Special Edition Baby Blog: What Do All the Colors Mean? Zika, Pregnancy & Travel in a Post-Epidemic World

Back when Zika swept the western hemisphere, the travel recommendations for women who were pregnant or planning a pregnancy were clear: avoid any areas that had a risk of Zika infection. It was fairly easy to know where those areas were, as governments and public health organizations around the world worked tirelessly to identify and report cases. World maps showing areas of risk provided clear "yes/no" guidance. Was there any doubt about who shouldn't travel where? Not really. Not back then.

But what about now? The number of reported Zika cases has fallen dramatically in recent years. However, the accuracy of reporting can vary widely from country to country, so the once-clear world map of Zika risk now appears much less well-defined.

One of the most common Zika-related questions we still get at MotherToBaby is, "How likely is it that I'll get Zika if I travel to Country X?" (Or a variation of the same: "We went to Country X. Do we ***really*** need to wait 3 months before we try to get pregnant?") One resource to help answer that question is the interactive world map maintained by the Centers for Disease Control and Prevention (CDC) to illustrate areas with Zika risk. Visit the map now and you'll find four colors, each indicating a different level of Zika risk and the corresponding recommendations for pregnant women, their partners, and those who are planning pregnancy. Let's take a look at what each color means :

- **Red** areas have active Zika transmission. ***Travelers to red areas are at risk of Zika infection.***
  - Pregnant women and their partners should avoid all unnecessary travel to red areas.
  - Couples and individuals who travel to red areas should wait at least 2 months (women) or 3 months (men) before trying to get pregnant, and have only protected sex during that wait time.
- **Purple** areas have had active Zika transmission sometime in the past, and there could still be sporadic cases. ***Travelers to purple areas might be at risk of Zika infection.***

Pregnant women, their partners, and those who are planning pregnancy are encouraged to talk with their healthcare providers to make decisions about travel to purple areas. Careful consideration should be given to the risks and consequences of Zika infection in pregnancy, the nature of their travel, how much potential risk they are willing to accept, how soon they want to get pregnant (if they are not already), and any other factors specific to that individual or couple at that time.

- If pregnant women or their partners decide to travel to purple areas, they should take steps to minimize risk, including using insect repellent and considering the use of condoms for the rest of the pregnancy.
- Women planning pregnancy who travel to purple areas should also take steps to minimize risk, including using insect repellent and considering following recommended wait times before trying to get pregnant (2 months for women, 3 months for men).

There is a sub-category of **light purple**, which shows higher elevations above 6,500 feet where mosquitoes that can transmit Zika don't usually live. The chance of getting Zika in light purple areas is very low. However, be sure to consider if your travel plans would take you through dark purple areas on the way to these lighter purple zones.

- **Yellow** areas have mosquitoes that can transmit Zika, but have not had reported cases of Zika transmission. ***Travelers to yellow areas are at low risk of Zika infection.***
  - All travelers to yellow areas should take precautions to prevent mosquito bites.

- **Green** areas do not have mosquitoes that can transmit Zika and have not had any reported cases of Zika transmission. ***Travelers to green areas are not at risk of Zika infection.***
    - There are no Zika-related travel recommendations for green areas.

Given that many countries are included in the purple category, how does this map help you know what your risk ***really*** is if you travel to a purple area? The answer is that it doesn't. Purple only tells you there is ***some*** level of risk. Here's why purple—and we at MotherToBaby—can't be more specific:

- ***Reliable data for every country around the world simply does not exist.*** Since Zika virus is no longer considered a public health emergency, many resources that once helped support global data collection have moved on to other, more pressing issues.
- ***The level of risk within a purple country could change without us knowing right away.*** The ability of any country to quickly identify and report cases depends on resources, logistics and other factors. This means there could be delays in detecting and announcing any new outbreaks.

The bottom line is that our post-Zika-epidemic world requires that we take the health of current and future pregnancies into consideration when planning travel. Ask ourselves how much potential risk we are willing to accept when we book our vacations and business trips. Does that mean that couples and individuals who want to have children should never go to areas that ever had Zika? Not at all! But if they are currently pregnant, or are not willing or able to effectively prevent pregnancy for at least 3 months after traveling, they might prefer to visit one of the many areas where there is no known risk of Zika. (Think yellow! Think green!)

MotherToBaby is here to answer your questions about Zika or other exposures before or during pregnancy. Happy travels!

