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Vaping amongst young people



Australian surveys show vaping by young people has increased. Young people who vape nicotine are exposed to a toxic chemical that can harm adolescent brain development (the brain continues to develop until the age of 25) and lead to dependence. There is also some evidence that vaping nicotine is associated with later tobacco use among teenagers.

The increasing popularity of inhaling e-cigarettes, known as vaping, has led to questions and concerns around the health impacts – especially for young people. Both nicotine-based products and nicotine-free products can be vaped, and while the extent of the harm is not yet clear, evidence suggests that vaping is not risk-free.

This mini-bulletin has been developed to help parents, and those working with young people, understand the issues and potential risks of e-cigarette use – so they can have a constructive conversation with a young person that they may be concerned about.

What is vaping?

Vaping refers to the use of an electronic device (e-cigarette) to heat liquids and produce a vapour, which is then inhaled – mimicking the act of smoking.

The following substances can be vaped:

- Nicotine (which is the main psychoactive drug in tobacco).
- Nicotine-free 'e-liquids' made from a mixture of solvents, sweeteners, other chemicals and flavourings.
- Other drugs, e.g. THC (cannabis) e-liquids.

Vaping devices come in a variety of shapes, sizes, and styles:

The first generation of devices released in 2003 resembled cigarettes and were mostly disposable; second-generation devices looked like pens, were rechargeable, and used cartridges or tanks for the liquid; the third generation ('mods') are larger devices with bigger batteries and refillable tanks; and the current generation of devices ('pods') are significantly smaller, often resembling USB sticks.

Research suggests that contemporary vaping devices may be more harmful to health than earlier-generation devices. They can be modified to deliver a higher, more harmful concentration of nicotine, and have larger batteries that can heat e-liquids to higher temperatures, producing more toxic chemical particles in the inhaled vape cloud. Some people use e-cigarettes to reduce or quit smoking. However, there is not enough evidence to support their use for this purpose. In fact, the Therapeutic Goods Administration (TGA) has not approved any e-cigarettes to help people quit smoking.



What are the established harms?

1) *Is vaping nicotine safer than smoking combustible tobacco?*

Combustible tobacco refers to any tobacco product that is smoked, such as ready-made cigarettes, roll-your own cigarettes, cigars or cigarillos. It is the nicotine in these products that causes the mild stimulation feelings smokers get. Tobacco creates the taste, and is responsible for the majority of harmful chemicals and carcinogens (can cause cancer). Some evidence points to the replacement of tobacco smoking with nicotine-containing e-cigarettes as less harmful due to reduced exposure to the chemicals and carcinogens in tobacco, however, they are not completely harmless.

2) *Nicotine on its own is still a toxic substance and regular vaping of it can lead to dependence.*

Nicotine can damage DNA, promote tumours, and is linked to a number of different cancers. It is also important to understand that nicotine e-liquids also contain a wide range of other chemicals, additives and flavourings which can be potentially hazardous. The long-term health consequences of these substances are not yet fully understood.

3) *What about nicotine-free e-liquids?*

Although labelled as 'nicotine-free', some e-liquids can still contain traces of nicotine. Some users may also add their own nicotine to non-nicotine flavoured e-liquids. Even without nicotine, these e-liquids contain a mix of unregulated chemicals and additives that are potentially harmful. Some chemicals that have been found include: volatile organic compounds (common in paint and cleaning products), ultrafine particles (which are damaging to lungs), metals such as nickel, tin and lead, 2-chlorophenol (used in disinfectants) and certain carcinogens. Two ingredients commonly found in THC (cannabis) e-liquids are vitamin E acetate and diacetyl. Both have been linked to a number of lung injuries in the United States known as 'popcorn lung' or EVALI (1). There have been no reports of similar lung injuries in Australia to date, however, as of February 2020, the US had recorded 2807 hospitalisations and 68 deaths.

Why are young people attracted to vaping?

The advertising and promotion of vaping products is illegal in Australia. However, companies can use other strategies to target youth. Social media has been found to play a role as both an information source and as a means of exposure to e-cigarette advertising in Australia. Companies are also glamourising their products to seem cool or fun and creating flavours that appeal to young people.

There have been a number of studies which have found that e-cigarette flavours which give off the perception of sweetness (such as candy or fruit flavoured) may make buying and trying e-cigarettes more appealing among young people. "In recent years we have also seen the proliferation of shops selling enticing non-nicotine e-cigarettes and liquids with thousands of attractive flavours like green apple ice, cinnamon roll and alpha mint. These are purely recreational products that have no place in our market for either kids or adults."³⁰ - Cancer Council Australia



Talking about vaping with young people.

Are you concerned about a young person who may be vaping? Having a conversation about it might feel tricky, but it's always a good idea.

- *Start with information:* Get the key facts, learn the basics about vaping products, and think through what you want to say. Consider some questions you might be asked, and how you want to respond.
- *Approach it calmly:* You might want to start the conversation when you're doing an activity together, such as driving or preparing a meal. Keep things casual and relaxed. You might want to use something you saw in a TV show or on the news as a chance to bring up the issue.
- *Don't make assumptions:* If you think they may have tried vaping, avoid making accusations. Going through someone's space looking for evidence isn't recommended, because it can undermine trust.
- *Avoid judging or lecturing:* Listen to their point of view and keep it a two-way conversation. Being mindful to keep your body language and tone respectful can go a long way. If they have tried vaping, try asking questions like: 'what made you want to try?' and 'how did it make you feel?'
- *Don't exaggerate:* Make sure you are honest with them about potential harms and avoid exaggerated statements.
- *Focus on health and explain your concerns:* Focus on how you care about them and want them to be healthy. For example, if they are vaping nicotine you can say that you are concerned about the evidence that this can affect adolescent brain development.

Alcohol and Drug Foundation:<https://adf.org.au/talking-about-drugs/parenting/vaping-youth/>