small apartment in San Diego and run by a dedicated staff of three. This service was the beginning of what would later become MotherToBaby.

Fast forward to June 2017, when experts from MotherToBaby and other teratogen information services around the world gathered in Denver, Colorado for the 30th Annual Meeting of the Organization of Teratology Information Specialists (OTIS). There, dozens of experts presented the latest research on exposures during pregnancy. Speakers summarized what we've learned, pointed out what we still don't know, and suggested priorities for future research. Here are a few highlights from the meeting:

Prescription Opioids

At one time, opiates were peddled as remedies for fatigue, menstrual cramps, and even teething in children (search Mrs. Winslow's Soothing Syrup as an example). Now, more than a century later, we are in the middle of an epidemic of substance use disorders from opioid pain relievers. And according to a 2014 study, more than 14% of pregnant women in the U.S. are prescribed opioids at least once during pregnancy for reasons such as back pain and migraines. Pregnant women who develop opioid use disorders (either before or during the pregnancy) are encouraged to undergo maintenance therapy such as methadone treatment, which is less risky to the baby and more likely to result in successful recovery than sudden withdrawal would be.

Infants with ongoing exposure to opioids during pregnancy can experience withdrawal symptoms at birth, commonly called neonatal abstinence syndrome (NAS). Like Fetal Alcohol Syndrome, NAS was first described in the literature in the 1970s, by Dr. Loretta Finnegan. The syndrome has gotten renewed attention during the current opioid epidemic as providers and researchers consider the best ways to prevent and manage NAS. Studies have shown that hospitalized infants with NAS have better outcomes–less severe symptoms, less need for medication, and shorter hospital stays–when they are breastfed, even if the mothers are still on opioid maintenance therapy. But some health care providers hesitate to encourage breastfeeding in these cases out of concern about baby's ongoing exposure to the mother's medication through the milk. Continued funding can help address these concerns by developing consistent standards of care for infants with NAS. If you are using opioids for any reason, be sure to talk to your health care provider as soon as you find out you are pregnant. Together, you can work on a plan for the best possible care for you and baby during and after the pregnancy.

Cocaine
To study the effects of cocaine in pregnancy, researchers have followed a group of young adults, now in their early 20s, since they were born. About half the group was exposed to cocaine before birth. Early on, the researchers observed that those with cocaine exposure had challenges with attention and remembering what they saw when compared to the children who had not been exposed to cocaine. In older years, exposed children had more difficulty with language skills, more behavior problems at school and at home, reported more substance use and risk-taking behavior, and had more difficulty with everyday skills such as staying organized, thinking ahead, and controlling their own behavior. Some dropped out of school. Interestingly, having a positive home environment seemed to help with some, but not all, of these challenges. For example, children in foster or adoptive homes had better language and reasoning skills than children who still lived with their birth mothers who used cocaine, but there was no difference in their behaviors. As the study continues, researchers hope to learn more about how prenatal cocaine exposure affects these individuals into adulthood.

E-cigarettes
E-cigarettes are marketed and often seen as a "safer" option to cigarettes. In fact, the most common users are current and former cigarette smokers who are using e-cigarettes to replace or reduce the number of cigarettes they smoke. In a study of over 1,300 pregnant women, those using e-cigarettes reported doing so because they felt they were less harmful than cigarettes, or to help with smoking cessation. They also preferred the sweeter flavors, and thought they were even less harmful than the tobacco-flavored liquids.

E-cigarettes don't expose users to the combustion by-products of traditional cigarettes, but even those labeled "nicotine-free" do contain nicotine, and vaporization creates its own potentially harmful by-products. Since e-cigarettes are liquid-filled and can be smoked longer, it's more difficult to monitor actual exposure to nicotine than it is with traditional cigarettes. Plus, because e-cigarettes are not regulated by the FDA, there is no way of knowing exactly what they contain and what your pregnancy is exposed to when you use them.

Past studies have observed that prenatal exposure to nicotine affects baby's brain development and increases the chance of later behavior problems and depression in adolescence. It even predicts baby's own cigarette use in his/her teen years. And recent studies have shown that those adolescents who use cigarettes are more likely to also use e-cigarettes as teens and adults than their peers who don't use cigarettes. We will learn more about the possible long-term effects of prenatal e-cigarette use as the first generation of children who were exposed to them in pregnancy gets older.

