



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

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

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## Carbamazepine

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 carbamazepine may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

### ***What is carbamazepine?***

Carbamazepine is a medication used to control seizures in the treatment of epilepsy. It is also used to treat bipolar affective disorder, schizophrenia, trigeminal neuralgia and other specific pain disorders. A common brand name for carbamazepine is Tegretol®.

### ***I have been taking carbamazepine for many years. Can this affect my ability to get pregnant?***

Studies have found that the long-term use of seizure medications in women with seizure disorders is associated with menstrual irregularities and difficulty getting pregnant (infertility).

### ***I am taking carbamazepine, but I would like to stop taking it before becoming pregnant. How long does carbamazepine stay in your body?***

Each person's ability to break down the medication may be different. When you first start to take carbamazepine, your body breaks it down more slowly than when there has been long-term use. After starting to take carbamazepine, it may take 5-14 days to clear your body. After long-term treatment, most of the carbamazepine should be gone from your body 3-5 days after the last dose.

Pregnant women should not change their medications during pregnancy without talking to a health care provider. Having a seizure while pregnant may be harmful to the baby. Women with bipolar disorder who stop taking medication during their pregnancy may be at an increased risk for episodes of depression or mania that could be harmful to both the mother and the baby.

If possible, women with seizure disorders or bipolar disorder who could become pregnant should discuss their options for treatment, including medications, with their health care provider before becoming pregnant.

### ***Can taking carbamazepine during my pregnancy cause birth defect?***

Studies looking at women who have taken carbamazepine during the first trimester of pregnancy have found a 1% risk of neural tube defects (an opening in the baby's spine or brain), which occur early in pregnancy. The most common neural tube defect is spina bifida. The general population's risk for having a baby with a neural tube defect, such as spina bifida (an opening in the spine or brain), is 0.1% (1/1000 births). Other studies have reported a 2 to 3 times increased risk for major birth defects, such as heart defects and cleft lip in women who are taking carbamazepine.

Also, some studies have suggested an increase in minor birth defects such as a small nose with a long space between the nose and upper lip, and small finger and toenails. Other studies have reported an increased chance of growth issues and small head size.

Folic acid, a B vitamin, has been found to reduce the risk for neural tube defects and possibly other structural birth defects. Because women taking carbamazepine have a higher risk of having a baby with a neural tube defect, healthcare providers recommended that all women taking carbamazepine take a total of 4-5mg of folic acid before and during pregnancy. This may help reduce the risk of birth defects in pregnancies exposed to carbamazepine.

### ***Can taking carbamazepine during pregnancy effect my baby's development?***

Researchers are just beginning to look at the development of children who have been exposed to carbamazepine during pregnancy. Some studies have found a small increased chance for developmental delays. Other studies have found no differences in development. More studies are needed before we can be sure of the long-term effects of carbamazepine.

### ***I have been taking carbamazepine for the last few years and I just found out I am pregnant. What tests are available to see if my baby has spina bifida or other birth defects?***

Prenatal testing for neural tube defects is available in pregnancy. A blood test can be done to measure the amount of a substance called alpha fetoprotein (AFP) in the mother's blood. Babies with spina bifida have higher levels of AFP. If the AFP is higher than usual, more testing may be offered to see if the baby has birth defects.

An ultrasound that looks at the baby's spine may also detect spina bifida. Ultrasounds can also often detect other structural birth defects like a heart defect or cleft lip. There are no tests that can tell if there has been any effect on behavior or ability to learn. All of these options can be discussed with your health care provider.

### ***What could happen to my baby if I stopped taking my carbamazepine and then had a seizure during my pregnancy?***

About 1 in 3 women with epilepsy experiences an increase in frequency of seizures during pregnancy. Problems for the mother and fetus depend on how often she has a seizure and how long they last. Epileptic seizures and convulsions could cause a lack of oxygen in their blood. This could potentially lead to brain damage and developmental issues for the child, or could be life-threatening. In addition, a seizure could cause the mother to fall and physically injure herself and her fetus.

### ***Should I stop taking carbamazepine during my pregnancy?***

In order to receive the most thorough care during pregnancy, you should contact your health care providers before becoming pregnant to discuss making any changes to your medication or stopping use any time during pregnancy. The benefits of taking carbamazepine for your specific situation must be weighed against the possible risks to the developing baby.

### ***Are there any other concerns with carbamazepine use during pregnancy?***

Rarely, maternal use of carbamazepine during pregnancy has been associated with bleeding problems in the newborn due to low vitamin K levels. It is recommended that women taking these medications receive vitamin K supplements in the last month of pregnancy and that their infants receive vitamin K supplement at birth. Women taking carbamazepine in pregnancy should discuss this with their healthcare provider and their child's pediatrician before delivery.

### ***Can I take carbamazepine while breastfeeding?***

Carbamazepine passes into breast milk. However, the amount of carbamazepine found in an infant's blood is low and does not build up over time. The World Health Organization considers carbamazepine compatible with breastfeeding. Be sure to talk to your health care provider about all your choices for breastfeeding.

### ***What if the father takes carbamazepine?***

One small animal study and a couple small human studies have suggested that carbamazepine might affect sperm development, but the studies did not look at whether or not this went on to cause problems getting a woman pregnant. More studies are needed to know if men who take carbamazepine have a harder time getting their partners pregnant. In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures and Pregnancy at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

**References Available By Request.**

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