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

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Special Edition Baby Blog: What Do All the Colors Mean? Zika, Pregnancy & Travel in a Post-Epidemic World

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 repellant 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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By Patricia Markland Cole, MPH, MotherToBaby Massachusetts

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When it comes to pregnancy, so much of the attention is focused on the woman: her nutrition, her health, her behavior and just about her whole world comes under scrutiny in order to promote a healthy pregnancy; but what about the man? His nutrition, health, and behavior hardly comes under that same intense scrutiny…until now. Enter Zika virus. A man who has traveled to a Zika-affected area and has a wife/girlfriend who is pregnant must play an active role in protecting his partner and baby from possible Zika infection. Even if his partner is not currently pregnant, a man must be aware of his role when it comes to preventing the spread of the Zika virus. Father's Day starts well before you actually become one, men….here's why:

This illness, which is spread by the bite of a mosquito, took the world by surprise last fall when an unusually high number of babies, particularly in Brazil, were born with small heads and brains, a birth defect called microcephaly. Zika is a mild illness and typical symptoms include fever, skin rashes, muscle and joint pain, headache and conjunctivitis or red eyes. These symptoms normally last for 2-7 days. Some adults do not even know that they are infected because they have no symptoms while others will recover with rest, fluids and taking over-the counter medications to control symptoms. While Zika is a mild illness for many adults, if a pregnant woman becomes infected she can pass the infection to her child and, as a result, increase the chance that her child may be born with microcephaly and other abnormalities. To complicate matters more, it became clear that Zika can be transmitted by a man to a woman through sex or intercourse. The virus can be spread before symptoms begin and after symptoms end. Also Zika virus can remain in the blood of an individual for a week (or sometimes longer), but in regards to men Zika can remain in semen even longer than in the blood. Since we still don't know how long Zika can remain in the semen, a man has to be more proactive than reactive when it comes to protecting his partner and future baby.

And ladies, our men, especially fathers-to-be, are thinking about Zika and are making some life changing decisions to protect the welfare of their families. Take, for example, cyclist Tejay van Garderen (27 years old) who is considered a medal contender for this year's summer Olympic Games in Rio de Janeiro, Brazil. He has decided to withdraw from consideration to be a part of the US Olympic team because his wife Jessica is pregnant and he doesn't want to put her or the well-being of his unborn child at risk by possibly contracting Zika and passing the infection on to them. "I don't want to take any chances. If anything were to happen, I couldn't live with myself." When you consider that Tejay will now have to wait 4 more years to fulfill his Olympic dreams and put all that training on hold for his wife and child, that is chivalry at its finest. (All I can hear is the song "When a Man Loves a Woman" playing in my mind right now!)

So what is a man to do?

If you have a pregnant partner and you have traveled or lived in a Zika-affected area:

The most conservative approach is to not have sex during the entire pregnancy. Although the thought of not having sex for several months might seem like the end of the world for some, the health and welfare of your child is well worth the sacrifice.

However, every couple has to do what will work for them, so if abstaining from sex is not possible then it is important to use a condom correctly and consistently while having sex for the entire time of intercourse. Condoms should be used regardless of whether you are having vaginal, anal or oral (mouth to penis) sex, even if you do not have symptoms. Remember: since Zika virus is found in semen, the idea is to make sure your partner has no contact with semen. Think, knight in shining latex armor, right? Yet another chance for chivalry, guys.

If your partner is not currently pregnant:

If you and your partner are planning or actively trying to get pregnant but you've recently traveled to or lived in a Zika-affected area, experts advise you to hold off on getting pregnant. The length of time you delay would depend on whether you've had symptoms of Zika infection: delay 6 months men, if you have had symptoms, or 8 weeks if your wife or girlfriend had symptoms.. Avoid sex or be sure to use condoms every time , as mentioned before, during this period. If neither one of you have experienced symptoms than it is advised that you wait 8 weeks before trying.

Even if you are not planning a pregnancy, it is advisable to wear condoms every time you have sex because (well, you know) accidents have been known to happen! And you can even go a step further by not having sex for 8 weeks after you return from a Zika-affected area, if you have had no symptoms or for 6 months if you do.

Other Means of Prevention

Here in the United States, we do not yet have local cases of Zika – meaning that all reported cases in the US to date are from individuals who lived in or traveled to Zika-affected areas and have traveled back to the United States. While this is reassuring, we cannot be completely at ease and need to take the proper steps to prevent infection – especially since there is no vaccine or medicine to treat Zika. The use of insect repellents is an important tool in the prevention of Zika for everyone and especially those who are traveling back to the United States from Zika infected areas. The Centers for Disease Control and Prevention has some great info about Zika prevention:
http://www.cdc.gov/zika/prevention/

If you are uncertain about your risk of infection, you should talk to your doctor sooner than later so that they can make a proper assessment of your level of risk. Zika testing is available for people who believe they have been exposed through sex and have symptoms; however, keep in mind that testing blood, semen or urine will not tell you the level of risk for passing the infection to someone during sex. In addition, because Zika can remain longer in semen than in blood, a man could get a negative blood or urine test but still have the Zika virus in their semen.

So men, prepare for your most chivalrous self. We need you in the fight against Zika! Your partner and future child will appreciate all you do to protect them.



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

*Macur, Juliet. (2016, June 3) Fearing Zika, a Top American Will Skip the Olympics. He May Not be the Last. The New York Times (Sports of The Times). Retrieved from: **http://www.nytimes.com/2016/06/04/sports/olympics/zika-cycling-tejay-van-garderen.html?_r=0***

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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 repellant 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 repellant every few hours. If you are using sunscreen, apply that first and then add the insect repellant. You can get more info on insect repellant

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 repellants 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 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 the 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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