



# Talking Ethics



## Friend or Foe: The E-Cigarette Conundrum

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As health care providers we have a duty to ensure that we are giving our clients the best possible advice based on the best possible evidence. Yet what is our role when an emerging trend gains rapid popularity in the absence of sufficient high-quality evidence of safety and long-term consequences?

The effects of long-term tobacco use are readily apparent on the teeth, gums, tongue, and cheeks as well as on the lips, face, and neck. Dental hygienists play a critical role in routinely screening for mucosal changes, and aid in the prevention and elimination of tobacco use. Dental hygienists are among the few health professionals who are uniquely positioned to deliver these health promotion and disease prevention strategies to individuals, communities, and populations.

But with 8.5% of Canadians (approximately 2.5 million people) reportedly trying e-cigarettes,<sup>1</sup> what approach should dental hygienists take?

Electronic cigarettes (e-cigarettes) are battery-powered devices that mimic the use of conventional cigarettes. E-cigarettes are usually comprised of a battery, a cartridge containing water, flavouring, and sometimes nicotine in a base of propylene glycol and glycerin, and an atomizer that heats this liquid to produce vapour.<sup>2</sup> Puffing on the device triggers the atomizer to heat the solution, producing vapour that is inhaled by the user, an action that is often referred to as “vaping.”<sup>1</sup> A key difference between e-cigarettes and tobacco cigarettes is that e-cigarettes do not contain tobacco and no combustion takes place.<sup>1,3</sup> Although e-cigarettes are perceived to be less harmful than tobacco cigarettes and manufacturers of e-cigarettes claim that they may support tobacco harm reduction efforts,<sup>1</sup> there are growing concerns about their possible adverse health effects, their potential to renormalize tobacco use, the increased uptake among youth, and other unforeseen consequences of unregulated production, sale, and use of these diverse products.<sup>4</sup>

Nicotine is a highly addictive substance and, while nicotine-containing e-cigarettes have not been approved for sale in Canada, many users have reported vaping with e-cigarettes containing nicotine.<sup>1</sup> There are many ways to access nicotine, such as online and at retail outlets and “vape shops,”<sup>5</sup> and the amount of nicotine content can vary considerable. Interestingly, approximately half of Canadian e-cigarette products labelled as nicotine-free actually contain nicotine.<sup>6</sup> Other ingredients that have been found in e-cigarettes include formaldehyde, carcinogenic compounds such as nitrosamines, carbonyl compounds, volatile organic compounds (some levels similar to cigarettes), and vapour containing heavy metals.<sup>4,7-10</sup> In addition to an increase in accidental poisonings, short-term eye and respiratory irritation related to e-cigarette use, there is limited evidence that e-cigarettes actually help people to quit tobacco.<sup>11-12</sup> Moreover, the potential harm from second-hand e-cigarette vapour remains an unknown. Although the data are limited and the adverse chemicals appear to be substantially less harmful than combustible tobacco, it is clear that e-cigarettes are not harmless products.

### What if your client is interested in using e-cigarettes or is attempting to quit tobacco?

The e-cigarette industry promotes the use of e-cigarettes as a harm-reduction strategy for tobacco users and a smoking cessation aid. However, these claims have not been supported by sufficient high-quality research.<sup>13-15</sup> In addition, e-cigarettes have not been approved as a smoking cessation aid by Health Canada. Also of concern are the continuing evolution and diversity of e-cigarettes, which call into question the relevance and/or comparability of research conducted on older products. Furthermore, e-cigarettes may represent a “gateway” drug, particularly to youth, if they increase the likelihood that non-smokers or former smokers will try and/or continue to use tobacco products.<sup>16</sup>

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The complexity of this ethical problem may leave dental hygienists pondering multiple courses of actions. Fortunately, CDHA's Code of Ethics<sup>17</sup> can offer some assistance when dealing with this ethical challenge.

### PRINCIPLE 1: BENEFICENCE

Beneficence involves caring about and acting to promote the good of another. Dental hygienists use their knowledge and skills to **assist clients to achieve and maintain optimal oral health and overall well-being.**

### PRINCIPLE 2: AUTONOMY

Autonomy pertains to the right to make one's own choices. Dental hygienists are responsible for actively involving clients in their oral health care, and **promote informed choice by communicating relevant information openly, truthfully, and sensitively in recognition of their needs, values, and capacity to understand.**

Ultimately, in the absence of sufficient high-quality evidence demonstrating the safety of e-cigarettes and their role in reducing dependence on tobacco, and given emerging concerns about health risks, the role of the dental hygienist is to assist clients in making an informed choice. Since e-cigarettes are not approved as a smoking cessation aid in Canada, dental hygienists should assist individuals interested in quitting tobacco by providing cessation counselling, making appropriate referrals, and directing clients to cessation aids approved by Health Canada, as required. It is imperative for dental hygienists to stay current on the research and advocate for appropriate regulation of and high-quality research on e-cigarettes, with a particular emphasis on safety, youth uptake, their potential as a smoking cessation device, and their long-term health and societal effects.

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