

# Marijuana, Pregnancy & Breastmilk: Getting Closer to Answers

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**By Sonia Alvarado, MotherToBaby California Teratogen Information Specialist**

I wrote a blog about marijuana and pregnancy **three years ago** and it's become the most visited blog on the MotherToBaby website. No surprise, considering that marijuana is an even hotter topic today than it was previously! Three years ago, two states had laws allowing recreational use. Now, 29 states allow medicinal use, recreational use or both (with limits on amounts varying from state to state). I was recently asked to revisit this topic and to provide an update on what we know about marijuana use during pregnancy and breastfeeding.

In this blog article, I use the terms marijuana, cannabis or pot interchangeably, as do most people.

At this time, there is no FDA approved indication for cannabis use as a medical treatment. The FDA gives approval to drugs only when the manufacturers of those drugs have gone through all of the required testing, have met the standards for safety, and have shown that it works when treating specifically named conditions. Marijuana has not met these standards. However, there are two FDA-approved drugs that contain man-made (synthetic) forms of marijuana. These medications, dronabinol and nabilone, are used to treat nausea caused by cancer medications. Neither one has been studied in human pregnancy, so we do not know how safe they are if taken during pregnancy.

The use of marijuana by pregnant women, either unintentionally before they know that they are pregnant or intentional use after pregnancy recognition, continues to increase. One survey suggests that marijuana is the leading recreational drug that pregnant women report using. The National Survey of Drug Use and Health reported that 3.85% of pregnant women reported using marijuana in the past month in 2014, compared with 2.37% in 2002. Other self-report studies indicate the number may be 5-8%. Our information service also receives many questions from pregnant and breastfeeding women who want to continue to use marijuana. Because of increasing legalization, the reported increased use and the need for answers from the public and health care providers, MotherToBaby has set aside sections of its **June 2017 professional meeting** in Denver, Colorado to bring experts together to discuss the latest research.

## **What do pregnant women, doctors and teratogen specialists, like myself, want to know about cannabis use during pregnancy?**

- We know that the developing baby is exposed to drugs, medications, infections and chemicals in the mother's blood. Pregnant women, their health care providers and researchers want to know the differences in the amounts of the drug that reach the blood when cannabis products are used topically, when they are ingested and when they are smoked.
- We also want to know the risks associated with each type of exposure and the doses that are associated with the risk. For example, what is the difference in risk if a pregnant woman smokes pot once a day (a hit or two or more) vs. smoking pot once a week (one hit or two)? What about if she ingests the drug? What is the difference in risk to her developing baby?

It used to be that teratogen specialists like me were mostly concerned about the risk for birth defects, such as cleft lip and palate, or heart defects. However, now we know that for some drugs, the risks are not specific just to the baby's structure, such as development of limbs. Instead, some drugs, like alcohol, affect development of the baby's brain and therefore the effects on the child's learning and behavior might not be noticed until much later. We need studies that follow children exposed prenatally to marijuana, in all its forms and at a range of doses, so that we can better inform pregnant women if their babies have risks for learning or mental health problems.

## **What the Available Studies Do Show**

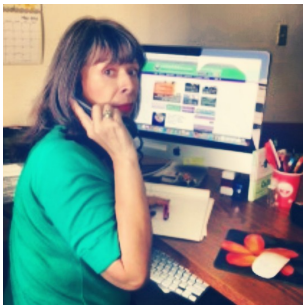
The few studies that have focused on birth defects like heart defects or cleft lip and palate have not found a specific pattern of birth defects linked with marijuana when it is smoked. This does not mean that we know for sure that the drug does not ever cause birth defects. What it could mean is that the risk may be small or there is an increased risk

only at higher doses or more frequent use. Larger and better studies are needed to determine if there is or is not an increased risk. We do not know for sure yet, and studies are continuing.

Many of the studies have continued to report a higher risk for low birth weight babies, preterm delivery, babies that are small for gestational age and higher rates of admission to intensive care nurseries for babies born to women who smoke marijuana during pregnancy. All of these complications are important and associated with serious health risks for the newborn baby. They could require a longer hospital stay, medical treatment and in some cases, could result in life-long disability. Prematurity, regardless of the cause, is associated with a higher risk for apnea, bleeding in the brain, lung problems (breathing problems), intestinal problems, a higher risk for infections and other problems. Studies continue to look at the issue of complications from smoking pot during pregnancy.

