

E-cigarettes (Vaping)

This sheet is about exposure to e-cigarettes in pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

What are e-cigarettes?

Electronic cigarettes, or e-cigarettes, are battery operated devices that heat a liquid solution into an aerosol (a fine spray) that you inhale (breath in), like you would inhale tobacco smoke from a traditional cigarette. E-cigarettes are known by many different names. They are sometimes called “e-cigs,” “e-hookahs,” “mods,” “vape pens,” “vapes,” “tank systems,” and “electronic nicotine delivery systems (ENDS).” Using e-cigarettes is sometimes referred to as “vaping.”

The solutions in e-cigarettes can include chemicals such as nicotine, propylene glycol, ethylene glycol, polyethylene glycol, diacetyl, and/or glycerol; and heavy metals such as nickel, tin, and/or lead. Artificial flavorings might also be added. E-cigarettes might also have contaminants that could pose a risk to both the health of the person using the e-cigarette and a pregnancy.

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.

E-cigarettes are promoted as a quit smoking-aid, but studies have not shown them to be effective. For this reason, plus uncertainty about the ingredients, the use of e-cigarettes is not recommended during pregnancy. Our fact sheet on tobacco cigarettes can be found at <https://mothertobaby.org/fact-sheets/cigarette-smoking-pregnancy/>.

I use e-cigarettes. Can they make it harder for me to get pregnant?

It is not known if e-cigarettes can make it harder to get pregnant.

Does using e-cigarettes increase the chance for miscarriage?

Miscarriage can occur in any pregnancy. Studies have not been done to see if e-cigarettes increase the chance for miscarriage. Studies on traditional cigarettes that include nicotine have found an increase in the chance of miscarriage.

Does using e-cigarettes increase the chance of birth defects?

Every pregnancy starts out with a 3-5% chance of having a birth defect. This is called the background risk. Studies have not been done to see if e-cigarettes increase the chance for birth defects. Traditional cigarettes that have nicotine might increase the chance for oral clefts (a split in the lip or roof of the mouth that usually requires surgery).

Does the use of e-cigarettes in pregnancy increase the chance of other pregnancy related problems?

Animal studies have shown that use of e-cigarettes that have nicotine during pregnancy can cause poor growth in the developing baby. These studies also found that that blood flow to the baby was decreased when e-cigarettes that have nicotine were used. The lower blood flow might be the reason for the poor growth in the developing baby.

Studies in humans have also shown that people who used e-cigarettes during their pregnancy had a higher chance of giving birth to babies with poor growth (smaller than expected). This poor growth is sometimes called “small for gestational age”. One study also looked at lung development in the baby and found that e-cigarette use during pregnancy might be associated with a change to the baby’s lungs.

There are only a few studies that look at e-cigarette use while pregnant. The information is limited because not all e-cigarettes are the same and many have different ingredients. While we sometimes have information about individual ingredients, we often do not have information on the effect of those ingredients in combination. It is not clear how

these different ingredients can impact the pregnancy or the baby.

Does using e-cigarettes in pregnancy affect future behavior or learning for the child?

At this time, there is only one study on the behavioral effects in infants of people who used e-cigarettes during pregnancy. During the one month check-up, the study reported more irritability in infants of individuals who used e-cigarettes while pregnant compared to those who did not smoke. Some studies have linked traditional cigarettes with nicotine to higher chances for attention deficit disorder and learning disabilities

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

Talk with your healthcare provider about your thoughts on quitting. There is also 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.

Breastfeeding while using e-cigarettes:

E-cigarette use during breastfeeding has not been studied. 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 healthcare provider about all of your breastfeeding questions.

If a male uses e-cigarettes, could it affect fertility (ability to get partner pregnant) or increase the chance of birth defects?

Only one study exists to see if the use of e-cigarettes by fathers or sperm donors could increase risks to a pregnancy. Fathers or sperm donors who smoke traditional cigarettes with nicotine can have lower sperm counts, as well as abnormal shape and movement of sperm, which may make becoming pregnant more difficult. It is not yet known if second hand exposure to e-cigarettes poses a risk to your pregnancy or the baby after birth. 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 at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

Please click here for references.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [MotherToBaby.org](https://mothertobaby.org).

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