



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

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

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## Beta Blockers

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 beta-blockers 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 are beta blockers?***

Beta-blockers are a large group of medications that can be used to treat a variety of conditions like high blood pressure, heart conditions, glaucoma, overactive thyroid problems, and anxiety. Beta blockers work by slowing the heart rate and opening up blood vessels to improve blood flow. Some common examples of beta-blockers include: atenolol (Tenormin®), carvedilol (Coreg®), labetalol (Trandate® and Normodyne®), metoprolol (Lopressor® and Toprol®), nadolol (Corgard®), propranolol (Inderal®) and timolol ophthalmic solution (Timoptic®).

Since this is a large group of different medications that can be used to treat different problems, it is very important to discuss the specifics of your health condition and the particular medication that is being used for treatment with your health care provider.

### ***How long do beta-blockers stay in the body? Should I stop taking it before I try to get pregnant?***

Some of the beta-blocker medications are cleared from the body faster than others. The amount of time will vary with each particular medication and might also vary from person to person. Your health care provider or pharmacist may be able to help answer how long it takes for your particular beta-blocker medication to be cleared from your body. You should not stop taking any medication without first talking with your health care provider.

### ***Can the use of beta blockers cause a miscarriage?***

No. Studies looking at the use of beta blockers in the first trimester of pregnancy have not identified an increased risk of miscarriage.

### ***Can taking beta blockers in the first trimester cause a birth defect?***

Although several of these medicines have been in use for a long time, the number of pregnancies studied for each individual medicine is still small. However, studies on the use of beta blockers during the first trimester of pregnancy have NOT identified a related pattern of birth defects.

You should talk further with your health care provider about your specific medicine because even though beta blockers work in similar ways, there are differences among them and pregnancy risks may not be the same.

### ***Can taking beta blockers cause other pregnancy complications?***

Possibly. Some beta blockers have been associated with reduced growth of the baby. However, it is not clear if this is due to the maternal medical condition like high blood pressure or the medicine or a combination of both.

### ***Can taking beta blockers near delivery cause problems for the baby?***

There have been a few reports of oral beta-blockers leading to an infant having temporary symptoms of beta-blockade. Beta-blockade describes symptoms related to the direct action of the beta blocker. Symptoms that have infrequently been reported in the newborn can include slowed heart rate (bradycardia), low blood sugar, and breathing difficulty.

### ***I am breastfeeding, can I take my beta-blocker?***

The amount of beta blockers that are found in breastmilk varies based on the particular medicine. Some concern has

been raised about the use of atenolol in breastfeeding because atenolol may enter breastmilk in fairly high amounts. Because similar concerns exist for nadolol, other beta blocking agents may be preferred.

Propranolol, labetalol, and metoprolol have been found in only small amounts in breastmilk.

Be sure to talk to your health care provider about all your choices for breastfeeding.

### ***What if the father of the baby takes a beta blocker?***

In one study of propranolol, semen samples from men showed reduced sperm motility. It is not clear if this would increase the chance for difficulty in getting 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 (<https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/>).

### **References:**

- Davis RL, et al. 2011. Risks of congenital malformations and perinatal events among infants exposed to calcium channel and beta-blockers during pregnancy. *Pharmacoepidemiol Drug Saf.*;20(2):138-45.
- Firoz T, et al. 2014. Community Level Interventions for Pre-eclampsia (CLIP) Working Group. Oral antihypertensive therapy for severe hypertension in pregnancy and postpartum: a systematic review. *BJOG.* 121(10):1210-8.
- Ruys TP, et al. 2014. Cardiac medication during pregnancy, data from the ROPAC. *Int J Cardiol.* 15;177(1):124-8.
- Semczuk M. 1987. The effects of beta-adrenergic drugs on the human sperm motility in vitro. I. The effects of propranolol and isoprenaline. *Andrologia.* 19 Spec No:256-61.
- Xie RH, et al. 2014. Association between labetalol use for hypertension in pregnancy and adverse infant outcomes. *Eur J Obstet Gynecol Reprod Biol.* 175:124-8.
- Xie RH, et al. 2014. Beta-blockers increase the risk of being born small for gestational age or of being institutionalised during infancy. *BJOG.* 121(9):1090-6.

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