



Position Statement on Electronic Cigarettes

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This information sheet discusses the safety and use of electronic cigarettes (e-cigarettes).

Key messages

- Currently, there is limited evidence of the safety of e-cigarettes or their suitability as a smoking cessation aid.
- There are concerns about the attractiveness of e-cigarettes to young people, and subsequent tobacco smoking and nicotine addiction.
- The use of e-cigarettes in smokefree areas might undermine smokefree legislation, and the increasing de-normalisation of smoking.
- E-cigarettes are not manufactured to the same rigorous standards as pharmaceutical products, and research has found a number of quality control concerns.
- There are concerns about the regulation of e-cigarettes, and which legislation is most appropriate for this product.
- Before they are widely promoted, evidence is needed to ensure that e-cigarettes are a safe harm reduction alternative to tobacco smoking, that they are a safe and effective cessation aid, that they don't undermine motivation to quit, and that they don't act as a gateway to nicotine addiction for young people.

What is an e-cigarette and how does it work?

E-cigarettes are a form of Electronic Nicotine Delivery Device (ENDD). They are promoted as an alternative to tobacco products to deliver inhaled doses of nicotine (or non-nicotine) to the respiratory system from a vaporized solution without the need for combustion of tobacco. Most e-cigarettes are designed to resemble tobacco cigarettes or other tobacco smoking products, and can give a physical sensation similar to that of inhaled tobacco smoke, as well as flavoured vapour.

E-cigarettes as a smoking cessation tool

It has been proposed that e-cigarettes are considerably safer than the alternative of smoking tobacco,^[1, 2] that they may aid in smoking cessation, and reduce morbidity and mortality associated with tobacco smoking.^[3] As a smoking cessation tool, some research suggests that e-cigarettes may be effective in helping smokers quit or reducing their consumption of tobacco,^[4-6] and respondents reported improved health.^[4] However, research has also shown that nicotine absorption using e-cigarettes does not mimic that of tobacco cigarettes,^[1, 7] and there is a lack of data on whether e-cigarettes relieve the desire to smoke and suppress other nicotine withdrawal symptoms. Two recent studies found a reduction in desire to smoke when using 16mg ENDD compared with a placebo (0mg ENDD), but this was not as effective at reducing cravings as a tobacco cigarette.^[8, 9]

E-cigarettes may displace effective smoking cessation,^[10] and there is a lack of evidence of the effectiveness of e-cigarettes as a smoking cessation tool. As such, the World Health Organization^[11] and the Ministry of Health,^[12] along with others^[5, 8, 10] do not consider that, currently, there is sufficient evidence that e-cigarettes are suitable as a smoking cessation aid.

How safe are e-cigarettes?

Toxins and carcinogens

Since e-cigarettes do not burn tobacco, the harmful chemicals and toxins which are present when tobacco is burnt are not delivered to the user.^[1] However, the health effects of using e-cigarettes are currently unknown as only a handful of studies have examined the contents of the cartridges or vapour produced by e-cigarettes. The US Food and Drug Administration (FDA) analysed the contents of two brands of e-cigarettes and reached the conclusion that they contain carcinogens and toxic chemicals, although at lower levels than tobacco cigarettes.^[13] New Zealand research^[14, 15] undertook analysis to determine the safety of one brand of e-cigarettes, funded by the manufacturer, and concluded that they are safer than tobacco cigarettes and safe in absolute terms for the tests they undertook. Current research suggests that few risks are posed to people by e-cigarette, but the Ministry of Health suggest that that this should be confirmed with data from long-term outcome studies.^[12]

Young people

There is a concern that e-cigarettes have the potential to promote smoking among young people.^[16] E-cigarettes are a novelty product, which look like cigarettes. They are also marketed in a similar way, and come in candy-like flavours, such as chocolate and fruit, which may appeal to and encourage young people to try these products. They are sold without any legal age restrictions and may lead young people to try other tobacco products. They then may potentially become addicted to nicotine.^[17] There are also child safety issues in terms of children opening and swallowing the contents of nicotine cartridges, which are not generally sold in child resistant containers, with the possible risk of choking or nicotine poisoning.^[10, 18]

Quality control

Currently, e-cigarettes are not manufactured to the same rigorous standards as pharmaceutical products, and research has found a number of quality control concerns and health issues.^[19] The FDA found different amounts of nicotine in or emitted from e-cigarettes than were contained on the labels, and while some e-cigarettes were marketed as containing no nicotine, they did in fact contain nicotine.^[13] Other researchers^[1, 10] have reported similar variable nicotine delivery. Because e-cigarettes are not regulated, each brand and batches within a brand may vary, which could impact on effectiveness and safety research.

De-normalising tobacco use, undermining cessation and maintaining nicotine addiction

The main reasons people use e-cigarettes are to help them quit smoking or break their nicotine addiction,^[20-22] to reduce cigarette consumption, to use in smokefree places,^[20, 22] in order not to disturb other people with smoke,^[20] to reduce costs, or as a replacement for cigarette smoking.^[22] Depending on the country they are being marketed in, these claims are either stated or implied.^[21] A possible unwanted outcome of e-cigarettes is existing smokers using them in non-smoking environments, such as indoor areas, allowing smokers who might otherwise have made a quit attempt to maintain their nicotine addiction in smokefree areas. This undermines tobacco control laws and adds to the impression that smoking is a normal behaviour.

Are they legally available?

There have been many discussions and legal cases on how e-cigarettes should be categorised or classified in terms of how they may be sold or marketed to consumers by regulatory bodies around the world. Much of this depends on how the manufacturer markets the product and the claims they make about their product. In New Zealand, nicotine cartridges for e-cigarettes contain a medicine, which must be licensed under the Medicines Act before they can legally be sold. E-cigarettes are classified as medicines if sold with a nicotine cartridge, or as a medical device if represented as a smoking cessation aid.^[23] However, Laugeson^[24] argues that they should qualify as tobacco products under the Smoke-free Environments Act.

Recommendations

E-cigarettes are an alternative to tobacco smoking which may be an acceptable strategy for harm reduction. However, currently there is limited evidence of the safety profile of e-cigarettes, or whether these products are suitable as a smoking cessation aid.^[25] The consensus of researchers in this area is that more research is needed to examine:

1. the long-term health effects of using e-cigarettes^[9, 10, 26]
2. the efficacy of e-cigarettes as a smoking cessation tool^[8, 27, 28]
3. youth initiation of these products and subsequent nicotine dependence and tobacco use^[7, 27]
4. issues around quality control and manufacturing of these products.^[1]

Until this research has been undertaken it cannot be known what effect e-cigarettes will have on the lives of those who use them. The Cancer Society does not support making e-cigarettes widely available or allowing their marketing until the research evidence is available to establish their place as a safe and effective component of tobacco control at the individual and population levels.

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Acknowledgments also to Ben Youdan, Action on Smoking and Health (ASH) and CSNZ staff for their comments.

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