Electronic Cigarettes: Information for health care workers

The following information can be useful when talking about electronic cigarettes (e-cigarettes) with patients.

The information does not replace the e-cigarette advice provided on the Ministry of Health's (the Ministry's) website. Rather, it aims to support that advice with more specific details relating to particular common issues.

This information will be updated regularly.

Main users of e-cigarettes

There are two distinct groups of e-cigarette user: those who have 'ever used', that is, they have tried or experimented with e-cigarettes, and those who use e-cigarettes regularly.

An increasing number of people, young and old, smokers and non-smokers, report having ever used an e-cigarette (ie, taken even one puff). However, regular use is largely confined to current or ex-smokers.

In New Zealand, the Health Promotion Agency's Health and Lifestyles Survey (HLS) found that 1 percent of adults (around 30,000 adults (Li et al 2015) currently use e-cigarettes at least monthly.

Components of e-cigarettes

E-cigarettes are electrical devices that heat a solution (or e-liquid) to produce a vapour that the user inhales or 'vapes'. The ingredients of the e-liquid may vary, but currently, most e-liquids contain propylene glycol (also used in asthma inhalers and nebulisers) and flavouring agents.

Some, but not all, e-liquids contain nicotine.

Types of e-cigarette

E-cigarettes come in a range of styles, from devices that look similar to traditional cigarettes (first generation or cig-a-like) to refillable-cartridge 'tank' systems (second generation) to highly advanced appliances with larger batteries that allow the power to be adjusted to meet an individual's specific vapour requirements (third generation) – see Figure 1 below.

Second and third generation e-cigarettes generally deliver more nicotine than first generation e-cigarettes.

Figure 1: The three generations of electronic cigarettes

First generation | Second generation | Third generation

Images courtesy of Anna Phillips

Smoking cessation products available in New Zealand

In New Zealand, it is illegal to sell a smoking cessation product that contains nicotine unless the product has been approved by Medsafe for use as a medicine.

Nicotine gum, lozenges and patches to help people stop smoking have been assessed and approved by Medsafe for sale in New Zealand.

Manufacturers of nicotine-containing e-cigarettes can apply to Medsafe for an assessment of their e-cigarettes as medicines for sale in New Zealand.

No e-cigarette has yet been approved as a stop-smoking medicine in this country.[1]

However, nicotine-containing e-cigarettes can be purchased online for personal use.

Smoking cessation support options for vapers

Combining behavioural support with stop-smoking medication has been associated with the greatest chance of quitting smoking. Using behavioural support with e-cigarettes is likely to have a similar result.

Both Quitline and local face-to-face stop-smoking services can support people who wish to use e-cigarettes in their smoking cessation attempt.

These services **cannot** provide e-cigarettes.

[1] E-voke is a device that delivers nicotine in the same way as an e-cigarette. This device has been approved for the purposes of helping people to stop smoking, cut down to quit, temporary abstinence and smoking reduction by the United Kingdom's Medical and Healthcare Products Regulatory Agency (MHRA).

Effectiveness of e-cigarettes in smoking cessation

Research into the effectiveness of e-cigarettes in smoking cessation is growing, but the findings from these studies are somewhat mixed.

There is a good rationale for people to use e-cigarettes to help them stop smoking. E-cigarettes can provide nicotine, which is what people desire from smoking. They can also replace some of the sensorimotor aspects of smoking.

Some types of e-cigarettes are better than others at delivering nicotine (ie, second/third generation e-cigarettes are generally better than first generation products). Practice also makes a difference, and experience has been shown to improve a vaper's ability to retrieve nicotine from an e-cigarette (RCP 2016).

The strongest evidence for the effectiveness of e-cigarettes in aiding smoking cessation comes from randomised controlled trials (RCTs) that compare the long-term outcomes (at least 6 months) in vapers using e-cigarettes against a control or comparison group.

Internationally to date, only two RCTs have been published that report on long-term abstinence rates as a result of e-cigarette use. These RCTs show that e-cigarettes containing nicotine have had better results at helping smokers quit for at least 6 months compared with e-cigarettes without nicotine (risk ratio = 2.29, 95% CI: 1.05–4.96; Absolute abstinence rates: 9% versus 4%) (McRobbie et al 2014). More studies are required to confirm these findings.

At this stage, the Ministry does not have enough evidence to recommend these products confidently as a smoking cessation tool. The Ministry advises smokers to use approved smoking cessation medicines in combination with behavioural support from stop-smoking services (face-to-face providers and/or Quitline).

E-cigarette use

Combining smoking with vaping

The greatest health benefits are seen when people stop smoking completely, and this should be the goal in any smoking cessation effort.

Some people manage to switch completely to vaping quickly. Others can take some time to adjust and may need to try a number of different e-cigarettes and e-liquids before finding one that can help them stop smoking.

Ideally, people would eventually stop vaping as well.

Combining vaping with stop smoking medicines

Some people may choose to use e-cigarettes in addition to approved stop-smoking medicines. This is OK – people should not be discouraged from using e-cigarettes; rather, they should be encouraged to stop smoking completely.

Health risks

Nicotine

The nicotine found in tobacco does not cause the negative health effects associated with smoking. It is the other chemicals found in tobacco smoke that are harmful (RCP 2016). However, nicotine is an addictive chemical that encourages smoking.

For smokers, the nicotine in e-cigarettes poses little danger, however, in excessive amounts, it can be lethal, especially for children. In order to prevent accidental poisoning, especially of children, e-cigarettes and e-liquids should be stored where they cannot be accessed by others.

E-cigarettes

People who smoke are already dependent on nicotine, so e-cigarettes will not create a new addiction. Many vapers feel less dependent on e-cigarettes than they do on traditional cigarettes. They often choose to reduce the strength of nicotine they use over time and may eventually stop vaping altogether.

Short-term use of e-cigarettes has been associated with mild adverse effects such as headaches, dry mouth or throat, and throat or mouth irritation. The health risks associated with the long-term use of e-cigarettes are unknown. It is only known that the risks of smoking are likely to be much greater (RCP 2016 and McNeill et al 2015).

There is evidence that e-cigarettes pose fewer health risks to smokers who switch **completely** from tobacco smoking to e-cigarette use.

E-cigarette vapour

A number of toxins have been found in e-cigarette vapour. However, when e-cigarettes are used within normal operating levels (ie, not overheated), these toxins are present at very low levels – many times lower than in tobacco smoke (RCP 2016).

Second-hand vapour

The risks from second-hand vapour are unknown at this stage. However, second-hand vapour is known to be less harmful than second-hand smoke.

Where e-cigarettes can be used

The Smoke-free Environments Act 1990 does not prohibit e-cigarette use in smoke-free places. However, individual organisations can ban e-cigarettes as part of their own smoke-free policies.

The Ministry encourages people to avoid using e-cigarettes in areas where smoking is not permitted.

Classifying smokers and vapers

E-cigarettes are not a combustible tobacco product and therefore should not be coded as such.

- If a smoker has switched completely from cigarettes to e-cigarettes, they should be coded as an ex-smoker.
- If a smoker is still smoking cigarettes, even as little as one cigarette per day, they should be coded as a current smoker.

For more information

See the Ministry of Health's website information about e-cigarettes

Here are some links and documents from the United Kingdom. Note that legislation in the United Kingdom is different from here in New Zealand.

- Cancer Research UK – Our policy on harm reduction and e-cigarettes
- United Kingdom National Centre for Smoking Cessation and Training– Electronic Cigarette Briefing.

References

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