### **THC and Baby's Brain**

Another issue that is very important is the risk of learning and mental health problems from prenatal exposure to cannabis. As many people know, the primary psychoactive component of cannabis is  $\Delta 9$ -tetrahydrocannabinol or THC. This part of the plant produces the "high" when it binds to cannabinoid receptors in the brain. In the field of psychiatry, for some time it has been reported that smoking pot is linked to psychosis or schizophrenia. This type of research has generated questions about the risk to the unborn baby's brain from exposure to the drug. Because the brain of the baby continues to grow after birth, there is also concern about what can happen if the baby is exposed to THC through breastmilk. This is part of the important research that will be presented at the MotherToBaby/OTIS conference in Denver this month. We look forward to hearing what the researchers have been learning about cannabis in pregnancy and lactation. Let's just say I have a strong feeling that after this meeting and as we get more and more up-to-date, evidence-based information for our readers, marijuana blog #3 will be right around the corner!



***Sonia Alvarado is a bilingual (Spanish/English) Senior Teratogen Information Specialist at MotherToBaby's California affiliate. MotherToBaby aims to educate women about medications and more during pregnancy and breastfeeding. Along with answering women's and health professionals' questions regarding exposures during pregnancy/breastfeeding via MotherToBaby's toll-free helpline, email and private chat counseling service, Alvarado has provided educational talks regarding pregnancy health in community clinics and high schools over the past decade.***

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By **Bethany Kotlar, MPH, Teratogen Information Specialist, MotherToBaby Georgia**

Being a new mom is overwhelming. Trying to figure out this brand new role can seem like climbing Mount Everest! Many new moms have questions about breastfeeding, and of those questions, how to increase or maintain supply is one of the most common. Luckily for all those new moms out there, MotherToBaby has teamed up with a lactation consultant to answer all of your burning supply questions.

First, a quick introduction to the experts: Katherine Gama is an International Board Certified Lactation Consultant (IBCLC) who has worked with WIC (Women, Infants, and Children) for 10 years in Atlanta, Georgia. She loves to facilitate breastfeeding discussions. She thrives on supporting breastfeeding mothers in their journey to success. Katherine enjoys traveling with her two boys.

Bethany Kotlar is a Teratogen Information Specialist for MotherToBaby Georgia. She loves answering questions about exposures during pregnancy and breastfeeding and has a wonderful husband of five years and two fur babies.

**I've been breastfeeding for a couple of weeks and I feel like my baby always wants to nurse. Is this normal?**

**Katherine:** Yes, in the first weeks you are establishing your milk supply. Your body is figuring out how much your baby needs. It does this through supply and demand. The amount of milk the baby takes out or demands and the amount of times your baby nurses will determine your milk supply. Avoiding pacifiers and formula will help your body capture more accurately how much milk it needs to make. Putting your baby to breast every time your baby shows early feeding cues (rooting, sucking hands) will build your milk supply and meet your baby's needs.

If you worry about baby getting enough you should always take into consideration how much your baby feeds in 24 hours; is baby latching easily; is baby swallowing frequently; does baby have an adequate number of voids and stools; is baby calm and satisfied during the feeding and after feeding. Any time you are concerned about your baby's wellbeing, the best thing is to inform your pediatrician. In addition, you can contact a lactation consultant and ask her to assess your infant's feeding.

**My new baby nurses frequently, but I'm not sure how much milk she's getting. My friend's formula-fed baby seems to eat so much more! Am I starving my baby?**

**Katherine:** Your newborn's stomach is small and your baby only needs small amounts of breast milk at each feeding. Remember breast milk is digested naturally and faster so you will feed your baby frequently, at least 8 to 10 times in 24 hours. Your baby and its belly grow quickly while your supply is establishing.

In the first six days of life and beyond if your baby has approximately 6 wet diapers in 24 hours and 3 or more stools you are providing the nutrition that your baby needs.

