

# E-cigarettes and vaping

**Electronic or e-cigarettes are devices which heat liquid (called 'e-liquid') into an aerosol (or vapour) which is then inhaled into a person's lungs. They are also commonly referred to as 'vapes' and can either be refillable or disposable. Most e-liquids are flavoured, with some containing nicotine, and others not.**

E-cigarettes were developed as an alternative nicotine delivery system for adult smokers and have been promoted as an effective way to quit or reduce smoking. Research is still being conducted to establish the harms related to e-cigarette use. Vaping may be safer than smoking but not vaping at all is the safest option.

Disposable vapes appear to be the devices preferred by Australian young people. These are usually brightly coloured, contain a wide range of

flavours, and are easy to conceal. Specific harms related to these devices have not been identified. Some devices are regulated and are manufactured to quality standards, however, those purchased illegally from Australian convenience stores and tobacconist do not undergo local quality checks. This together with a lack of packaging and little, if any, information provided on the contents of these products are issues of concern.

In Australia, it is illegal to buy, possess or use liquid nicotine for vaping without a medical prescription.

It is not illegal for someone under the age of 18 to vape, i.e., they cannot be arrested or charged by police if caught vaping, but it is illegal for them to buy e-cigarettes or e-cigarette accessories with or without nicotine. It is also illegal for anyone to sell, market or promote e-cigarettes to juveniles.

## What is vaping?

Vaping is the act of inhaling and exhaling an aerosol (referred to as a vapour), which is produced by an e-cigarette. An aerosol is a mixture of ultrafine liquid particles that can contain a range of chemicals.

## What is an e-cigarette?

In 2003, the first e-cigarette was developed by a Chinese pharmacist to vaporise a liquid containing nicotine, providing an alternative way to inhale the drug. At the time they were called 'electronic nicotine delivery systems' (ENDS) and were promoted as an effective way of quitting smoking. They simulated the cigarette smoking sensation and also enabled users to circumvent smoke-free laws.

A wide range of vaping devices are available, including 'cigalikes' (which look like cigarettes), pod vapes, vape pens and 'mods' (advanced modifiable devices). They all consist of a mouthpiece, a tank or pod containing the e-liquid, a heating component (or atomiser) and a battery. When used, the battery heats up the atomiser, turning the e-liquid into an aerosol which can then be inhaled into the lungs and exhaled into the environment.

## What is a 'disposable vape'?

There are many different types of e-cigarettes, or vapes, with the devices undergoing significant design changes since they were first developed. They can either be refillable (i.e., e-liquids can be purchased separately and used to refill the tank or pod) or disposable (i.e., once the e-liquid has been used the device is thrown away).

Disposable vapes appear to be the devices preferred by Australian young people. These are usually brightly coloured and are available in a wide range of flavours. They are also small and easy to conceal, making them appealing to those young people who wish to vape without detection.

## What is in the e-liquid?

The e-liquid is usually a propylene glycol and vegetable glycerine-based liquid with a flavouring added. There are thousands of e-liquid flavours available, including fruit, sweet and chocolate varieties.

Some e-liquids contain nicotine. These are illegal to purchase in Australia without a medical prescription.

### Medical Disclaimer

The information provided on this fact sheet is provided for information purposes only. As such it **cannot substitute for the advice of a medical professional**

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There are also products that contain THC oil. THC is the main psychoactive component of cannabis.

### Is vaping 'safe'?

There is no evidence to support that vaping is 'safe', i.e., they are completely risk-free.

It is important to remember that vaping is a fairly new phenomenon and, as such, we know little about the long-term harms associated with the use of these devices. As with any new product, it is possible that some harms may emerge over time and it is important that vaping is monitored carefully for any possible adverse effects.

### Is vaping nicotine dangerous?

Nicotine is an addictive chemical and is classified as a Schedule 7 'dangerous poison' in Australia. If prescribed by a doctor it is listed as a Schedule 4 (prescription only) medicine.

Due to it being addictive, once you begin using the drug, it can be extremely difficult to stop.

Vapes were first developed to help people quit smoking because they had become addicted to nicotine. Smokers who try to quit aren't addicted to the smoking, nicotine is the issue. Vaping may have removed many of the smoking-related harms for long-term smokers, but it has also provided young people access to an addictive drug that many of them may otherwise never have tried.

In addition to nicotine, regular tobacco cigarettes contain over 7000 chemicals, many of which are toxic. Whilst vaping may expose you to fewer chemicals than smoking, vaping nicotine is still harmful to health, particularly young people, and is illegal in Australia without a medical prescription.

### Are there any specific risks associated with disposable vapes?

We know little about the harms associated with the use of the illicit disposable vapes sold in Australia, as research has been conducted on vaping more generally rather than specific devices. There are, however, a number of issues of concern.

Around 90% of all disposable vapes are believed to be manufactured in China, with some factories producing half a million of these devices per day.

These are then shipped around the world. As these are not legitimately sold by Australian companies they do not undergo any local quality checks and, as a result, very little is known about their contents. As they are mass-produced there is little to no quality control and, although rare, there have been reports of defective batteries that have resulted in the devices exploding, causing burns and other injuries.

