

Electronic cigarettes

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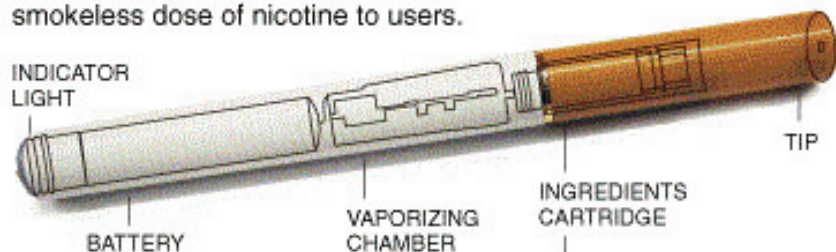
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What are electronic cigarettes?

Electronic cigarettes are not tobacco products, although they are designed to look and feel like conventional cigarettes. They have been marketed as alternative nicotine delivery devices for people to use in places where smoking is not permitted since they do not produce smoke. A typical e-cigarette consists of three components: a battery, an atomiser and a cartridge containing nicotine. Most replaceable cartridges contain nicotine suspended in propylene glycol and water. The level of nicotine in the cartridges may vary and some also contain flavourings. Some e-cigarettes also have an indicator light at the end that glows when the user draws on the device to resemble a lit cigarette. When a user sucks on the device, a sensor detects air flow and heats the liquid in the cartridge so that it evaporates. The vapour delivers the nicotine to the user. There is no side-stream smoke but some nicotine vapour is released into the air as the smoker exhales.

Electronic cigarettes deliver an odorless, smokeless dose of nicotine to users.



An electronic cigarette is powered by a small rechargeable **battery**.

When a user inhales, a sensor detects air flow and starts a process to **heat liquid** from a replaceable cartridge so it vaporizes.

The **cartridge** contains propylene glycol, water, flavoring and varying levels of nicotine (like regular or light).

The propylene glycol produces a vapor mist that looks like smoke and carries the nicotine.

NJOY

The New York Times

Are e-cigarettes safe to use?

Preliminary tests of the original e-cigarettes produced by Ruyan, a Chinese electronics company, suggest that they are relatively harmless in comparison with smoking¹.

However, there are now many different models on the market that have not been tested and a draft review by the WHO's Tobacco Regulatory Group notes that the extent of nicotine uptake and the safety of e-cigarettes have yet to be established². Furthermore, tests by UK trading standards officers have found that some e-cigarettes sold in the UK are in contravention of product safety regulations.

ASH's position on e-cigarettes

ASH supports a harm reduction approach to tobacco, that is, we recognise that whilst efforts to help people stop smoking should remain a priority, many people either do not wish to stop smoking or find it very hard to do so. For this group, we believe that products should be made available that deliver nicotine in a safe way, without the harmful components found in tobacco. Most of the diseases associated with smoking are caused by inhaling smoke which contains thousands of toxic chemicals. By contrast, nicotine is relatively safe.

Therefore, e-cigarettes, which deliver nicotine without the harmful toxins found in tobacco smoke, are likely to be a safer alternative to smoking. In addition, e-cigarettes reduce secondhand smoke exposure since they do not produce smoke. It should be noted, however, that ASH does not provide commercial product endorsement.

Futhermore, there are disadvantages with e-cigarettes:

1. Most deliver a low dose of nicotine which may not give a typical smoker a sufficient 'hit' to satisfy cravings, discouraging smokers from continuing to use them.
2. Because the products are unregulated there are some concerns about their safety since few manufacturers disclose the ingredients of their products.
3. So far, there have been no clinical trials to prove that they can help people to stop smoking. In the absence of such evidence, ASH therefore recommends that people who want to quit smoking should use nicotine replacement therapy or other proven pharmacological aids such as Champix (varenicline) or Zyban (bupropion).

Regulation

The UK's Medicines and Healthcare Regulatory Authority (MHRA) has ruled that certain brands of e-cigarettes cannot be classified as medicinal products and therefore do not fall under the remit of the MHRA. Although rulings are made on a case by case basis, it is likely that the same ruling would apply to similar products. Currently, e-cigarettes are subject to general consumer protection laws and it is the responsibility of trading standards officers to rule on their safety.

In order to overcome the regulatory difficulties associated with the development of pure nicotine delivery products, ASH supports the Royal College of Physicians' call for reform of the nicotine market and the creation of a new nicotine regulatory framework [3]. This would provide smokers with safer sources of nicotine that are acceptable alternatives to cigarettes and regulate novel products including e-cigarettes. For further information see ASH website page on [harm reduction](#).

References

- 1 [Electronic cigarettes: A safe substitute?](#) New Scientist, 11 Feb 2009
- 2 Draft Abbreviated Advisory of the WHO Study Group on tobacco product regulation (WHO TobReg) concerning Electronic Nicotine Delivery Systems (ENDS). June 2009
- 3 UK failing heavily addicted smokers, says RCP. RCP press notice, 5 Oct. 2007

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