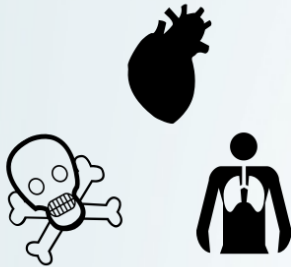


# E-CIGARETTE FACTS AND MYTHS

**MYTH:** "E-CIGARETTE SMOKE IS A HARMLESS WATER VAPOR."

**FACT:** E-CIGARETTES HEAT A LIQUID MIXTURE TYPICALLY CONTAINING NICOTINE, FLAVORINGS, AND OTHER CHEMICALS INTO AN AEROSOL. THE AEROSOL TYPICALLY CONTAINS FORMALDEHYDE, ACETALDEHYDE, ACROLEIN, DIETHYLENE GLYCOL, NICKEL, CHROMIUM, LEAD (1,2). THESE CHEMICALS ARE SIMILAR TO THOSE FOUND IN REGULAR CIGARETTES.

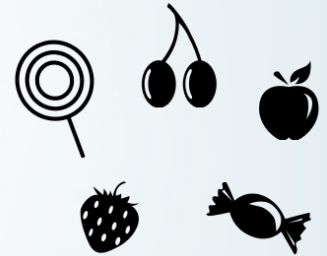


**MYTH:** "E-CIGARETTES ARE SAFE."

**FACT:** E-CIGARETTE AEROSOL CONTAINS ULTRAFINE METAL PARTICLES (3), AND E-CIGARETTE LIQUIDS OFTEN CONTAIN FLAVORINGS SUCH AS DIACETYL, WHICH WHEN INHALED CAN CAUSE "POPCORN LUNG" (AN IRREVERSIBLE LUNG DISEASE) (4). ADDITIONALLY, E-CIGARETTE USE IMPAIRS ARTERIAL BLOOD FLOW AFTER AS LITTLE AS JUST ONE E-CIGARETTE, SIMILAR TO CIGARETTE USE (5).

**MYTH:** "E-CIGARETTES ARE NOT MARKETED TOWARDS YOUTH."

**FACT:** DATA HAS SHOWN AN INCREASE IN USE OF E-CIGARETTES BY YOUTH. IN 2015, MORE HIGH SCHOOL STUDENTS USED E-CIGARETTES (16%) THAN REGULAR CIGARETTES (9%) (6). E-CIGARETTES ARE FREQUENTLY FLAVORED LIKE FRUIT AND CANDY, LIKE GUMMY BEAR, COTTON CANDY, AND BUBBLE GUM -- AND ARE PACKAGED AND PRICED LIKE CANDY.



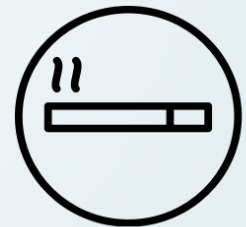
**MYTH:** "E-CIGARETTES CAN HELP PEOPLE QUIT SMOKING."

**FACT:** THE COURTS HAVE RULED THAT THE U.S. FOOD AND DRUG ADMINISTRATION (FDA) CANNOT REGULATE E-CIGARETTES AS A SMOKING CESSATION DEVICE. INSTEAD, THE FDA HAS THE AUTHORITY TO REGULATE E-CIGARETTES AS A TOBACCO PRODUCT. THE EFFICACY OF E-CIGARETTES AS AN AID FOR SUSTAINED SMOKING CESSATION HAS NOT BEEN PROVEN (7).

Created by Phil Scott  
from Noun Project

**MYTH:** "SMOKING E-CIGARETTES DOES NOT LEAD TO SMOKING REGULAR CIGARETTES."

**FACT:** TEENS WHO ARE NONSMOKERS BUT WHO USE E-CIGARETTES ARE OVER THREE TIMES MORE LIKELY TO BE SMOKING REGULAR CIGARETTES ONE YEAR LATER, COMPARED WITH NONSMOKER TEENS WHO DID NOT USE E-CIGARETTES (8,9).



**BREATHE<sup>®</sup>**  
**CALIFORNIA**

*Golden Gate Public Health Partnership*

**1 SUTTER STREET, SUITE 225  
SAN FRANCISCO, CA 94104  
(650) 994-5868  
WWW.GGBREATHE.ORG**

1 California Department of Public Health, "Protect Your Family From E-cigarettes: The Facts You Need to Know." 2015.  
2 German Cancer Research Center (Ed.) Electronic Cigarettes- An Overview. Heidelberg, 2013.  
3 Williams M, Villarreal A, Bozhilov, et al. Metal and Silicate Particles Including Nanoparticles Are Present in Electronic Cigarette Cartomizer Fluid and Aerosol. PLoS ONE 2013; 8(3): e57987.  
4 Farsalinos, KE, Kistler KA, Gilman G, et al. Evaluation of electronic cigarette liquids and aerosol for the presence of selected inhalation toxins. Nicotine & Tobacco Research 2015; 17(2):168-174.  
5 Carnevale R, Sciarretta S, Viofi F, et al. Acute Impact of Tobacco vs Electronic Cigarette Smoking on Oxidative Stress and Vascular Function. Chest 2016; 150(3):806-812.  
6 Singh T, Arrazola RA, Corey CG, et al. Tobacco Use among Middle and High School Students - United States, 2011-2015. MMWR Morbidity and Mortality Weekly Report 2016; 65:361-367.  
7 Thomas, L, Marve MD. Informational Document Regarding Electronic Cigarettes. 31 January 2013; E-Cigarette Task Force. Alameda County Behavioral Health Care Services.  
8 Leventhal AM, Strong DR, Kirkpatrick MG et al. Association of Electronic Cigarette Use with Initiation of Combustible Tobacco Product Smoking in Early Adolescence. JAMA 2015; 314(7):700-707.  
9 Primack BA, Soneji S, Stoolmiller M, et al. Progression to Traditional Cigarette Smoking After Electronic Cigarette Use Among US Adolescents and Young Adults. JAMA Pediatrics 2015; 169(11):1018-1023