Marijuana
Marijuana is the most common "illicit" drug used in pregnancy. Some health care providers in Colorado, where marijuana is now legal, are seeing more pregnant women who believe that using it is not harmful and might even be beneficial. For example, pregnant women in one survey reported using marijuana to help manage depression or anxiety, help with pain, or ease nausea and vomiting, among other reasons. Without crucial data about exactly how marijuana might be harmful to a pregnancy, some health care providers are hesitant to talk to women about it, even if they know they are using it in pregnancy.

There is little doubt that marijuana can be harmful in pregnancy: THC crosses the placenta and, even in very early pregnancy, can affect the cells that form the baby's brain. But studies on its effects on overall brain development and pregnancy outcomes have had mixed results so far, and they face challenges such as co-exposures (women using other substances along with marijuana) and, in some cases, relying on self-reporting to know how much of the drug a pregnancy is exposed to (this can skew the data if users do not accurately reveal how much and how often they use.) As researchers forge ahead to provide better answers, the best advice is still to avoid marijuana altogether in pregnancy.

Alcohol
Since those early years, we have discovered that the facial features and developmental delay often seen with FAS are not the only possible effects of prenatal exposure to alcohol. In some children, subtle changes to the brain might not be noticed until the child is older and begins to struggle with learning and behavior problems that can follow them into adulthood. This range of possible effects has been more recently named Fetal Alcohol Spectrum Disorder (FASD). According to Dr. Jones, FASD affects about 2% of babies born in the U.S. each year–more common than autism–despite the fact that it is 100% preventable.

Looking ahead.
The decades ahead require not only continued research, but also increased awareness of what we already know. To that end, each September we observe FASD Awareness Month. MotherToBaby is happy to answer your questions about

alcohol and other exposures in pregnancy—in fact, check out **our brief YouTube video here.** Together, we can continue the work towards the best possible outcomes for future generations.



Lorrie Harris-Sagaribay, MPH is the Coordinator of MotherToBaby North Carolina and a bilingual Teratogen Information Specialist. After working with midwives as a community health educator with the Peace Corps in Honduras, she earned her Master of Public Health at the University of North Carolina at Chapel Hill. She has worked in the field of maternal and child health for over 25 years.

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McQueen K and Murphy-Oikonen J. Neonatal Abstinence Syndrome. N Engl J Med 2016; 375:2468-2479.

Presented at the (joint) Annual Meetings of OTIS (Organization of Teratogen Information Specialists), DNTS (Developmental Neurotoxicology Society), RSA (Research Society on Alcoholism) and the Teratology Society in Denver, Colorado on June 25-27, 2017:

- ***From the FAS to OTIS – A Long Strange Trip.*** Buzz Chernoff, California Environmental Protection Agency (Retired).
- ***The Opioid Epidemic and Impact of Prenatal Exposure on Child Development.*** Lynn Singer, Case Western Reserve University.
- ***Project Newborn: What We Have Learned from 20 Years of Research on Prenatal Cocaine Exposure.*** Sonia Minnes, Case Western Reserve University.
- ***Epigenetic Changes Induced by Prenatal Nicotine and Cocaine Exposure.*** Pradeep Bhide, Florida State University.
- ***Effects of Prenatal Nicotine Exposure on Adolescent Dopamine Systems.*** Frances Leslie, University of California at Irvine School of Medicine.
- ***Electronic Cigarette Use in Pregnancy: Patient and Provider Perspectives.*** Katrina Mark, University of Maryland School of Medicine.
- ***Pathways from Prenatal Tobacco Exposure to Electronic Cigarette Use.*** Natacha M. DeGenna, University of Pittsburgh School of Medicine.
- ***Perceptions and Use of Electronic Cigarettes during Pregnancy: Implications for Infant Outcomes.***

Laura Stroud, Brown Medical School.

- ***Pathways from Prenatal Exposures to Tobacco and Cannabis to Adult Electronic Cigarette Use.*** Natacha De Genna, University of Pittsburgh Medical School.
- ***Counseling Women about Prenatal Marijuana Use: Weeding through the Data.*** Torri D. Metz, University of Colorado-Denver.
- ***Introduction: Marijuana and Child Development Symposium.*** Diana Dow-Edwards, SUNY/Downstate Medical Center.

