



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

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

For more information about us or to find a service in your area,  
call **(866) 626-6847**. Visit us online at **www.MotherToBaby.org**.

Find us! Facebook.com/MotherToBaby or @MotherToBaby on Twitter

## Atenolol (Tenormin®)

This sheet talks about exposure to atenolol in a pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

### ***What is atenolol?***

Atenolol is a drug known as a beta-blocker. A brand name for this drug is Tenormin®. Atenolol is also available in combination with the diuretic drug chlorthalidone (Tenoretic®). Atenolol is used to treat high blood pressure, chest pain (angina), and rhythm issues with the heart (arrhythmias). It is also used to treat, prevent, and improve survival after a heart attack. MotherToBaby has a general fact sheet on beta-blockers, which can be found at: <https://mothertobaby.org/fact-sheets/beta-blockers/pdf/>.

### ***I take atenolol. Should I stop taking it before I get pregnant?***

You should not stop taking this medication abruptly. Talk with your healthcare provider about this medication if you are planning a pregnancy or have found out that you are pregnant. It will be important to discuss the best way to treat your medical condition during pregnancy.

### ***Does taking atenolol increase the chance for a miscarriage?***

Miscarriage can occur in any pregnancy. Studies have not been done on pregnant women to see if atenolol might increase the chance for miscarriage if used in early pregnancy.

### ***Does taking atenolol in the first trimester increase the chance of birth defects?***

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. There is not enough information available to know if first trimester use of atenolol could increase the chance of having a baby with a birth defect. Atenolol did not cause birth defects when given to animals early in pregnancy. The small number of available studies on beta-blockers used in pregnancy, in general, did not find a higher chance for birth defects.

### ***Can taking atenolol cause other pregnancy complications?***

Atenolol has been associated with reduced growth of the baby (smaller in size and/or low birth weight). It is not clear if this happens because of the atenolol, the health condition that the atenolol is used for, or both. One study did find that atenolol can directly affect blood flow through the placenta, which might be associated with poor growth of the baby.

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

Atenolol use in late pregnancy may cause the newborn baby to have a slowed heart rate and low blood sugar. In the case reports noting these symptoms, the newborns got better in a couple days without treatment. It is not known how often this would happen, but it is not expected to occur in all babies.

### ***Can I breastfeed while taking atenolol?***

Maybe. Talk with your healthcare provider about this medication if you plan to breastfeed. Atenolol can get into breast milk in amounts that can affect the baby. There is a case report of a baby that experienced a slow heart rate, low blood pressure, and low body temperature after being exposed to this medication via breast milk.

Babies that are born prematurely (before 37 weeks) or those that have kidney disease might be more sensitive to this medication in breastmilk. If you are worried about any symptoms the baby has contact the child's healthcare

provider. Talk to your healthcare provider about all of your breastfeeding questions.

### ***What if the father of the baby takes atenolol?***

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/pdf/>.

### **Selected References:**

- Bayliss H, et al. 2002. Anti-hypertensive drugs in pregnancy and fetal growth: evidence for “pharmacological programming” in the first trimester? *Hypertens Pregnancy*; 21:161-74.
- Caton AR, et al. 2009. Antihypertensive medication use during pregnancy and the risk of cardiovascular malformations. *Hypertension*; 54(1):63-70.
- Easterling TR, et al. 1999. Prevention of preeclampsia: a randomized trial of atenolol in hyperdynamic patients before onset of hypertension. *Obstet Gynecol*; 93(5 Pt 1):725-733.
- Eyal S, et al. 2010. Atenolol pharmacokinetics and excretion in breast milk during the first 6 to 8 months postpartum. *J Clin Pharmacol*; 50:1301-9.
- Lip GY, et al. 1997. Effect of atenolol on birth weight. *Am J Cardiol*; 79: 1436-8.
- Lwin EMP, et al. 2018. Estimation of atenolol transfer into milk and infant exposure during its use in lactating women. *J Hum Lact*; 34(3):592-599.
- Lydakis C, et al. 1999. Atenolol and fetal growth in pregnancies complicated by hypertension. *Am J Hypertens*; 12:541-7.
- Montan S, et al. 1987. Fetal and uteroplacental haemodynamics during short term atenolol treatment of hypertension in pregnancy. *Br J Obstet Gynaecol*; 94:312-317.
- Orbach H, et al. 2013. Hypertension and antihypertensive drugs in pregnancy and perinatal outcomes. *Am J Obstet Gynecol*; 208(4): 301.e1-301.e6.
- Räsänen J, Jouppila P. 1995. Uterine and fetal hemodynamics and fetal cardiac function after atenolol and pindolol infusion. A randomized study. *Eur J Obstet Gynecol Reprod Biol*; 62:195-201.
- Reynolds B, et al. 1984. First year of life after the use of atenolol in pregnancy associated with hypertension. *Arch Dis Child*; 59(11):1061-1063.
- Rubin PC, et al. 1983. Placebo-controlled trial of atenolol in treatment of pregnancy-associated hypertension. *Lancet*; 1:431-4.
- Rubin PC, et al. 1984. Obstetric aspects of the use in pregnancy-associated hypertension of the beta-adrenoceptor antagonist atenolol. *Am J Obstet Gynecol*; 150:389-92.
- Schimmel MS, et al. 1989. Toxic effect of atenolol consumed during breast feeding. *J Pediatrics*; 114:476-8.
- Tabacova S, et al. 2003. Atenolol developmental toxicity: animal-to-human comparisons. *Birth Defects Res*; 67:181-92.
- Tanaka K, 2016. Beta-blockers and fetal growth restriction in pregnant women with cardiovascular disease. *Circ J*. 80(10): 2221-6.
- Thorley KJ, McAnish J. 1983. Levels of the beta-blockers atenolol and propranolol in the breast milk of women treated for hypertension in pregnancy. *Biopharm Drug Dispos*; 4:229-301.
- White WB, et al. 1984. Atenolol in human plasma and breast milk. *Obstet Gynecol*; 63 (S1):42-44.

**August, 2018**