

## Electronic cigarettes: what we know so far

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This is the first version of a document that will be updated as new information emerges. Updated versions will be made available on [www.smokinginengland.info](http://www.smokinginengland.info)

### *Safety: E-cigarettes are much less harmful than smoking*

1. From analysis of the constituents of e-cigarette vapour, e-cigarette use from popular brands can be expected to be at least 20 times safer (and probably considerably more so) than smoking tobacco cigarettes in terms of long-term health risks<sup>1</sup>
2. Randomised controlled trials have not found an increased rate of serious adverse events from e-cigarette use compared with placebo<sup>1</sup>
3. Case reports indicate that a very small proportion (likely to be less than 1/100,000) of e-cigarette users appear to suffer from serious though reversible acute adverse reactions to the vapour<sup>1</sup>
4. A substantial minority of e-cigarette users experience minor adverse reactions to the vapour (predominantly dry throat)<sup>1</sup>
5. Cases of poisoning from consuming the nicotine liquid from e-cigarettes have been reported all of which have resolved without apparent lasting damage; so far one unconfirmed case of fatal poisoning in a small child has been reported by media<sup>1</sup>
6. At least one case of the lithium-ion battery in an e-cigarette 'exploding' has been reported; the rate of such events is estimated at less than 1 per million users<sup>1</sup>
7. The vapour exhaled from e-cigarette users consists largely of water, and propylene glycol or glycerine and is highly unlikely to be harmful to bystanders; nicotine concentrations in exhaled vapour are too low to have pharmacological effects on bystanders<sup>1</sup>

### *Use among never-smokers: Use of e-cigarettes by never smokers is extremely rare*

8. A US survey found that fewer than 1% of adolescents who had never smoked had tried e-cigarettes and prevalence of current use is estimated at less than 0.1%<sup>1</sup>
9. A survey in Merseyside found that 2.4% of 14-17 year old never smokers had tried e-cigarettes; prevalence of current use was not reported<sup>2</sup>; online surveys of 11-14 year olds in Britain have shown only 2% of never smokers have tried e-cigarettes, with no never smokers reporting current use<sup>3</sup>
10. In England, prevalence of e-cigarette use among never smokers aged 16+ is currently 0.2% which is similar to use of licensed nicotine products<sup>4</sup>

### *Use among smokers: Use of e-cigarettes by smokers is increasing, and is currently at about 20%*

11. Surveys in different countries have put prevalence of current e-cigarette use among smokers at 10-20%<sup>1</sup>; prevalence in Britain is currently 18%<sup>3</sup>
12. In England (which has the most comprehensive data) 15% of attempts to stop in the past year have involved e-cigarettes<sup>4</sup>
13. The most common reasons for using e-cigarettes are to stop smoking completely and to reduce smoking<sup>5</sup>

### *Product types: E-cigarettes vary widely in appearance and nicotine delivery*

14. There are a wide variety of e-cigarettes currently being used ranging from those that look like cigarettes to ones that bear no resemblance to cigarettes; the characteristics of these devices differ markedly, mostly delivering lower nicotine doses than from smoking<sup>4,5</sup>

*Effect on attempts to stop smoking: E-cigarette use is associated with higher incidence of quit attempts though this may be due to other factors*

15. Smokers who currently also use e-cigarettes are more likely to have tried to stop in the past than those who have not used either e-cigarettes or a licensed nicotine product<sup>1, 4,5</sup>
16. The growth in e-cigarette prevalence in England has been accompanied by a small increase in the rate at which smokers try to stop smoking, though this may be due to other factors<sup>3</sup>

*Effect on stopping smoking: Use of e-cigarettes in a quit attempt appears to improve chances of success compared with using no aid or licensed nicotine product bought from a store*

17. Smokers who use e-cigarettes in a quit attempt are more likely to remain abstinent from cigarettes for at least a few months than those who try to quit unaided or using a licensed nicotine product bought from a store, but probably less likely than those who attend high quality specialist stop-smoking support of the kind available in England<sup>7</sup>. This may mask marked individual differences in chances of success with different methods.
18. Randomised controlled trials of now obsolete e-cigarettes in the context of some professional support suggest that those had broadly similar levels of efficacy to licensed nicotine replacement products<sup>1</sup>
19. The increase in e-cigarette use to aid quitting in England has been associated with an increase in the population smoking cessation rate, though this could be due to other factors<sup>3</sup>

*Effect on smoking reduction: Use of e-cigarettes while smoking appears to be associated with a small reduction in cigarette consumption*

20. Smokers who use e-cigarettes smoke slightly fewer cigarettes than when they did not use them<sup>6</sup>.

*User groups: There are highly active e-cigarette user groups who oppose highly restrictive regulation*

21. There are several active e-cigarette user groups with enthusiastic advocates who share information about products and techniques for use, and argue to protect e-cigarette use against regulation that is as, or more, restrictive than regulation of cigarettes

## Sources

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