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Planning a Healthy Pregnancy

By Beth Conover, APRN, CGC, MotherToBaby Nebraska

So…you were really good during your entire pregnancy, giving up every drop of alcohol, quitting smoking tobacco, and, of course, avoiding any drug like marijuana. You were concerned about the development of your baby, and doing everything you could to make a healthy outcome more likely. Good job! But now here you are….you've had your baby, you're giving breastfeeding your best shot…do you still need to be so careful? If you're wondering this, you're not alone. It is a top question I get as a health care provider and one of the top questions we get from moms through MotherToBaby's text information line. I'm a mom myself and after I had my boys, I asked the same things, like "would having a glass of wine when I'm on a date with my husband be the end of the world if I'm breastfeeding?"

Alas, many years later (and many published studies later), I have answers for you.

Let's start with the facts about breastfeeding. Breastfeeding is good for you and the baby, and you should continue nursing for at least 6 months… and better-yet, a year.

I think of alcohol and tobacco as 'recreational drugs' because there is not any medical reason to use them. And while medical use of marijuana is becoming more widespread, for most of us the use of marijuana is not medically necessary. We don't want rules surrounding the use of alcohol, tobacco, and marijuana to be unnecessarily strict so that they discourage nursing for the optimal amount of time. But we also want nursing moms to know that each of

these drugs are passed to breast milk. Fortunately, there are often ways that we can limit the amount that baby gets.

Let's take a closer look at each one…

Alcohol—alcohol of all kinds (wine, beer, liquor) passes into your milk. Babies don't like the taste of it, and, if it happens often enough, babies may show developmental delays from exposures to alcohol through breast milk. Fortunately, waiting 2-3 hours after drinking a single alcoholic beverage results in lower amounts in milk. If you have two drinks, wait 4-6 hours…you get the idea. You can pump for comfort and to maintain your milk supply, but be sure to throw away the milk since it likely has alcohol in it. Chronic or heavy users of alcohol probably should not breastfeed.

Tobacco—you know that it is best for your health and that of your baby to avoid smoking tobacco, but if you cannot resist, keep the number of cigarettes as low as possible (preferably less than ½ pack per day) and never smoke around your baby. Nicotine gets into your milk, so try to wait several hours after you smoke before nursing your baby. Second hand smoke increases your baby's risk for ear and respiratory infections, asthma, and even sudden infant death syndrome. The immunoglobulins in your milk help to lessen those risks, which is why most experts still recommend breastfeeding even if a woman is smoking small amounts of tobacco.

Marijuana – THC, the active ingredient in marijuana, passes into breast milk. Marijuana production is not very well regulated, so there may be other dangerous contaminants. There are not many studies regarding use of marijuana and breastfeeding, but there are concerns that exposure to THC via milk might affect baby's development. It can also reduce your milk supply. Until more is known, it is recommended that marijuana be avoided in breastfeeding women, and that an effort also be made not to expose the infant to second hand marijuana smoke. If you happen to use marijuana, waiting 1-2 days before resuming nursing will help reduce the amount in milk. Pump and throw away milk in the meantime for comfort and to maintain your milk supply.

Bottom line, by breastfeeding, you're already taking the first step in providing continued important nutrition for your baby. Way to go! Taking steps to make sure your breastmilk stays as healthy as possible for the entire time you breastfeed will be well worth the effort. Stay strong, live well.



Beth Conover, APRN, CGC, is a genetic counselor and pediatric nurse practitioner. She established the Nebraska Teratogen Information Service in 1986, also known as MotherToBaby Nebraska. She was also a founding board member of the Organization of Teratology Information Specialists (OTIS). In her clinical practice, Beth sees patients in General Genetics Clinic, Prenatal Clinic, and the Fetal Alcohol Syndrome Clinic at the University of Nebraska Medical Center. Beth has provided consultation to the FDA and CDC. Two of her recent publications are, "The Art and Science of Teratogen Risk Communication" and "Safety Concerns Regarding Binge Drinking in Pregnancy: A Review."

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Planning a Healthy Pregnancy

By Sonia Alvarado, Senior Teratogen Information Specialist, MotherToBaby CA

Unless you don't own a television and never listen to the radio, you know that marijuana has been in the news a lot lately and for marijuana users who have had to smoke in illegally, it appears societal attitudes about pot smoking may be changing. Twenty states have laws legalizing some form of marijuana use. Two states, Colorado and Washington, have legalized its recreational use. In an interview, the NFL Commissioner seemed to leave open the possibility that medicinal use could be considered for NFL players if there was scientific evidence that it was helpful to treat injuries and pain. Even President Obama has said that he doesn't believe marijuana is any more dangerous than alcohol. Marijuana is currently listed as a Schedule I drug. Other Schedule I drugs include heroin, lysergic acid diethylamide (LSD), 3,4-methylenedioxymethamphetamine (ecstasy).

