

# INFORMATION AND DANGERS OF VAPING FOR ADOLESCENTS

source: <https://www.drugsandalcohol.ie/33759/1/ecigfg%20repdf.pdf>

## 1. WHAT IS VAPING?

The term “vaping” comes from the act of inhaling and exhaling e-cigarette vapor (which is actually an aerosol). E-cigarettes heat up liquid from replaceable cartridges, producing the vapor. Just like a smoker does, an e-cigarette user inhales the vapor through the device, then exhales.

E-cigarettes are also called e-cigs, vape pens, vapes, mods, and other terms.

### 1. WHAT’S BEING INHALED?

The most important thing to understand is that the liquid in e-cigarette cartridges is not regulated by the FDA. Because of this, we don’t know what’s being inhaled.

What we do know is that many cartridges contain nicotine, the dangerously addictive chemical found in normal cigarettes. Nicotine is derived from tobacco and produced synthetically.

Even if a cartridge doesn’t contain nicotine, other harmful chemicals may be present.

At least nine harmful chemicals have been found so far.

Flavouring can contain diacetyl, which has been linked to serious lung disease.

The heating process can release toxic heavy metals, including lead.

Marijuana-based Vaping

E-cigarettes can also be used to vape marijuana’s psychoactive ingredient, THC. Perhaps contrary to what many would expect, vaping marijuana may have as many negative health effects as nicotine-based vaping.

This may have more to do with how vape liquids are processed than the THC itself.

### 1. VAPING AFFECTS LUNG HEALTH — WE DON’T KNOW HOW MUCH YET

While vaping does produce fewer chemicals than smoking, that doesn’t mean it’s safe.

Because vaping has only recently gained popularity, we don’t yet have the data to tell us all its health effects. This is especially true of long-term effects.

However, harmful short-term effects have already been observed. Vaping has already been associated with coughing, difficulty breathing, fever, nausea and vomiting. These symptoms may be an indication of vaping-related lung illness. Recently, as many as 1080 people have been identified as developing illnesses after vaping. According to the CDC, 18 of those people have died.

While it isn’t clear exactly how vaping is causing illness, it’s clear that people should avoid starting and quit immediately. People under 25 should especially reconsider vaping, as there may be more serious effects on their developing lungs.

### 1. IT ISN’T JUST LUNG HEALTH BEING DAMAGED

The brain is also in development until a person’s mid-20s. During this time, the brain is constantly rewiring itself, which makes it far more vulnerable to nicotine addiction. This is part of why teens who vape are nearly three times more likely to begin smoking cigarettes.

Exposure to nicotine can also rewire a young brain to become more easily addicted to other substances, including cocaine and alcohol.

Outside of addiction, nicotine can also have other long-term and permanent effects on developing brains. These include mood disorders and reduced impulse control.

### 1. TEENS ARE BEING TARGETED AND THEY DON’T UNDERSTAND THE RISKS

Teens are surrounded by reasons to try vaping. These can include:

The belief that e-cigarettes cause little or no harm.

The taste of vaping itself.

Packaging and advertising that appeals to youth, highlighting flavors and bright colors.

Marketing that includes sexual themes or plays on insecurities, similar to how the tobacco industry targeted youth.

A friend or family member who uses e-cigarettes or other tobacco products.

Over 50% of middle school and high school students reported seeing e-cigarette advertising. Only 28% of young people in the U.S. believe e-cigarettes have the potential to cause a lot of harm. Up to 40% of teens who vape are unaware their e-cigarette cartridges contain nicotine.

## 1. TALKING WITH TEENS HELPS

Nonjudgmental, non-confrontational discussion can help young people understand the risks associated with vaping. Let them know that their health is more important to you than anything else. Talk about the research showing a number of short-term and long-term risks to their lungs and brain.

Even if you're a tobacco user, having an open, honest discussion with your teen can help. Tell them how tobacco has negatively affected your life. Talk about how hard it's been to quit.

If they're already vaping, try to understand why they started. Don't just tell them that there's no good reason to start, help them learn why there's no good reason. Talk about peer pressure, the tricks advertisers use and the importance of health.

Teens today have access to more potentially misleading information than at any other time in history. They're also bombarded by more sources of advertising than ever before. Helping a teen understand what sources to trust can give them a powerful tool to educate themselves.

Sources

<https://www.independent.ie/irish-news/health/children-need-more-protection-from-harmful-e-cigarettes-insistswho-40696683.html>

<https://www.independent.ie/life/health-wellbeing/vaping-and-waterpipes-multiply-risks-of-developing-lung-diseases-39317557.html>

<https://www.independent.ie/irish-news/news/steep-rise-in-teens-using-e-cigarettes-as-girls-increasingly-turn-to-the-devices-41096010.html>

<https://lluh.org/services/pulmonary-critical-care/e-cigarettes-vaping-lung-health#:~:text=However%2C%20harmful%20short%2Dterm%20effects,of%20vaping%2Drelated%20lung%20illness.>

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## 2) Research by Irish Heart Foundation on Vaping

.....For the study, Prof Münzel and colleagues investigated the effect of e-cigarette vapour on blood flow in the brachial artery in the upper arm in 20 healthy smokers before they vaped an e-cigarette and then 15 minutes afterwards. They also measured how stiff the artery became.