**I want to boost my supply and my friend recommended fenugreek, milk thistle, and red raspberry leaf.**

### **Are these safe to take while breastfeeding?**

**Bethany:** These herbs are often marketed to moms to increase milk supply. Unfortunately, research suggests they are unlikely to make much of a difference in supply. In addition, they also haven't been proven safe to use regularly during nursing. If you're thinking about taking any herb or supplement, speak with your doctor first.

Fenugreek has caused allergic reactions in people sensitive to chickpeas and peanuts, and can cause hypoglycemia in diabetic women and potentially babies. Milk thistle and red raspberry leaf supplements haven't been studied well enough for us to say whether they are safe to use regularly. Complicating the picture even more, the Food and Drug Administration doesn't regulate the supplement industry, so there have been reports of supplements being contaminated with dangerous substances like lead and arsenic.

### **I heard someone say that drinking beer can increase supply, but I don't want my baby to be exposed to alcohol. Help!**

Bethany: There's no conclusive evidence that suggests beer increases milk supply, but that doesn't mean you can't enjoy a drink containing alcohol now and then while breastfeeding. The rule of thumb is to avoid breastfeeding while alcohol is in your system. For the average woman it takes between 2 to 2.5 hours per drink for alcohol to work its way out of the body. If you feel uncomfortable while you are waiting, you can definitely "pump and dump," but contrary to popular belief this doesn't remove alcohol faster from your milk. Drinking heavily (more than one or two drinks in a sitting where a drink is 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of hard liquor) can decrease your milk supply, so consume in moderation!

### **If there aren't any herbs or foods that are proven to increase my supply, what can I do to produce more milk?**

Katherine: The first thing is to address whether your baby is getting enough food or if he needs to be supplemented; to answer this question, talk to your child's pediatrician. If baby does in fact need more milk, then we need to find out why mom's milk supply is low in order to correct the problem. Is mom supplementing with formula or previously expressed breastmilk on a regular basis? Are there any medical reasons causing low milk production (breast surgery, PCOS or polycystic ovarian syndrome, thyroid issues, diabetes, premature infant, poorly breastfeeding, etc.) If you suspect you might be having any problems related to these conditions, talk to your healthcare provider and a lactation consultant. The best way to improve milk production is to frequently breastfeed, hand-express breastmilk and pump with preferably a hospital grade pump.

### **Why is breast milk better?**

Katherine: Your breast milk is uniquely designed for your baby. It contains the antibodies to build your baby's immune system, the hormones to regulate normal body function and the nutrients for brain development. You are equipped with everything your baby needs!

### **What do I do if I am having supply issues?**

Katherine: Work with a lactation consultant in your area. You can find a lactation consultant [here](#) or contact your state's local WIC office.

**Bethany:** Remember, before you take anything (herb, medication, etc.) while breastfeeding, talk to your doctor, your child's pediatrician, and contact MotherToBaby for up to date information on whether the product could affect your baby's health. It's always better to be safe than sorry!

### **Helpful Tips to Remember:**

- Place baby skin to skin immediately following birth for at least 1 hour
- Breastfeed your baby within an hour of birth
- Keeping the baby in your room helps you learn when your baby is ready to feed
- Learn your baby- watch for early feeding cues and initiate breast feeding on demand
- Give **NO** artificial pacifiers
- Give newborns **NO** food or drink other than breast milk unless medically indicated
- Use hand expression to maximize milk removal when nursing
- Surround yourself with support to help you reach you goals
- If you are having trouble breastfeeding, contact a lactation consultant

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**By Chris Colón, Certified Genetic Counselor at MotherToBaby Arizona**

During pregnancy, many women make changes in their lives in order to have the best chance to have a healthy baby. I know I did during both of my pregnancies. These changes can involve their diet, exercise habits and other lifestyle factors. After birth, new moms may consider adding back some of the things they cut out over the last 9 months, including drinking alcohol. But is adding it back in that simple? During September's Fetal Alcohol Spectrum Disorders (FASD) Awareness month, I thought I'd examine the topic of alcohol in breastmilk a little more closely for you. It's a question I get frequently from the women who contact our service. As you probably know, for years, experts have been saying there is no known safe amount of alcohol use during pregnancy, but does alcohol affect a breastfeeding baby?

