

How I Got the Zika Virus and How You Can Too: Protecting Yourself and Your Family

By *Bethany Kotlar, MPH, MotherToBaby Georgia*

****This information was current as of the time the blog was published. However, information is constantly changing. Please visit [Zika Central](#) for the latest information.****

As a teratology information specialist, I counsel women and their families on medications, chemicals, herbal remedies, and illnesses that could harm developing babies. So as the Zika Virus, a viral infection that can cause severe birth defects including microcephaly (a condition where a baby's head is much smaller than expected, and may indicate a baby's brain has not developed properly during pregnancy), spread from the Polynesian Islands, to South America, to the Caribbean, I made sure to educate myself on everything we know about the virus, reading article after article and keeping up to date on the Centers for Disease Control and Prevention (CDC's) **recommendations to avoid infection**, knowing that eventually I would need this information to counsel a pregnant woman or her family. I never imagined I would use this information to try to prevent becoming infected myself, and that I would fail.

One week in February I opened an email from my in-laws with the subject "30th Birthday Plan." My husband's 30th was a few weeks away, and I was excited to see what they had planned. As I read the email detailing a week-long sailing trip in the Caribbean I felt blessed, and honestly a little scared. I rushed to the [CDC's page on Zika](#) to look up whether the islands we were visiting had outbreaks. Sure enough-16 Caribbean islands, including the two we were visiting, had Zika outbreaks. At first I didn't want to go, which set off an intense inner debate racked with guilt. "How could I say no to a surprise trip for my husband, especially one planned and paid for by my in-laws?" I thought, and in the next second, "But what if I get Zika? I work with pregnant women, I can't expose them!" Finally, my Dad stepped in. "You're too adventurous to let Zika scare you away from a vacation." he said. "Fine," I thought, "I'll go, but I'm going to be careful."

I was careful. Despite the gentle teasing from my in-laws, I insisted on sleeping indoors with the windows closed, even though it was more comfortable outside. I wore bug spray with 30% DEET when I thought mosquitos would be out. I got three or so bites at dinner one night, and three more at the end of our trip. As we headed home I mentally patted myself on the back; "Only six bites," I thought, "pretty sure I didn't get Zika!" I was so sure that three days after our trip when I developed a head-to-toe rash I was certain it was an allergic reaction, but after three doses of Benadryl did nothing, I googled Zika-related rashes. Dead ringer. Symptoms of the Zika Virus include rash, joint and muscle pain, red eye, fever, and headache, and boy did I have them. I rushed in to see an infectious disease doctor, who came to the same conclusion. "My money's on Zika," he said. Suddenly everyone wanted a piece of me; my blood was sent to the county board of health, Emory's lab, and a lab in Washington for testing.

A call from the county board of health confirmed what my aching joints hinted at: I tested positive. My first thought was to thank my lucky stars that I have access to safe, reliable birth control. My second was to start worrying about those around me. I had brunch with a pregnant friend before I had symptoms-could I have given her Zika? Thankfully, the answer is no (more on that below)! I was amazed at how a short vacation and six bites could give me Zika. I thought about all the people going to the Caribbean for vacation. How many of them are pregnant or could become pregnant while traveling? Would they wear bug spray? Would they recognize the symptoms? How many are men who could get Zika and then unknowingly transmit it to their sexual partner? How many people are walking around not knowing they were infected? I called my friend and begged her to wear insect repellent for the rest of her pregnancy.

