

# Adult Smoking Cessation – The Use of E-Cigarettes

## Cigarette Smoking and E-Cigarette Use in the U.S.

Since the first Surgeon General's report on smoking and health was released in 1964, cigarette smoking among U.S. adults declined from nearly 43% to a low of nearly 14% in 2018, the most recent year for which data about adult use are available.

Some people who smoke have turned to e-cigarettes to help quitting smoking, raising questions about the benefits and risks of using these products.

E-cigarettes entered the U.S. market around 2007 and were used by nearly 4% of adults by 2014. However, current use of e-cigarettes among U.S. adults has declined in recent years. In 2018, 3.2% of U.S. adults were current e-cigarette users. About half of adults who use e-cigarettes also smoke regular cigarettes, a behavior known as "dual use."

## E-Cigarette Basics

E-cigarettes are sometimes called "e-cigs," "vapes," "e-hookahs," "vape pens," "electronic nicotine delivery systems" or "ENDS." Using an e-cigarette is sometimes called "vaping." Some e-cigarettes look like regular cigarettes, cigars, or pipes, while others look like everyday items, such as USB flash drives, highlighters, or pens.

Most e-cigarettes have a battery, a heating element, and a place to hold a liquid. E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine, flavorings, and other chemicals that help make the aerosol. This aerosol is inhaled into the lungs during use.

## Health Effects of E-Cigarette Use

E-cigarettes are fairly new, and scientists are still learning about their long-term health effects. Here is what we currently know about the health effects of e-cigarettes:

- ▶ E-cigarette aerosol generally contains fewer harmful chemicals than the smoke from burned tobacco products. However, e-cigarette aerosol can contain cancer-causing chemicals and tiny particles that reach deep into the lungs.
- ▶ Most e-cigarettes contain nicotine, the highly addictive drug found in tobacco.
- ▶ In youth and young adults, nicotine can harm brain development, which continues until about age 25.
- ▶ Nicotine is dangerous for pregnant women and their developing babies.

## Key Findings from the 2020 Surgeon General's Report

- ▶ E-cigarettes, a continually changing and heterogeneous group of products, are used in a variety of ways. Consequently, it is difficult to make generalizations about efficacy for cessation based on clinical trials involving a particular e-cigarette, and there is presently inadequate evidence to conclude that e-cigarettes, in general, increase smoking cessation.
- ▶ However, the evidence is suggestive but not sufficient to infer that the use of e-cigarettes containing nicotine is associated with increased smoking cessation compared with the use of e-cigarettes not containing nicotine, and the evidence is suggestive but not sufficient to infer that more frequent use of e-cigarettes is associated with increased smoking cessation compared with less frequent use of e-cigarettes.
- ▶ Smoking cessation medications approved by the U.S. Food and Drug Administration (FDA) and behavioral counseling are effective treatments for quitting smoking, particularly when used in combination.



Many newer types of e-cigarettes use nicotine salts (also called nic salts). Nicotine salts allow particularly high levels of nicotine to be inhaled more easily and with less throat irritation than the typical freebase nicotine found in most tobacco products, including the types of e-cigarettes that have been on the market for a longer period of time. This feature allows for more efficient nicotine delivery than previous generations of e-cigarettes, which has the potential to help adults using these products in an attempt to quit smoking. However, it could also increase the potential for initiation and dependence, particularly among youth and young adults.



## Proven Strategies to Quit Smoking Cigarettes

Several evidence-based methods have been scientifically proven safe and effective for quitting smoking. These include:

- ▶ **Counseling** – Behavioral counseling increases the chances of quitting successfully. Counseling can be delivered in a variety of ways, including in-person (either one-on-one or in a group) and over the telephone (through the nationwide quitline 1-800-QUIT-NOW). Text messaging and web-based cessation interventions can also help people successfully quit smoking.
- ▶ **Medications** – The FDA has approved seven medications shown to be effective for helping people quit smoking. These medications include five forms of nicotine replacement therapy and two non-nicotine medications (bupropion and varenicline).
- ▶ **Combination of counseling and medication** – Although counseling and medication are each proven treatments alone, using them in combination can more than double the chances of quitting smoking.

## For Adults Who Are Ready to Quit Smoking Cigarettes

- ▶ **Adults who smoke** should talk to their doctor about proven methods to quit, such as counseling and FDA-approved medications.
- ▶ **Adult smokers who are not pregnant** and who want to try quitting by using e-cigarettes should completely switch to e-cigarettes and eliminate all use of cigarettes, cigars, and other burned tobacco products. Completely switching is the only way to fully reduce smoking-related health risks. Smoking even a few cigarettes per day is still harmful to health. The use of both cigarettes and e-cigarettes (dual use) can lead to the same, or in some cases higher, exposures to harmful chemicals as cigarette smoking alone. Adults who switch to e-cigarettes should also establish a goal for quitting them, to fully eliminate health risks from any tobacco product use.
- ▶ **Pregnant women who smoke** should talk to their doctor about counseling programs and the risks and benefits of using FDA-approved cessation medications to help them quit. Although e-cigarette aerosol generally has fewer harmful substances than cigarette smoke, e-cigarettes containing nicotine are not safe to use during pregnancy.

For information about:  
quitting smoking, visit [www.CDC.gov/quit](http://www.CDC.gov/quit)  
the Surgeon General's report, visit [www.CDC.gov/CessationSGR](http://www.CDC.gov/CessationSGR)

## The Bottom Line About Adult Use of E-Cigarettes to Quit Smoking

- ▶ Research is uncertain on whether e-cigarettes, in general, increase smoking cessation.
- ▶ Some research suggests that using e-cigarettes containing nicotine is associated with greater smoking cessation than using e-cigarettes that don't contain nicotine, and more frequent use of e-cigarettes is associated with greater smoking cessation than less frequent use.
- ▶ The FDA has not approved e-cigarettes as a quit smoking aid, and more research is needed on whether e-cigarettes are effective for quitting smoking and to better understand the health effects of e-cigarettes.
- ▶ E-cigarettes are not safe for youth, young adults, pregnant women, and adults who do not currently use tobacco products.
- ▶ In order for adult smokers to achieve any meaningful health benefits from e-cigarettes, they would need to fully switch to e-cigarettes and stop smoking cigarettes and other tobacco products completely.
- ▶ Among those who have switched completely, the ultimate goal should be to also stop using e-cigarettes completely to achieve the maximum health benefit.
- ▶ People who smoke should talk to their doctor about proven methods to quit.



For E-Cigarette Resources, visit:

- ▶ [www.CDC.gov/e-cigarettes](http://www.CDC.gov/e-cigarettes)