Disposable vapes bought illegally in Australia do not always come with packaging and, as a result, the buyer has no knowledge of what is contained in the device. The only way of knowing with any certainty the contents of the vape is by conducting expensive testing.

Most importantly, unlike those e-liquids used in refillable devices, it is rare for the disposable vapes most often accessed by young people to provide any information on the concentration of nicotine present in the product. There have been reports of young people experiencing nicotine poisoning after using these devices (i.e., feeling sick and even vomiting for a number of hours), with some even seeking medical help as result. This is more likely to occur if the person is nicotine naïve and has never smoked cigarettes and they do not fully recover. Nevertheless, the lack of accurate information on the contents of the product increases the potential risks associated with these devices.

### Are there specific risks associated with vaping for young people?

Some people have strong views on vaping and there has been great debate in the community about the issue. The one thing that is agreed on, however, is that young people should not vape.

Some of the reasons for this include the increased risk of respiratory problems that have been identified, such as worsening asthma and causing cough and lung irritation in non-smokers.

There is also concern around the nicotine used in these devices and the increased risk of nicotine dependence for young people. Animal research has found that nicotine exposure during adolescence, an important period for brain development, is particularly problematic. During the teen years they are at an increased risk of becoming dependent on the drug. Debate continues as to whether young people who have never smoked are more likely to go on to become tobacco smokers if they start vaping.

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Most importantly, e-cigarettes are comparatively new devices and we still know little about the potential long-term risks associated with their use. There is already enough evidence, however, to justify putting measures in place to try to prevent young people from vaping whenever possible.

### Do we have a 'teen vaping epidemic'?

There have been a number of media stories suggesting that we are currently experiencing a 'teen vaping epidemic' and that the use of these devices is out of control amongst Australian young people. Although anecdotal evidence suggests that teen vaping has increased in recent years, research shows that the vast majority of Australian teens have never vaped, and most never will. Of those who do, many will experiment and use only once or twice.

Vaping has certainly become an increasing problem for many Australian schools in recent years, with students bringing devices onto the grounds, where they have been bought and sold, as well as used. This has created significant problems and has attracted media attention. Some parents have also come forward to discuss their concerns, with some struggling to assist their child with nicotine dependence linked to their vaping.

Of course, we should be doing our best to prevent young people from vaping but using emotive terms such 'epidemic' is not helpful and does not reflect the available data we have on the use of these devices by Australian teens.

### Vaping and the law

E-cigarettes that do not contain nicotine are legal for sale and use by adults in all states and territories. WA is the exception, with the sale of these devices being illegal in that state if they resemble a tobacco product.

In Australia, it is illegal to buy, possess or use liquid nicotine for vaping without a medical prescription. Even so, until recently people were accessing nicotine devices and liquids from overseas websites. Legislation in this area has now been formalised and since 1 October 2021 large fines have been applied to those who attempt to purchase these products without first getting a prescription from a doctor.

Once a prescription has been obtained vapers can access the products in one of two ways:

- filling the prescription at a pharmacy
- importing from overseas websites using the Personal Importation Scheme, allowing them to import no more than 3 months' supply at a time

### What about young people, vaping and the law?

The law is confusing when it comes to young people and vaping and does not necessarily assist parents when talking to their teen about the issue.

It is not illegal for someone under the age of 18 to vape, i.e., they cannot be arrested or charged by police if caught vaping (unless their device contains an illicit substance such as cannabis). It is, however, illegal for someone under the age of 18 to buy e-cigarettes or e-cigarette accessories, regardless of whether the product contains nicotine or not. It is also illegal for anyone to sell, market or promote e-cigarettes to people under the age of 18.

Some states of Australia (e.g., NSW) have introduced legislation that give police the power to confiscate vaping devices from those under the age of 18.

### What if your child is nicotine dependent?

Nicotine is addictive and if they are vaping the drug regularly they could become nicotine dependent. As with smoking cigarettes, when they stop vaping the nicotine level in their system drops, resulting in a range of withdrawal symptoms. These can include feeling irritable and restless, having headaches and finding it difficult to concentrate, as well as a strong urge to vape. These symptoms can be extremely difficult for young people to manage, particularly if they are still going to school.

If you believe your child is nicotine dependent, it is important that you discuss the matter with your family GP. They should be able to assist you in determining how serious the problem is and what options might be available for helping your child move forward. As schools have a 'zero tolerance' attitude towards e-cigarettes and vaping, it may be necessary for them to use a nicotine replacement therapy (NRT) to assist them with cravings. NRTs, such as nicotine patches have been approved for use for those aged as young as 12 and can be

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helpful to those school-based young people who are finding it particularly difficult to make it through the day without vaping.

Like any dependence issue, your child must want to stop vaping for any treatment option to be successful. It is important for parents to understand that if their child is enjoying vaping and they believe they are getting some positive benefit from the experience it is going to be difficult to get them to stop.