As of July 27, 2016, 1,658 cases of Zika, including 433 pregnant women have been confirmed in the continental United States; 4 cases of local transmission have been reported in Miami-Dade and Broward counties in Florida. There are likely far more cases since most people don't have symptoms, so never get tested. Zika is mostly spread through mosquito bites, but can also be spread through sex, blood transfusions, or from a mother to baby during pregnancy. We don't know how long the incubation period (the time between when you get infected and when you see symptoms) is, but it is likely a few days to weeks. For most people the virus stays in the blood for about a week, but some people still have the virus in their bodies for as long as two months. Currently, the only Zika outbreak in the continental United States is in a small area of Dade County, Florida, however,, the mosquitoes that can carry Zika are found in some areas of the US, making a Zika outbreak in the U.S. very possible. You can follow these steps to protect yourself:

1. If you are pregnant or could be pregnant (planning a pregnancy or not using birth control), don't travel to a country with an active Zika outbreak. You can find a list of current outbreaks [here](#).
2. If your partner has traveled to a country with an active Zika outbreak and you are pregnant, use condoms correctly every time you have sex for the rest of your pregnancy. Why, you might ask? Because Zika can stay in semen longer than in blood, but we don't know exactly how long it stays there. To be as safe as possible, the CDC recommends using condoms for 6 months.
3. If your partner has traveled to a country with an active Zika outbreak and has symptoms of Zika (rash, fever, headache, joint pain, and conjunctivitis) use condoms correctly whenever you have sex and avoid pregnancy for at least six months. If he does not have symptoms, use condoms and avoid pregnancy for at least two months.
4. If you have traveled to a country with an active Zika outbreak and you are not pregnant, avoid pregnancy for at least two months. The Zika virus can also be transmitted from a woman to her sexual partner. Because of this, use condoms and/or a dental dam when you have sex for two months. Do not share sex toys.
5. If you are currently pregnant, avoid mosquito bites as much as possible by wearing bug spray outdoors (bug spray with at least 30% DEET is preferable; for information on the safety of DEET during pregnancy, see [here](#)), wearing long-sleeved shirts and pants, closing windows or using windows with screens, and removing any standing water from around your house. Two things to remember: the mosquitos that spread Zika are daytime biters and like to be indoors, and they can breed in pools as small as a bottle-cap.

If you have questions about the Zika virus or you have been infected or exposed and want free up-to-date information about what this could mean for a current or future pregnancy, you can contact a MotherToBaby expert by phone at (866) 626-6847 or by visiting <https://mothertobaby.org//a>.



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How I Got the Zika Virus and How You Can Too: Protecting Yourself and Your Family

By *Patricia Markland Cole, MPH, MotherToBaby Massachusetts*

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Zika, Zika, Zika.....everywhere you turn someone is talking about Zika and it's not hard to understand why. Last fall in Brazil, the cases began coming in with unusual frequency. Health care providers noticed an increase in babies born with small heads and small brains, a birth defect called microcephaly. And the questions began pouring in as to why this could be happening? Providers noticed these women lived in or had visited areas affected by the Zika Virus; in fact, out of the first 35 case reports of microcephaly the majority of the moms reported a rash-like illness and some tested positive for Zika.

When Zika hit the news, it was understandably scary for pregnant woman. One of our most vulnerable populations - our babies- are at risk from something we can't even see with our natural eyes: a virus carried by a mosquito. While we still have much to learn about Zika and pregnancy (including whether it is actually associated with microcephaly), the possibility that there is a risk takes away from the joy and celebration that pregnant woman normally feel and has replaced that with fear and trepidation. As a counselor with MotherToBaby, I know. I've heard the fear in the voices of women calling me; even through emails and text messages, the concern has been palpable. So let's put it all into perspective.

Focusing Away From Fear: If You're Planning A Pregnancy...

While there is so much focus on the fears of pregnant woman, there are very real concerns that the woman or couple planning for pregnancy experience as well. Just the other day, I had a conversation with a woman who contacted our service hoping to get some answers. "I am planning to go through IVF and scheduled a trip to Mexico well in advance of the news about Zika. My plan was to go to Mexico and start going thru IVF when I came back. Do I have to cancel my trip or if I go do I have to delay my plans for pregnancy, and, if so, for how long. It is hard to think of delaying pregnancy but at the same time we were so looking forward to this trip and planned it long ago!" I could hear the struggle.

