



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

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

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## E-cigarettes

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 e-cigarettes 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 professional.

### ***What are e-cigarettes?***

Electronic cigarettes, or e-cigarettes, provide another way to deliver nicotine into your body. E-cigarettes are battery operated devices that heat and vaporize a nicotine solution that you inhale, just like you would inhale tobacco smoke from a traditional cigarette. Using e-cigarettes is sometimes referred to as “vaping.”

The nicotine solution in e-cigarettes also includes other chemicals and additives like propylene glycol, ethylene glycol, polyethylene glycol, and/or glycerol. Artificial flavorings may be added. Liquid cartridges without nicotine are also marketed.

### ***How does the nicotine level in e-cigarettes compare to traditional cigarettes?***

It is not clear. E-cigarettes are largely unregulated, so the nicotine dose varies widely and may not match what the label says. Nicotine has been found in e-cigarettes labeled as not having nicotine, and some e-cigarettes reported to have nicotine do not. It is possible that someone could receive a higher nicotine dose with e-cigarettes compared to traditional cigarettes.

While e-cigarettes may have less cancer causing contaminants than traditional cigarettes, they may still include a number of contaminants that could pose a risk to both the health of the person using the e-cigarette and a pregnancy.

For these reasons, plus a lack of studies showing effectiveness, use of e-cigarettes is not a recommended method to stop smoking during pregnancy. Our fact sheet on tobacco cigarettes can be found at <https://mothertobaby.org/fact-sheets/cigarette-smoking-pregnancy/pdf/>.

### ***Can use of e-cigarettes during pregnancy cause a miscarriage?***

There are no published studies that can answer this question. Studies on traditional cigarettes that include nicotine have found an increase in the risk of miscarriage.

### ***Can use of e-cigarettes during pregnancy cause birth defects?***

There are no published studies that can answer this question. Traditional cigarettes that include nicotine may pose a small increase in the risk for oral clefts (a split in the lip or roof of the mouth that usually requires surgery). This risk has not been proven.

### ***Can the use of e-cigarettes cause other problems during pregnancy?***

There are no published studies that can answer this question. However, both animal studies with nicotine and studies with traditional cigarettes with nicotine find reduced fetal growth, which is suspected to be due to decreased blood flow to the uterus.

### ***Can use of e-cigarettes during pregnancy cause later learning problems for the baby?***

There are no published studies that can answer this question. Some studies have linked traditional cigarettes with nicotine to higher chances for attention deficit disorder and learning disabilities. This has not been proven, however.

***Are there any resources or medical treatments available to help me to quit e-cigarettes and tobacco cigarettes during my pregnancy?***

Yes. You should talk with your health care provider regarding your desire to quit. You can also find free advice, support and referrals, with the Smoker's Quitline at 1-800-QUIT-NOW (1-800-784-8669) from anywhere in the U.S. While these resources focus on tobacco cigarettes, nicotine is the addictive chemical in both e-cigarettes and tobacco cigarettes, so they can still provide help regarding e-cigarettes.

***Can I use e-cigarettes when I am breastfeeding?***

There is no information yet to answer this question. The best and safest approach is to not use e-cigarettes while breastfeeding. Nicotine does pass into breast milk. Studies have shown that infant heart rate and blood pressure changes have been associated with increased nicotine concentrations in milk. Be sure to talk to your health care provider about all your breastfeeding questions.

***Is there a concern if my partner is using e-cigarettes?***

There is no information to answer this question. Men who smoke traditional cigarettes with nicotine may have lower sperm counts, as well as abnormal shape and movement of sperm, which may make becoming pregnant more difficult. It is not known if second hand exposure to e-cigarettes poses a risk to your pregnancy. Studies are unclear about the level of exposure using e-cigarettes provides to a nearby person. 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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