They found that just one vaping episode increased heart rates and caused the arteries to stiffen and the inner lining of the arteries, the endothelium, to stop working properly in the smokers. The endothelium is responsible for maintaining the correct dilation and constriction of blood vessels, protects tissues from toxic substances and regulates inflammation and blood clotting processes. Endothelial dysfunction is involved in the development of cardiovascular disease.

The researchers also found that an enzyme called NOX-2 was responsible for damage to blood vessels, including those in the lungs and the brain, as a result of e-cigarette vapour.

Prof Münzel said: "The results of the present studies identified several molecular mechanisms whereby e-cigarettes can cause damage to the blood vessels, lungs, heart and brain. This is a consequence of toxic chemicals that are produced by the vaping process and may also be present at lower concentrations in the liquid itself."

Mr Mark Murphy, Advocacy Officer with the Irish Heart Foundation described the study as "hugely worrying" and he said it "added to our concern that electronic cigarettes can have detrimental health impacts and should not be merely regarded as a 'healthy alternative' to traditional cigarettes."

"This research highlights the damage that e-cigarette use can have on heart, lung, brain and blood vessel health which only strengthens our concern around the increased use of these products by chronic smokers and in particular young people," he added.

According to Mr Murphy, over the past decades, Ireland has worked tirelessly to reduce the level of youth smoking and the rise of electronic cigarette use among adolescents threatens to reverse this and produce an entire new generation addicted to nicotine.

<https://irishheart.ie/news/new-study-shows-e-cigarettes-damage-the-heart-brain-and-lungs/>

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## 3) Vaping legislation for U18;

Vaping companies came to Leinster House on Tuesday to defend e-cigarettes and vapes after research showed their use leads to increased tobacco smoking among children.

The session was part of the pre-legislative scrutiny that all Bills must go through in their journey through the Dáil and Seanad before they become law.

The debate is raging over whether the new technology is a safe substitution for cancer-causing cigarettes, or if they act as a gateway drug.

Research from the HRB (Health Research Board) shows that adolescents who had used an e-cigarette were between three and five times more likely to start smoking compared to those who never used e-cigarettes.

The vaping producers argue back that there are no dangerous carcinogenic toxins in vapes and that their products help people give up the habit of smoking.

But the Government is taking no chances when it comes to children, with a Bill proposing a total ban on vapes for Under-18s making its way through the Oireachtas.

The proposed legislation will prohibit the sale of vapes and tobacco- and nicotine-inhaling products to persons under the age of 18.

“It will also make it illegal for under-18s to sell such products.

Oireachtas health committee chairman, Seán Crowe, said: “The Committee began pre-legislative scrutiny in November 2021 and we will hear from a number of stakeholders on the issue in the coming months.

“The Committee previously heard concerns from the Irish Heart Foundation that teen smoking rates are increasing for the first time in ten years due to an ‘explosion’ of vaping among this age cohort.

“Research from the Health Research Board has found that teenagers who vape are up to five times more likely to take up smoking citing the gateway effect.

“We welcome the opportunity to discuss these and other related matters with representatives.”

A spokesman for the Irish Vape Vendors Association, Declan Connolly, spoke at the committee hearing too.

He said: “smoking is the leading cause of preventable death in Ireland with almost 6,000 smokers dying each year from smoking related diseases.

“There is never a situation where it is better to smoke than it is to vape.

“Currently there are approximately 200,000 e-cigarette users in Ireland.

“The majority of these vapers have given up smoking completely.

“38% of those who made an attempt to quit smoking in Ireland in 2019 used e-cigarettes during this attempt.

<https://www.irishmirror.ie/news/irish-news/politics/bill-ban-vaping-under-18s-26238953>

#### 4) Vaping survey carried out by HSE in Ireland

With the growth in popularity of e-cigarettes in recent years, there is concern in terms of their use by young people. In Ireland, there is no mandatory age restriction on the sale of e-cigarettes and their marketing may promote adolescent use. Nicotine exposure can harm adolescent brain development, and may act as a ‘gateway’ to smoking initiation among the youth. The study aimed to obtain an in-depth understanding of current knowledge, attitudes and behaviour of schoolchildren in terms of e-cigarette use. Eight focus groups were undertaken in a convenience sample of three schools. This included an all-boy (Cavan), an all-girl (Sligo), and a mixed gender (Louth) school. Each focus group discussed vaping among schoolchildren in Ireland, attitudes to e-cigarettes/vaping, the accessibility and availability of e-cigarette products, the health effects of vaping, and the combined use of vaping, smoking and alcohol. All focus groups were audio recorded and transcribed, from which a number of key themes were identified.