We're still learning about Zika, but for couples planning a pregnancy the current recommendation is that you talk with your physician about how your plans could be affected by travel to a Zika-affected area. Zika usually remains in the blood for a week after infection and there is currently no evidence to suggest an increased risk of birth defects if a woman becomes pregnant after the infection has passed.

If You're Pregnant...

Zika can be spread from a pregnant woman to her baby. The link between Zika and microcephaly is still being investigated, but to be safe the US Centers for Disease Control and Prevention (CDC) currently recommends that pregnant women consider postponing travel to any area where Zika virus is spreading. If travel to an affected region cannot be avoided, you should talk to your healthcare provider before leaving, and while traveling take careful steps to prevent mosquito bites (see below). If you've recently completed your travel, you should still talk to your healthcare

provider, even if you don't feel sick.

Zika Can Be Transmitted Through Sexual Contact.

For men, Zika can remain in semen for a longer period of time so it is important to speak with your healthcare provider regarding risks. If a man has traveled to a Zika-affected region and has a pregnant partner, it has been recommended that he use condoms during sex (vaginal, anal, and oral) for the remainder of the pregnancy. For couples planning a pregnancy, it has been recommended that men use condoms for 28 days after traveling to Zika infected areas. For more details, see our fact sheet, Zika and Pregnancy <https://mothertobaby.org/fact-sheets/zika-virus-pregnancy/>.

Travel and Mosquito Bite Prevention

It is important to check travel advisories for the area you plan to visit because the status of areas can change before your trip quite rapidly. For example, prior to traveling to Florida a physician called me about the safety for his wife to use DEET during pregnancy. At the time there were no advisories for the area but shortly thereafter, the Governor of Florida issued a state of emergency for some counties that had reported cases of Zika infection that were linked to people who had traveled to Zika-affected areas. Therefore it is important to always check the CDC website for travel information (<http://wwwnc.cdc.gov/travel/page/zika-travel-information>) and to take the necessary precautions to protect yourself from mosquito bites. These include:

- Wear long sleeve shirts and pants;
- Use mosquito repellent with an EPA registered number as this means that the repellent has been proven safe and effective like DEET and picaridin; both of these agents are considered compatible for pregnancy. Make sure to read the label and follow the instructions, as you may need to reapply insect repellent every few hours. If you are using sunscreen, apply that first and then add the insect repellent. You can get more info on insect repellent use during pregnancy from our new Fact Sheet at <https://mothertobaby.org/fact-sheets/insect-repellents/>;
- Stay in air-conditioned areas;
- Stay in areas with screened doors, and sleep with mosquito netting.

Mosquito-transmitted Viruses are Nothing New

Zika is just the latest punch from these biting bullies. In fact, taking steps to avoid mosquito bites is something we should all be doing, as there are quite a few diseases they can pass on to humans. Some are more common in tropical areas but can also be found here in the United States like Dengue and West Nile Virus. Both conditions are associated with uncomfortable symptoms, dengue can pose complications for pregnancy and the effects of West Nile during pregnancy are not that well known - so protection at all times is key. Thankfully, neither are as frequent in the United States or Canada as in some other parts of the world due to the use of insect repellents and other protective measures we have. For more info, check out our West Nile Virus Fact Sheet at <https://mothertobaby.org/fact-sheets/west-nile-virus-infection-pregnancy/>

Remember: if you are not pregnant, Zika virus overall does not cause serious effects. It is only when a woman gets Zika during pregnancy that experts suspect (but have not yet proven) that it may increase the risk of birth defects so there is still more to learn.

It's been said that the only thing that remains constant is change. Whether it's Zika or the next mosquito-transmitted outbreak, fight the bite and navigate those changes. MotherToBaby is here to help.



