

Can Vaping Help Smokers Quit?

The Real Story from a Real Story

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Editor's Note: This op-ed comes from [Dr. William G. Shadel](#), Associate Director, Population Health Program and Senior Behavioral Scientist at RAND Corporation.



A couple of years ago, my son's coach approached me after practice and asked, "Can this thing really help me quit smoking?" He was holding a large, black box in his hand – a sort of stylized plastic straw juttied out from one side of the box and four green and red lighted buttons littered the other side. I recognized this as a "vape mod," a more complicated and some would say, advanced version of the typical electronic cigarette or "vape pen." In their modern form, electronic cigarettes were developed as an alternative nicotine delivery device in 2003 and were introduced in the United States a few years later. The devices quickly grew into a multimillion-dollar industry and some business analysts even suggested that the sale of electronic cigarettes would overtake regular cigarettes by 2021 (Craver, 2013). Rates of use certainly exploded in the last few years among both teens and adults (Jamal, Gentzke, Hu, Cullen, Apelberg, et al., 2017; Syamlal, Jamal, King, & Mazurek, 2016), and many countries, including the United States, are still trying to come to regulatory grips with the new technology.

The coach must have asked me because he knew I was involved in smoking cessation research. We had periodically discussed our professional lives, and at one too many practices I had hammered away on my computer, working on some new journal article or grant.

Correspondingly, I knew he smoked cigarettes. I'd see him sneak a puff here and there, behind a building or in his car before practice. I've never really been one to comment publicly on someone's smoking habit or to offer advice unless asked, but I always appreciated him hiding his smoking from the kids. He was sensitive to

the fact that he was a role model, and his standing as a coach meant he held sway over young people.

So what should I tell him? Would vaping help him quit smoking?

I knew the balance of research suggested vaping was safer than smoking cigarettes (Grana, Benowitz, & Glantz, 2014); even the harshest critics of electronic cigarettes have acknowledged as much. With an electronic cigarette, nicotine is heated and inhaled through a water-based vapor while nicotine in traditional cigarettes is carried on smoke generated by burning tobacco leaves that have been treated with numerous known and top-secret chemicals and flavoring agents. That difference alone certainly contributes to electronic cigarettes' relatively lower levels of harm. I knew of estimates from econometric studies suggesting that the significant disease burden posed by smoking could be substantially reduced if cigarette smokers completely switched to a vaping product (Levy, Borland, Lindblom, Goniewicz, Meza, et al., 2017). There are likely some damaging respiratory (Chun, Moazed, Calfee, Matthay, & Gotts, 2017) and cardiovascular effects associated with vaping (Moheimani, Bhetaratana, Yin, Peters, Gornbein, et al., 2017), so relatively less harmful didn't mean without harm. But at least I could tell him vaping was less harmful to him than his two-pack-a-day cigarette habit.

But what could I tell him about vaping or electronic cigarette use as a means to stop smoking cigarettes? Many smokers, at least early on, indicated they switched to vaping to reduce or quit smoking (Ayers, Leas, Allem, Benton, Dredze, et al., 2017). I knew about numerous case reports and uncontrolled studies where smokers indicated vaping helped them quit (see Hartmann-Boyce, McRobbie, Bullen, Begh, Stead, et al., 2016). Indeed, I was well aware of a loud and vigorous on-line community that believes strongly in the power of electronic cigarettes as a tool to quit smoking.

But what did the science tell me? What did data from the best kinds of studies, randomized clinical trials, show? Randomized trials assign smokers, by chance, to different treatment groups to compare whether those assigned to use electronic cigarettes stop smoking at higher (or the same or lower) rates than those assigned to some other treatment. The results of randomized trials are the basis of all clinical treatment recommendations across a range of problems, diseases, and disorders. Did science support the use of vaping as a tool to quit smoking?

The answer discouraged the coach: The evidence doesn't support using electronic cigarettes to quit smoking (Hartmann-Boyce et al., 2016) and doing so could even lead to reduced chances of quitting (Kalkhoran & Glantz, 2016). I knew of ongoing randomized trials and that this conclusion was subject to change, but I could not, in good conscience, recommend electronic cigarettes as a way for him to quit smoking.

I told him that many good options were available and that these options had years of strong, accumulated scientific evidence to support their use. For example, over-the-counter nicotine replacement medicines (such as nicotine patches and nicotine gum) combined with specific types of counseling strategies (behavioral support, coping skills training) were effective at helping smokers to quit successfully (see Fiore et al., 2008). I suggested that he could speak to his doctor about prescriptions for other medicines (bupropion, varenicline) that are effective for helping smokers quit. I offered to send him web links to evidence-based on-line resources (<https://smokefree.gov/>; <https://www.becomeanex.org/>). I gave him the number for the toll-free smoking cessation quit line (1-800-QUIT-NOW); smokers who use quit lines have a better chance of quitting than those that do not (Stead, Hartmann-Boyce, Perera, & Lancaster, 2013).

He said I had raised "interesting points" and thanked me for my advice, but said he would probably continue to use electronic cigarettes to help him quit. He had already gone without cigarettes for a few days and said he felt pretty good. I congratulated him and wished him well. He is a terrific guy and had a very positive impact on my son. I wanted him to be successful and truly wished I could have offered him more, but the evidence on electronic cigarettes just didn't guide me in that direction. Maybe it will someday, maybe sometime soon - but maybe not.

My son has since moved on to other pursuits, and we don't see his coach regularly any more. I occasionally drive by the old practice spot and a few weeks ago happened to see him outside. I rolled down my window and waved hello. He waved back with his left hand while carefully hiding his right hand behind him. He smiled sheepishly and shrugged his shoulders. It was then that I noticed the faint cloud of smoke ringing his head. He was smoking a cigarette.

— William G. Shadel, Ph.D.

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