The following key findings emerged from the analysis of the focus groups:

- E-cigarettes appear popular among Irish schoolchildren. Most participants were aware of schoolchildren that used e-cigarettes.
- Most knew that e-cigarettes contained nicotine. However, it is not clear if they were aware of the risk of nicotine addiction, nor the adverse health effects of nicotine.
- There was uncertainty in terms of the health effects of e-cigarettes. Overall there was a perception that they were healthier than cigarettes. There appears to be a lack of information about e-cigarettes from school education programmes on smoking.
- Most participants felt that e-cigarettes were used both by boys and girls; although overall it was thought that they were used more by boys.
- E-cigarettes are used as a group and as an individual activity. Some used them to help fit into groups.
- Underage discos are a key location where participants reported that e-cigarettes are used, and could be concealed from security staff. If a venue for an underage disco had smoking areas, it was reported that security staff would not stop schoolchildren

from smoking or vaping in these areas. E-cigarettes are used at a variety of other locations where their use can be concealed (e.g. school toilets due to the absence of cameras).

- The main types of e-cigarettes referred to were the basic stick type and disposable e-cigarettes. Brand names were rarely mentioned, but several were aware of 'Juul' (not available in Ireland at the time of the study). Nobody was aware of people modifying e-cigarettes to increase the nicotine dose, although some were aware of cases where e-cigarettes had "blown up."
- There was awareness of the numerous e-cigarette flavours. Sweet and fruity flavours were the most popular.
- E-cigarettes appear to be relatively easy to access. Social media was the most popular way to obtain them with children using 'Snapchat' and 'Instagram' to buy and sell products between themselves. They were also purchased in shops such as discount stores and vape shops, where any age restrictions were not difficult to overcome. Online purchase was less popular.
- Most had seen e-cigarettes advertised on social media, in retail shops and on the internet. Social media was also being used to view videos of people doing 'vape tricks' and also offering discount codes. Some had also seen 'pop up' advertisements online.
- Most participants had not discussed e-cigarettes with their parents. By contrast, most had discussed smoking with their parents.
- There was a lack of awareness of e-cigarette warning labels among many participants. Among those that had seen warning labels, there was a lack of consistency in terms of what was thought to be written on the warning label.
- The findings suggest that smoking, alcohol consumption, and use of e-cigarettes are interlinked. Most participants felt that e-cigarette users also smoked cigarettes with only a minority thinking that users just vaped. Cigarettes remain more popular than e-cigarettes, particularly at teenage discos.
- Alcohol consumption appears to be common among schoolchildren, particularly for those attending teenage discos (mostly travelling on the bus or outside the venue). This may be a contributory factor in affecting the decision to experiment with cigarettes, e-cigarettes and other substances.
- There is a clear need to tackle children's use of e-cigarettes in addition to a range of health risk behaviours such as smoking and alcohol which are all closely interlinked. The following recommendations have been made:
- Legislation imposing age restrictions on the sale of e-cigarettes should be fast-tracked by the government and once finalised its implementation should be monitored to ensure that new legislation achieves its objectives.
- A comprehensive multiagency plan (determined by the Department of Health) should be developed to prevent the initiation of e-cigarettes by schoolchildren.

The Irish Government should review e-cigarette advertising legislation. This review should consider;

- Further restrictions on advertisements that may promote e-cigarette use among children.
- Developing a robust regulatory system to oversee and control online sales of tobacco and nicotine inhaling products with particular reference to minors. Controls proposed in the 'Online Safety and Media Regulation Bill'1 should be contemplated.
- Making the Advertising Standards Authority of Ireland Code for e-cigarettes mandatory.
- Restrictions in terms of e-cigarette product placement, accessibility and visibility at point of sale should be considered by the Department of Health.
- The introduction of mandatory e-cigarette warning notices and posters on the addictiveness of nicotine at all retail outlets selling e-cigarettes is recommended.
- Restrictions on flavours similar to that adopted for cigarettes and other tobacco products should receive consideration for e-cigarette products because of their attractiveness to youth.

- Schoolchildren need to be better informed of the health effects of e-cigarettes in addition to the addictive nature of nicotine, and e-cigarettes that contain nicotine. Best practice communication techniques should be employed and their impact should be evaluated.
- School anti-smoking education programmes should provide schoolchildren with information on nicotine addiction, health effects of e-cigarettes and what they contain. This should be incorporated into the school curriculum.
- Training programmes for children within and outside schools should incorporate social skills such as assertiveness to help reduce the impact of group influence to undertake health risk behaviours.
- Parents should be provided with accurate up to date information about nicotine addiction and the adverse health effects of e-cigarettes, particularly its effect on the developing brain in adolescence. This should also stress the importance of discussing e-cigarettes with children. Best practice communication methods should be employed and evaluated.
- The governance of underage discos should be reviewed. The HSE Tobacco Free Ireland (TFI) Programme should advocate for a smoke and vape free policy in venues known to host underage discos. The HSE should promote a review of the management of underage discos in collaboration with key stakeholders. Consideration should be given to introducing mandatory smoke and vape free policies when hosting underage discos.
- The installation of e-cigarette detection and smoke detection devices should be considered for Irish school toilets.

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