Patricia Cole, MPH, is the Program Coordinator for MotherToBaby Massachusetts. She obtained her

How I Got the Zika Virus and How You Can Too: Protecting Yourself and Your Family
August 8, 2016

page 4 of 10

Bachelor's degree in Biology from Simmons College in Boston and her MPH in Maternal and Child Health from Boston University School of Public Health. She has been serving the families of New England as a teratogen counselor since 2001 and provides oversight for the day-to-day functions and outreach of the program. She has also provides education to graduate students and other professionals.

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By Debra Goniwicha, MSW, MotherToBaby Georgia

I have spent a significant portion of my career working in hospitals. Shortly after learning I was pregnant with my first child, I received a notice that I may have been exposed to an airborne illness while I was at work in the hospital Emergency Room. The notice advised me to report to occupational health for further testing. I flipped out! I was scared to death that my exposure would cause harm to my baby. I was mad at the world for exposing my baby to potential harm and I was mad at myself for not being more aware of the contagious illnesses that I was surrounded by on a daily basis. But mostly, I was terrified.

An airborne infection is an illness spread by little drops of liquid (germs) that float through the air. Airborne illness occurs when someone who is infected coughs or sneezes sending the germs into the air, exposing individuals nearby to potential illness from breathing in the infection or touching surfaces where the drops land. Tuberculosis, chicken

How I Got the Zika Virus and How You Can Too: Protecting Yourself and Your Family
August 8, 2016

page 5 of 10

pox, and measles are all types of airborne infections. Since February happens to be International Prenatal Infection Prevention Month, I thought it would be a great time to discuss how to best avoid airborne infections in pregnancy.

So back to my own airborne illness exposure... there I was on my way down to occupational health. I was, of course, creating several devastating scenarios in my head. The logical part of my brain was recalling this was absolutely NOT the first time that I had received notice that I had been exposed to something contagious and that while every exposure notice made me worry a bit, I'd get tested, the results were fine, and I'd go on with my life. But this time I was pregnant, and it wasn't just my life that I was worried about. It was the life and health of my much wanted, growing baby. I was fully aware how dangerous infections could be in pregnancy. I had witnessed infants in the neonatal intensive care that were born to mothers with untreated infections.

Arriving at occupational health, I was directed to a room by a nurse and immediately started sobbing. I hadn't yet told my boss or coworkers that I was pregnant. I was superstitious, it was my first pregnancy, and I believed that you were not supposed to tell people the news until you were 12 weeks pregnant. As I stammered out why I was there, an amazing nurse (who I remember to this day) handed me tissues and gave me the best reassurance and education possible about airborne infections during pregnancy.

The nurse reminded me that I was regularly doing many things to prevent airborne infection. These include:

Handwashing – Because of working in healthcare I am very knowledgeable about the fine art of handwashing. Hands need to be wet, then apply soap and rub your hands together for 20 seconds (quick tip: singing Happy Birthday while rubbing your hands together will equal 20 seconds!). Rinse your hands and dry with paper towel.

Immunizations – Remaining current on vaccinations can go a long way to preventing an infection from an airborne illness. Examples include vaccinations to protect from the seasonal flu, the measles, pertussis (whooping cough), and bacterial meningitis. Thankfully, I was current on all my vaccinations. After this incident, I also reminded my family members to make sure they were current on their immunizations as well. Since I was pregnant, I really did not want anybody near me bringing home infections to share!

Droplet Precautions – This refers to avoiding droplets that might come from an infected person's coughing or sneezing. Working in a hospital has taught me many things. One of them is to stand back and to the side when someone is coughing. This helps to minimize direct contact of flying particles. Also, be very aware of what you touch. Touching surfaces and then touching your eyes, nose or mouth increases contact with droplets that may contain infection. Wearing a mask over your mouth and nose also can reduce exposure to airborne droplets that contain germs.

Getting Tested and, if needed, Treatment – Most important, after learning I had been exposed, I was getting tested for infection. If the tests were positive, I could be treated before the baby was born, decreasing the risk of passing the infection to my developing baby.

