MotherToBaby
Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet
by the Organization of Teratology Information Specialists (OTIS)
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ACE Inhibitors

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 ACE Inhibitors 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 an ACE Inhibitor?

Angiotensin-converting-enzyme inhibitor (ACE Inhibitor) is the name used to describe a group of medications used to treat high blood pressure. They have also been used for treating problems with the heart and kidneys.

ACE Inhibitors are sold under many names, such as: benazepril (Lotensin®), captopril (Capoten®), cilazapril (Inhibace®), enalapril (Vasotec ®, Renitec®), fosinopril, imidapril (Tanatril®), lisinopril (Listril®, Lopril®, Novatec®, Prinivil®, Zestril®), moexipril (Univasc®), perindopril (Aceon®), quinapril (Accupril®), ramipril (Altace®, Prilace®, Ramace®, Ramiwin®, Triatec®, Tritace®), trandolapril (Gopten®, Mavik®, Odrik®) and zofenopril.

How long do ace inhibitors stay in the body? Should I stop taking it before I try to get pregnant?

Some of the ACE inhibitor 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. Kidney disease can affect the amount of time it takes for your body to clear medication. Your health care provider or pharmacist may be able to help answer how long it takes for your particular ACE inhibitor medication to be cleared from your body.

You should not stop taking any medication without first talking with your health care provider. It is important to maintain a healthy blood pressure. ACE inhibitors are generally avoided during pregnancy unless no other medication would be effective for a severe condition. Your health care provider will work with you to determine the most appropriate way to treat your blood pressure during pregnancy.

Can taking ACE Inhibitors during my pregnancy cause birth defects?

Currently, there is no proven risk of birth defects with first trimester use of ACE Inhibitors. The majority of studies have not found birth defects to occur more frequently in women who took or were prescribed an ACE Inhibitor in the first trimester of pregnancy. It is difficult to study medications as a group because even though the ACE inhibitors work in similar ways there are some differences among them. When drugs are studied as a group, differences for individual drugs could be missed. Also, problems reported in studies may be related to high blood pressure itself, and might not be due to the medication.

Can taking ACE inhibitors after the first trimester cause pregnancy complications?

Yes. ACE Inhibitors should be avoided during the second and third trimester of pregnancy. When used AFTER the first trimester, ACE Inhibitors can cause low levels of amniotic fluid. Amniotic fluid surrounds the baby. Low levels of amniotic fluid can lead to health problems for the developing baby. Some of these problems include poor lung development, poor growth, poor development of the skull bones, birth defects, problems with the development of the kidneys and even death of the developing baby.

I take an ACE inhibitor for high blood pressure and just found out that I am pregnant. What tests can be done to check the baby?

If you took an ACE inhibitor during the first trimester, a detailed ultrasound to look at the unborn baby's

organs can be done in the second trimester. If you took an ACE inhibitor after the first trimester, repeated ultrasound scans to look for low fluid around the pregnancy and to monitor the growth of the baby will likely be offered. Your health care provider can help to arrange any monitoring appropriate for you.

Can high blood pressure during my pregnancy cause problems?

Yes. High blood pressure that started before pregnancy or before the 20th week of pregnancy can cause slow growth, low birth weight, or premature delivery (birth before 37 weeks). Some women develop elevated blood pressure after the 20th week of pregnancy (known as preeclampsia). Treatment depends on how high the blood pressure is and should be discussed further with your health care provider.

Can I take ACE Inhibitors while breastfeeding?

There is not a lot of information available about breastfeeding while taking ACE Inhibitors. Only a small amount of Captopril and Enalapril enter breast milk, which means that only a small amount of these is expected to reach a nursing infant. Be sure to talk to your health care provider about your specific medicine and all your choices for breastfeeding.

What if the father of the baby takes ACE Inhibitors?

There are no reports of male infertility while using ACE inhibitors. There is no evidence to suggest that a father's use of an ACE Inhibitor causes any birth defects. 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/pdf/.

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