



Vaping and e-cigarettes during pregnancy and breastfeeding

It is well known that smoking cigarettes in pregnancy is harmful to the developing baby and may affect their health well into adulthood. For more information see the fact sheet *Cigarettes and tobacco*.

What are e-cigarettes?

E-cigarettes are battery-operated devices that are used to heat a liquid to produce a vapour, which is then inhaled – mimicking the act of smoking. This is often referred to as ‘vaping’.

E-cigarettes are most commonly used to vape nicotine liquid solutions. Devices can also be used to inhale other drugs such as THC (cannabis) or nicotine-free ‘e-liquids’ which can be made from a mixture of chemicals including solvents, sweeteners, and flavourings such as fruit, lollies, coffee or alcohol.

How are they used?

People use e-cigarettes for various reasons:

- To help reduce or quit smoking.
- They believe e-cigarettes are less harmful than traditional cigarettes.
- E-cigarettes can sometimes be cheaper than traditional cigarettes.
- E-cigarettes potentially taste better than traditional cigarettes.
- They are able to vape in places where traditional cigarettes are banned.
- Out of curiosity.
- It is seen by some as more acceptable than traditional cigarettes.

Do they help people quit smoking?

There is not yet enough evidence to promote the use of e-cigarettes to help you stop smoking. The Therapeutic Goods Administration (TGA) is yet to approve e-cigarettes as a quit smoking tool.

While switching to vaping may help some people quit smoking traditional cigarettes, there is concern that smokers may become dual users of both e-cigarettes and tobacco cigarettes. This is especially worrying in pregnancy as the baby is receiving nicotine from both the e-cigarettes and tobacco.

Are they safer than traditional cigarettes in pregnancy?

Tobacco in traditional cigarettes contain a number of toxic, cancer causing chemicals, including carbon monoxide. As e-cigarettes are tobacco free many believe they pose less of a risk; they are, however, not harmless.

We don't know a lot about e-cigarettes because they have not been used for very long. There is some evidence that e-cigarettes smoked during pregnancy may affect the developing baby in a similar way to tobacco.

- Nicotine from e-cigarettes passes easily from the mother to the baby via the placenta in the same way when tobacco is smoked.
- E-cigarettes may produce aerosols (a fine spray) that contain a number of harmful by-products such as formaldehyde and trace metals. These may be harmful to your baby.
- In some animal studies where mothers have been exposed to e-cigarettes, babies receive up to 40 percent less oxygen and there were changes in the development of major organs in the fetus leading to heart and lung problems.

Other things to consider:

- E-cigarettes can vary quite significantly in their quality. Differences in product design and individual smoking patterns make it difficult to determine the potential level of nicotine toxicity in each device or liquid.
- Vaping devices can be modified to deliver a higher, more harmful concentration of nicotine and may produce more toxic chemical particles in the inhaled vape cloud.

Do they contain other harmful chemicals?

With or without nicotine, all e-liquid solutions used in vaping contain a mixture of unregulated and harmful chemicals and additives.

The two main ingredients used in all e-liquids are propylene glycol and vegetable glycerin, which are considered safe in certain food products. However, the health consequences of repeatedly heating and inhaling these chemicals into the lungs is relatively unknown, with some evidence suggesting there is potential to cause harm.

E-cigarettes may also contain toxins such as formaldehyde, and heavy metals such as chromium, aluminium, arsenic, copper, lead, nickel and tin – all of which cause adverse health effects, including cancer. Other chemicals found include volatile organic compounds (common in paint and cleaning products), ultrafine particles (which are damaging to lungs), 2-chlorophenol (used in disinfectants) and other carcinogens.

Nicotine labelling on e-cigarettes can also be inconsistent, with some labels incorrectly denying the presence of nicotine and other potentially toxic chemicals. In Australia it is currently illegal to sell e-cigarettes that contain nicotine. It is also illegal to possess e-cigarettes without a prescription everywhere except South Australia.