I was immensely relieved when my test results were clear and showed no signs of infection. By using good common sense and following some standard precautions, I have been able to avoid any serious viral or bacterial infections. Being pregnant changed my view of the world, and it also sharpened my awareness of working safely in a hospital. I have now survived three pregnancies while working in a hospital and have three happy, healthy, and rambunctious boys.



Debra Goniwicha, MSW is the Program Coordinator for MotherToBaby's Georgia affiliate. She has a

How I Got the Zika Virus and How You Can Too: Protecting Yourself and Your Family
August 8, 2016

page 6 of 10

Master's Degree in Social Work from Wayne State University in Detroit and has worked as a medical social worker for 18 years. Debra has specialized in maternal/fetal medical social work since 2003. She has also worked as a licensed clinical social worker, counseling women with mental health issues. Debra enjoys working directly with women during pregnancy and postpartum, helping interpret medical information and providing support so they can make informed choices.

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By Chelsea Flores

Reviewed by Elizabeth Salas, MPH

Are you currently pregnant? Are you aware of the risk of pertussis to your baby?

Pertussis, also known as whooping cough, is a serious problem throughout California. Public health officials confirm our state is currently experiencing a pertussis epidemic. In 2010, there were more pertussis cases in California than had been reported in over 60 years with approximately 9,000 cases including 10 infant deaths. In 2014 10,831 cases were reported. The California Department of Public Health (CDPH) January 7, 2015 Pertussis Report states that of the 376 cases requiring hospitalization, 227 (60%) were babies less than 4 months of age. The two deaths reported in 2014 were babies less than 6 weeks of age. Unfortunately, babies are among the most vulnerable, but there are things you can do to protect your baby.

What Every Pregnant Woman Should Know About Pertussis

What is Pertussis?

Pertussis is a bacterial infection caused by the bacterium *bordetella pertussis*. This germ can be transferred from an infected person to an uninfected person through coughing, sneezing, or having close contact with someone infected. Pertussis is very contagious and can cause serious illness. It can affect any person at any age, but is more commonly reported in infants and the elderly.

At first pertussis may resemble a cold, but the symptoms change over time. Within 1-3 weeks after being infected, the person will have a rapid cough leading to difficulties in breathing. After coughing for seconds to minutes, they will make a “whooping” sound as they try to catch their breath. It can take weeks or even months before a person recovers from this infection. However, this infection may be prevented by vaccinating.

Why is pertussis a concern for newborns?

Newborns are at a higher risk of getting pertussis because their immune systems are weaker and not as capable of fighting off infections. In addition, they cannot receive their first pertussis vaccine until they are at least 6 weeks of age. Newborns infected with pertussis are at risk of being hospitalized, depending on the severity of the illness and can experience life-threatening symptoms. According to the CDC, in babies who are hospitalized for pertussis, studies suggest that 1 in 4 of these babies get pneumonia, 2 in 3 will experience apnea (slowed or stopped breathing), 1-2 per 100 will have convulsions, 1 in 300 experience encephalopathy (disease of the brain), and 1-2 per 100 babies hospitalized will die.

What can a pregnant woman do to protect her newborn?

Vaccinating during pregnancy is the best tool we have to protect moms and babies against pertussis. When mom receives the vaccine during pregnancy, it provides protection for the newborn. Mom can transfer protective antibodies (proteins that protect against pertussis) to the baby during pregnancy, which helps protect the newborn in the first 6-8 weeks when they are too young to get vaccinated. This vaccine will also help the mother by keeping her healthy and decreasing the chances of her spreading pertussis to her infant. It is important to get vaccinated during every pregnancy because over time levels of antibodies will start to decrease. In order to transfer the highest levels of antibodies to your baby, vaccination late in pregnancy is ideal.

