



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

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Antimalarial Medication

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about whether exposure to antimalarial medication may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from a health care provider.

What is malaria?

Malaria is a blood-borne infectious disease found in many parts of the world. People typically become infected with malaria after being bitten by a mosquito that had been infected with a malaria-causing parasite. Less commonly, people can develop a malaria infection from blood transfusions, organ transplants, or the shared use of needles or syringes contaminated with infected blood. A pregnant woman may also pass malaria to her child before or during delivery.

The Centers for Disease Control and Prevention (CDC) recommends that pregnant women do not travel to areas where malaria is found. Therefore, the best way to prevent a malaria infection is to avoid travel to such areas. If travel cannot be avoided, it is recommended that pregnant women take steps to protect themselves. Methods to help prevent malaria infection include using personal protection measures such as insect repellent (see the MotherToBaby information sheet on **DEET** at <https://mothertobaby.org/fact-sheets/deet-nn-ethyl-m-toluamide-pregnancy/>), sleeping in mosquito-free areas, wearing long sleeves and pants, and taking antimalarial medication before, during, and after travel to prevent infection (also called chemoprophylaxis).

Is antimalarial medication safe to take during pregnancy?

When considering the use of any medication during pregnancy, it is important to consider both the risks and benefits of taking the medication. It is commonly accepted that the risks associated with malaria infection pose a greater threat to the mother and fetus than any risks associated with antimalarial medication used for chemoprophylaxis during pregnancy.

It is difficult to provide a general recommendation for which antimalarial medications are best suited for use in pregnancy as malaria parasites can be resistant to multiple drugs. The best medication for you will depend on the type of malaria parasite that is most common in the area to which you are traveling, as well as your personal health history.

The Centers for Disease Control and Prevention (CDC) have created a webpage that provides information on recommendations for each malaria-endemic country, available at:

<http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/yellow-fever-malaria-information-by-country>.

What antimalarial medications can be used during pregnancy?

No specific birth defects have been associated with malaria prevention medications. However, with some of the medications, there is not enough experience with use in pregnancy to know for sure. For travelers to areas where malaria is found, chloroquine is generally the drug of choice for malaria prevention during pregnancy. If this medicine is known not to work in that region, then mefloquine is typically used.

- Chloroquine: The majority of studies on the use of chloroquine during pregnancy have not shown an increase in the risk for birth defects. Based on current available research, it is unlikely that the amount of chloroquine recommended for malaria prevention poses a significant risk to the developing fetus.
- Hydroxychloroquine is a medication which is very similar to chloroquine. Hydroxychloroquine is not as well-studied as

chloroquine, however. Based upon the limited information available, hydroxychloroquine use during pregnancy is not thought to pose a significant risk to the developing fetus.

- Mefloquine is the medication of choice for malaria prevention when a pregnant woman is traveling to an area where chloroquine is not effective. Mefloquine use has been studied in pregnant women, and it does not appear to be associated with an increase in the risk for birth defects. One study did show an increased risk of stillbirth when compared with pregnant women taking quinine; it is important to know, however, that an increased risk of stillbirth has not been identified in any other study. Data from the CDC indicates that mefloquine use during the second and third trimesters of pregnancy is not associated with adverse fetal or pregnancy outcomes, and limited data from other sources suggest it is unlikely to cause birth defects in the first trimester.

Do any antimalarial medications cause birth defects or pregnancy complications?

The medications below are currently not recommended for use during pregnancy either because of a lack of pregnancy data, or due to concerns regarding their possible adverse effects on a pregnancy. This list may change over time, as additional research is completed.

- Malarone is an antimalarial medication composed of proguanil and atovaquone. There is limited information on the use of these medications separately or in combination during pregnancy; therefore, the CDC does not recommend this medication be used for malaria prevention in pregnant women.
- Doxycycline is an antimalarial medication not recommended for malaria prevention during pregnancy. Doxycycline is chemically similar to tetracycline, a drug which has been associated with adverse effects such as staining of the baby's teeth and decreased bone growth when used during certain stages of pregnancy. For more information, please see the MotherToBaby factsheet on tetracycline at <https://mothertobaby.org/fact-sheets/tetracycline-pregnancy/>.

Can I breastfeed my baby while taking antimalarial medications?

Breastfeeding has many benefits for a growing baby, and any concerns you have regarding medication use while breastfeeding should be addressed with your healthcare provider and your baby's pediatrician. That said, small amounts of antimalarial medications may enter the breast milk, but this exposure is not expected to result in adverse effects on the baby. The amount of medicine in the breast milk does not provide protection from malaria for the breastfeeding infant, and infants who will be traveling to regions where malaria is present should receive their own malaria prevention medication. Primaquine is generally not prescribed to a woman who is breastfeeding unless her baby has been tested for G6PD deficiency. Malarone is generally not prescribed to a nursing mother until her baby weighs more than 11 pounds (5 kg). Be sure to talk to your health care provider about all your choices for breastfeeding.

What if the father of the baby uses antimalarial medication?

In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet on Paternal Exposures at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

References Available By Request

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