**Before you raise your glass of favorite vino, here's what research says...**

Studies have shown that alcohol passes into the breast milk. The concentration of alcohol in the breast milk is close to the concentration of alcohol in the woman's bloodstream. Alcohol can pass back and forth from the bloodstream into the breast milk. It's a common myth that pumping and discarding breast milk will remove the alcohol from breast milk. Even if you discard pumped breast milk after drinking, alcohol still remains in your blood for a period of time, depending on how much you had to drink. The only way to get rid of alcohol from your system is to wait for your body to break it down and get rid of it. It takes about 2 to 2.5 hours for each standard drink to clear from breast milk. (A

standard serving is considered to be 12 ounces of beer, 4-5 ounces of wine, or 1.5 ounces of hard liquor.) For each additional drink, a woman must wait another 2-2.5 hours per drink. Pumping and discarding, drinking water, taking caffeine, or exercising do not help your body get rid of the alcohol faster, because only time can reduce the amount of alcohol in the breast milk.

### **More misconceptions...**

Another common misconception is that drinking during breastfeeding is recommended to help produce more breast milk. It used to be believed that beer raised levels of prolactin, a hormone in the body that plays a role in making breast milk. However, alcohol may actually reduce the amount of milk you produce. It is now known that alcohol lowers the release of another hormone called oxytocin. Lower oxytocin levels can affect the amount of milk that is released from the breast, meaning a baby may get less milk.

### **Alcohol's known effect on baby**

Many people wonder if alcohol affects a growing baby. Effects on infants from alcohol in breast milk are not well studied. There are some reports that babies whose mothers drink alcohol while breastfeeding may eat less and/or experience changes in their sleeping patterns. One study suggested problems with motor development following exposure to alcohol in breast milk, but other studies did not show the same results. There are many factors that can play a role in how alcohol can possibly affect a developing baby. Differences in genetics and metabolism of alcohol by both the mother and the baby may result in a wide range of risk. The risk may be different even in different babies from the same mother. At this time, it's not clear how alcohol in breast milk can affect a developing baby.

Depending on the amount of alcohol you drink and the frequency with which you drink, you may not need to stop breastfeeding if you drink alcohol. You can speak with your health care provider as well as the baby's pediatrician about how much alcohol you are drinking as well as all your choices for breastfeeding. You can also contact a MotherToBaby counselor at (866) 626-6847 to talk about alcohol and other exposures during breastfeeding.

**Chris Colón is a certified genetic counselor based in Tucson, Arizona and proud mother of two. She currently works for The University of Arizona as a Teratogen Information Specialist at MotherToBaby Arizona, formerly known as the Arizona Pregnancy Riskline. Her counseling experience includes prenatal and cardiac genetics, and she has served as MotherToBaby's Education Committee Co-chair since 2012.**

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**By Pat Olney, MS, CGC, Pregnancy Risk Specialist, MotherToBaby Georgia**

One day in early June I received a frantic call from a woman who had first called Georgia's Poison Control Center worried about the agent used to treat her varicose veins. She thought that she did the right thing by postponing her treatment until after she gave birth, but now was concerned about breastfeeding her newborn. The medical director at poison control, who is one of our advisory board members, gave her the correct information: "Call Pat Olney at MotherToBaby!"

The caller's vascular surgeon advised her to pump her breast milk over the next 24-48 hours, and discard it; otherwise known as pump and dump. The first thing she did before calling poison control was surf the Internet for answers. She began feeling guilty about having had the procedure. She lamented, "Why didn't I wait until after my baby was done nursing!"

First, I needed to learn a little bit about varicose veins. Varicose veins are more common in women than men, and women may first develop varicose veins during pregnancy. Pregnancy puts an added burden on the veins as the amount of blood flowing through the veins increases. Veins in the legs are already working against gravity, and pressure from the increased blood volume can cause veins to swell and bulge near the surface of the skin. They tend to get worse with each subsequent pregnancy, as women get older, or if a woman is overweight. Varicose veins can be very painful. Typically, the problem tends to improve after delivery. For our caller, the pain and discomfort continued and she decided to seek treatment.