It is also very important that new moms vaccinate their newborns against pertussis at 6-8 weeks rather than delaying vaccination. The longer mom waits to vaccinate, the longer her baby is vulnerable.

Is this vaccine safe during pregnancy?

The Tdap vaccine is an inactivated vaccine. This means the vaccine is made of particles of killed bacteria. It does not contain a live virus. There is no risk of contracting the infection from the vaccine, unlike vaccines that contain live viruses or bacteria. Currently the published information on vaccination against pertussis in pregnancy has not found an increased risk for problems in pregnancy or for the newborn. In every pregnancy, there is a 3-5% chance of having a baby with a birth defect regardless of exposures in pregnancy. This is known as the background risk. Vaccination against pertussis during pregnancy has not been shown to increase the risk of birth defects above the background risk that already exists in every pregnancy.

In 2011, the Centers for Disease Control and Prevention recommended the pertussis vaccine for pregnant women. The update in October of 2012, recommended that pregnant women, regardless of vaccination history, should receive the Tdap vaccine in every pregnancy. The optimal time to administer the vaccine is between 27-36 weeks gestation to maximize benefits to mom and baby. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice also supports the recommendations.

What can family and friends do to help protect a newborn?

Staying up to date with pertussis vaccination is important, especially since adults may not know they are infected or may confuse pertussis with a common cold. “Cocooning” is a strategy recommended to protect the newborn. “Cocooning” refers to the vaccination of those who will be in close contact with the baby (dad, siblings, grandparents, and caretakers) in order to reduce the chance baby will be exposed to pertussis. Newborns are more likely to get pertussis from a family member or by having close contact with an infected person, especially when that person has not been vaccinated. Anyone not up to date with pertussis vaccines should be vaccinated at least 2 weeks before

coming in contact with the infant to ensure their bodies have had enough time to develop immunity.

The Bottom Line for Expecting Moms and Their Families

Getting the vaccine does not necessarily mean that you or your baby are not at risk of being infected. While adults, who have been vaccinated, can still get pertussis, the infection is usually less severe. Vaccinating can reduce the chances you and your baby will get pertussis. Contact your doctor for more information about getting vaccinated. According to the Immunization Branch of the CDPH, even a single dose of the DTaP vaccine may provide some protection against severe pertussis disease in babies.


For more information about pertussis, the Tdap vaccine, or other exposures during pregnancy or lactation, contact MotherToBaby California toll free at 866-626-6847.

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MotherToBaby is also conducting research on the pertussis vaccine during pregnancy, and is looking for pregnant women who have received the vaccine as well as women who have chosen not to get the vaccine. This research is observational, meaning participants are not asked to take any medications, get any vaccines, or to change their daily routine. To learn more about our pertussis vaccine research program, please contact one of our MotherToBaby Pregnancy Studies experts at (877) 311-8972.



Chelsea Flores is currently a senior at High Tech High North County. She will be applying to colleges this fall and has worked with MotherToBaby California as a student intern. She is considering a career in the medical field and is interested in obstetrics and gynecology.

 *Elizabeth Salas is the Lead Teratology Information Specialist for MotherToBaby California, a non-profit that provides information to healthcare providers and the general public about medications and more during pregnancy and breastfeeding. She is based at the University of California, San Diego, and is passionate about the work MotherToBaby is doing to promote healthy moms, healthy pregnancies and healthy babies.*

Download the Tetanus, diphtheria and pertussis and Tdap Vaccine and Pregnancy fact sheet and other fact sheets by MotherToBaby (also available in Spanish) at

<http://www.mothersobabyca.org/resources/fact-sheets/>

For the latest information on pertussis in California, visit the California Department of Public Health Pertussis Summary Reports at <http://www.cdph.ca.gov/programs/immunize/Pages/PertussisSummaryReports.aspx>

Additional information about pertussis is available at the following Centers for Disease Control and Prevention link at <http://www.cdc.gov/pertussis/materials/pregnant.html>

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