Counselling in pregnancy

Pregnancy is a good motivator to reduce or stop smoking including e-cigarettes. Counselling may assist you to:

- explore personal issues and make positive changes
- learn new ways to manage stress
- recognise situations and triggers which may increase your tobacco or e-cigarette use
- develop strategies to reduce or stop smoking

- be linked with good support services
- access information about harm minimisation, in order to reduce the harm to yourself and your pregnancy
- encourage your partner to consider quitting.

QUIT is a government initiative to provide support while you stop or reduce smoking. Contact details are below.

Pregnancy care

Before you get pregnant or when you know you are pregnant, you can get help from a health care provider to reduce or quit smoking e-cigarettes. Quitting without medication is best but if you are finding this difficult your health care provider may suggest nicotine replacement therapy (e.g., patches and gum). If your partner or other people in your house smoke, it is best for you and your baby if everyone stops smoking to support you.

You may need dietary supplements such as iron and calcium throughout your pregnancy. All women should take folate before conceiving and for at least the first three months of their pregnancy.

Nausea, vomiting and constipation is common during pregnancy. If you are worried, talk to your midwife or doctor about what you can do. They may refer you to a dietitian. Eating well during pregnancy and whilst you are breastfeeding is important for the health of you and your baby. Good dental care is important for all pregnant women.

Visit the Women's website for more information about a healthy pregnancy, diet and breastfeeding information.

Breastfeeding

Nicotine and other chemicals from e-cigarettes pass rapidly into breast milk and can interfere with your milk supply. When babies get doses of nicotine from breast milk and from passive smoking, they are more likely to get ear and lung infections, vomiting, diarrhoea and increased irritability.

Breastfeeding has a great number of advantages for you and your baby. Always breastfeed before smoking and try to avoid smoking for at least half an hour before breastfeeding.

Smoking safely

While it is not recommended to smoke, here are some suggestions to make it safer for your baby. If you or other members of your household smoke either tobacco or e-cigarettes, it is very important this is done outside and not around the baby. Make sure you wear a smoking jacket or cardigan that you can take off after smoking before going near the baby. Wash your hands, face and clean your teeth before holding your baby. This is because the smell of smoke on you and your clothes is similar to passive smoking for your baby and could damage your baby's lungs. Never smoke in the car.

Sudden Unexpected Death in Infancy (SUDI)

Sudden Unexpected Death in Infancy (SUDI; includes SIDS) is a sleep-related death in the first year of life.

If you smoke, use drugs, alcohol or medicines that make you feel drowsy, sleeping with your baby is very dangerous. Anything that makes you sleep deeply will make it hard for you to respond properly to your baby's needs and ensure their safety.

Safe Sleeping Guidelines

The six ways to sleep your baby safely and reduce the risk of Sudden Unexpected Death in Infancy (SUDI) are:

1. Sleep baby on their back
2. Keep head and face uncovered
3. Keep baby smoke free before and after birth
4. Safe sleeping environment night and day. No soft surfaces or bulky bedding
5. Sleep baby in safe cot in parents' room
6. Breastfeed baby.

For more information, speak with your midwife or doctor or visit rednose.com.au/section/safe-sleeping

For more information

Women's Alcohol and Drug Service

Royal Women's Hospital
8.30am–5.30pm Monday to Friday
(03) 8345 3931
wads@thewomens.org.au

On the Women's website

Pregnancy, drugs & alcohol information
thewomens.org.au/wm-pregnancy-drugs-alcohol

DirectLine

DirectLine is part of Turning Point's state-wide telephone service network, providing 24-hour, seven-day counselling, information and referral to alcohol and drug treatment and support services throughout Victoria.

DirectLine is a free, anonymous and confidential service.

1800 888 236

Quit

Visit this website to help you quit smoking or help you find out more about how smoking harms you.
137 848 | quit.org.au

Red Nose

1300 308 307 | rednose.com.au

References:

*Most of the general information in this fact sheet was obtained from the Australian Drug Foundation.
<https://adf.org.au/drug-facts/e-cigarettes/> Accessed December 2020

Orzabal, M., & Ramadoss, J. (2019). Impact of electronic cigarette aerosols on pregnancy and early development. *Current opinion in toxicology*, 14, 14-20.