The agent used for her varicose vein treatment was sodium tetradecyl sulfate (STS). I consulted my brand new 2014 edition of Dr. Thomas Hale's manual of lactational pharmacology, "Medications & Mother's Milk." Dr. Hale's book is used all over the world, and he is recognized as an expert in this highly specialized field. STS, a sclerosing agent, is injected into the affected vein. Dr. Hale describes this agent: "...an anionic surfactant which causes local inflammation, and thrombus formation, thereby occluding and eventually obliterating the affected vein." He goes on to say "severe reactions such as anaphylactic shock, pulmonary embolism have been reported, although rare."

Sounds terrible, doesn't it? I said to myself...no wonder this woman called poison control!

Dr. Hale developed the following lactation risk categories:

**L1 Compatible:** drug has been taken by a large number of breastfeeding women without any observed increase in adverse effects in the infant; controlled studies fail to demonstrate a risk to the infant, or the product is not orally bioavailable in an infant

**L2 Probably compatible:** drug has been studied in a limited number of breastfeeding women without an increase in adverse effects in the infant, and/or the evidence of a demonstrated risk is remote

**L3 Probably compatible:** there are no controlled studies in breastfeeding women; however, the risk of untoward effects to breastfed infant is possible, or controlled studies show only minimal non-threatening adverse effects; drugs should be given only if potential benefit justifies potential risk to infant; new medications that have no published data are automatically categorized in this category, regardless of how safe they may be

**L4 Possibly hazardous:** positive evidence of risk to breastfed infant or to breast milk production; benefits of use may be acceptable despite the risk to infant; e.g. if the drug is needed in a life-threatening situation or a serious disease for which safer drugs cannot be used or are ineffective

**L5 Hazardous:** studies in breastfeeding mothers have demonstrated significant and documented risk to the infant based on human experience, or is a medication that has a high risk of causing significant damage to infant; drug is

contraindicated in women breastfeeding an infant

### **Did the vascular surgeon give our caller the correct information?**

Sodium tetradecyl sulfate falls into lactation category L3. There are no studies done in nursing women, and there is no data on its transfer into human milk. Dr. Hale goes on and states, "This product could be hazardous if introduced in the infant through breast milk. Therefore, extreme caution is recommended with its use in a lactating mother."

Since there are no published studies, and no data, our caller was given the correct advice: pump and dump. Fortunately, her baby was already taking an occasional bottle, so she thought the baby would easily switch back to breastfeeding.

Sometimes the advice given to lactating mothers is not so straightforward. As summarized in a clinical report published by the American Academy of Pediatrics (AAP), "Many breastfeeding women are wrongly advised to stop taking necessary medications or to discontinue nursing because of potential harmful effects on their infants. Not all drugs are present in clinically significant amounts in human milk or pose a risk to the infant. Certain classes of drugs can be problematic, either because of accumulation in breast milk or due to their effects on the nursing infant or mother."

When counseling a woman who has chosen to give her baby the best start in life, it's important to get the facts, even if evidence-based information is lacking.

**Questions? For your FREE personalized risk assessment, call MotherToBaby toll-FREE (866) 626-6847. MotherToBaby is a service of the international non-profit Organization of Teratology Information Specialists (OTIS), a society that supports and contributes to worldwide initiatives for teratology education and research. MotherToBaby affiliates and OTIS are suggested resources by many agencies, including the Centers for Disease Control and Prevention (CDC), and are dedicated to providing evidence-based information to mothers, health care professionals, and the general public about medications and other exposures during pregnancy and while breastfeeding. Learn more at [MotherToBaby.org](http://MotherToBaby.org).**



**Patricia Olney, MS, is a certified genetic counselor and pregnancy risk specialist at MotherToBaby Georgia, Emory University. She received her masters degree at the University of California, Berkeley and has practiced genetic counseling for more than 25 years. MotherToBaby GA is funded by the Georgia Department of Behavioral Health and Developmental Disabilities.**

Reference:

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The American Academy of Pediatrics (AAP) August 2013 “The Transfer of Drugs and Therapeutics Into Human Breast Milk: An Update on Selected Topics.”

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