What The Research Shows Us

According to studies, pregnant women who use illicit substances are more likely to use marijuana compared to other drugs. This is often due to the belief that marijuana is less harmful to the developing embryo and fetus, compared to other drugs such as cocaine or heroin.

Marijuana is Cannabis. The delta-9-tetrahydrocannabinol (THC) in the Cannabis plant produces the psychoactive effect or "high." Marijuana can be smoked in a joint, inhaled through a bong or vaporizer, eaten in food and teas/beverages, used in tinctures, and topical balms. Smoking and ingestion exposes the user to THC, producing the high. When smoked in a joint, the user is exposed to carbon monoxide from the burning of the leaf as well as tar, which can stay behind in the lungs.

Marijuana use during pregnancy has been studied since the 1960's. Like all studies, there are weaknesses that have been pointed out. For example, asking women about past drug use may not be the most accurate way to make a connection between the dose of the drug and the adverse effects because the women may have forgotten. Also asking women to volunteer information about drug use, which they may fear disclosing even in a confidential setting, may make it difficult to know how frequently pregnant women use drugs overall. Still, a number of experts have reviewed hundreds of reports in humans and animals. At least to this point, the studies do not support an association between marijuana smoking and birth defects. One large study of 12,825 interviews done after delivery, did not find a statistical association between marijuana use and birth defects.

However, the studies also show that marijuana is not risk free. Studies have reported associations between marijuana

smoking and growth restriction and lower birth weight, particularly in women who keep smoking through delivery or late in pregnancy. An Australian study of almost 420,000 live births reported a higher risk for neonatal intensive care admission for newborns exposed prenatally to pot. Also, there are reports of abnormal responses or behaviors in the newborn period and this suggests a toxicity or withdrawal. The symptoms include exaggerated and prolonged startle reflexes (sleep cycle disturbances with high-pitched crying.) In a Brazilian study, exposed newborns were "more irritable and less responsive to calming, cried more during the examination, and exhibited more jitteriness and startles than the non-exposed neonates." Pregnant women who smoke daily and/or through delivery, have a higher risk for complications in their pregnancy compared to women who quit in the first trimester.

Researchers have attempted to assess the long-term effects of prenatal marijuana exposure. Studies of 3, 10 and 14-year old prenatally exposed children suggest that the prenatal exposure to high doses of marijuana may make it harder for children to learn and may affect their emotions (increased aggression) and increase depression symptoms. Studies are needed to assess which prenatally exposed children are most at risk. Its important to note that the children in these studies often have had prenatal exposure to other drugs as well, struggles with poverty and other life challenges, making it difficult to know that the findings are due to a single drug exposure.

So Where Does Marijuana Rank Compared To Other Drugs?

Alcohol: Specific to use during pregnancy, marijuana is not alcohol. Alcohol is still the drug with the highest risk and the widest range of birth defects, including physical, mental and behavioral. Alcohol is a drug with the highest use throughout the world, easy legal access, and social acceptance.

Cocaine: Cocaine, by comparison, is associated with a small risk for birth defects, and a higher risk for admission to newborn intensive care for withdrawal and toxicity. Additionally, cocaine is associated with prenatal growth retardation, lower birth weight, shorter length, and smaller head circumference. Studies suggest the effects on height extend into childhood.

Heroin: Heroin has not been associated with an increased risk for birth defects, however, is associated with a higher risk for withdrawal and admission to newborn intensive care and sudden infant death syndrome.

Bottomline: Snuff Out Smoking It

Clearly, marijuana use in pregnancy is not preferable, nor less risky, compared to most other drugs when a side-by-side comparison is made. Changing societal attitudes doesn't change the fact that the developing embryo (and fetus) is dependent on the mother for oxygen, nutrients and a balance of hormones, chemicals and other substances to grow normally. Disrupting the normal fetal environment, through the introduction of marijuana or other recreational drugs, puts the pregnancy at risk in the short-term and possibly the long term as well.



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MotherToBaby is a service of the international Organization of Teratology Information Specialists (OTIS), a suggested resource by many agencies including the Centers for Disease Control and Prevention (CDC). If you have questions about beauty products, medications or other exposures, call MotherToBaby toll-FREE at 866-626-6847 or visit* MotherToBaby.org *to browse a library of fact sheets and find your nearest affiliate.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at MotherToBaby.org.

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