E-cigarettes (Vaping)

This sheet is about exposure to e-cigarettes in pregnancy and while breastfeeding. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare providers.

What are e-cigarettes?

Electronic cigarettes, or e-cigarettes, are battery-operated devices that heat a liquid solution into a fine spray (aerosol) that you inhale (breathe in), like you would inhale tobacco smoke from a traditional cigarette. E-cigarettes are known by many different names, such as “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 can contain contaminants that could pose a risk to both the health of the woman using the e-cigarette and a pregnancy.

Using e-cigarettes during pregnancy is not recommended. There are only a few studies on e-cigarette use during pregnancy. Because e-cigarettes vary in ingredients and those ingredients are often not studied together, their combined effects on a pregnancy are unclear.

Is the level of nicotine in e-cigarettes the same as traditional cigarettes?

It is not clear how much nicotine is in e-cigarettes because they are not well regulated. Some products are mislabeled, with some stating they contain no nicotine when they do, and others claim to contain nicotine when they do not. Some e-cigarettes may even contain more nicotine than regular cigarettes. Although they are marketed as a way to help people quit smoking, studies have not shown that they are effective for quitting. Using e-cigarettes during pregnancy to quit smoking is not recommended. Our fact sheet on traditional 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 using e-cigarettes can make it harder to get pregnant. One study found that smoking, including the use of e-cigarettes, may lower the chances of pregnancy in women who are already receiving fertility treatments. In other studies use of e-cigarettes did not affect fertility treatment success. Animal studies show that nicotine and some of the flavoring ingredients found in e-cigarettes can lead to changes in the ovaries, which may affect fertility (ability to get pregnant).

Does using e-cigarettes increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. It is not known if using e-cigarettes can increase the chance of miscarriage. One study found an increased chance of miscarriage in women who used e-cigarettes during pregnancy. Two other studies did not find an increased chance. Studies on traditional cigarette smoking, which contains nicotine, have shown an increased chance of miscarriage.

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

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like e-cigarettes, might increase the chance of birth defects in a pregnancy.

It is not known if using e-cigarettes can increase the chance of birth defects. Traditional cigarettes that have nicotine might increase the chance for cleft lip and/or palate (an opening in the upper lip and/or roof of the mouth), and problems with the respiratory and digestive systems.

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

The use of e-cigarettes during pregnancy can increase the chance of preterm delivery (birth before week 37 of

pregnancy) and low birth weight (weighing less than 5 pounds, 8 ounces [2,500 grams] at birth). A baby born preterm has a higher chance for health problems and might need to stay in the hospital longer. Low birth weight can also make it harder for the baby to recover from serious health problems. One study has suggested that using e-cigarettes before pregnancy may also increase the chance of gestational hypertension (high blood pressure during pregnancy).

If I use e-cigarettes in pregnancy, will it cause withdrawal symptoms in my baby after birth?

It is not known if using e-cigarettes during pregnancy can increase the chance of withdrawal symptoms. There are reports of babies exposed to e-cigarettes who had nicotine withdrawal symptoms such as irritability, increased muscle tone (stiff muscles), and muscle tremors. These symptoms usually do not last long and can be treated, if needed. It is important that your healthcare providers know your history of exposure to e-cigarettes so that if symptoms occur your baby can get the care that is best for them.

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

It is not known if the use of e-cigarettes can increase the chance of learning or behavior issues for a child. Some studies have found that smoking traditional cigarettes with nicotine during pregnancy is linked to learning and behavior problems in children who were exposed before birth.

What screenings or tests are available to see if my pregnancy has birth defects or other issues?

Ultrasound can be used to detect some birth defects and watch the growth of the fetus. Talk with your healthcare provider about any prenatal screenings or testing that are available to you. There are no tests available during pregnancy that can tell how much effect there could be on future behavior or learning.

What resources or treatments are available to help me quit e-cigarettes and tobacco cigarettes during pregnancy?

Talk with your healthcare provider about quitting. There is also free advice, support, and referrals with the Smoker's Quitline at 1-800-QUIT-NOW (1-800-784-8669). 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 with e-cigarettes.

Breastfeeding while using e-cigarettes:

The use of e-cigarettes is not recommended while breastfeeding. Nicotine passes into breast milk. Studies have shown that nicotine in breastmilk can cause problems with the infants' heart rate and blood pressure. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man uses e-cigarettes, could it affect fertility or increase the chance of birth defects?

The use of e-cigarettes can lower the number of sperm, which may affect fertility (ability to make healthy sperm). It is not known if e-cigarette use could increase the chance of birth defects. In general, exposures that fathers or sperm donors have are less likely to increase risks to a pregnancy. 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.

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