

Health Effects of E-Cigarette Use: Summary of Recommendations

Recommendations — Cancer	Evidence Quality
1. People who do not smoke should not use e-cigarettes in order to avoid exposure to cancer-causing chemicals.	High/Moderate
2. Tobacco users* who have been unable/unwilling to quit using current best evidence-based approaches, should switch completely to e-cigarettes to reduce exposure to tobacco-related cancer-causing chemicals.	High/Moderate
3. People who use e-cigarettes should avoid long-term use of e-cigarettes (where relapse to combustible cigarettes is not a concern) in order to reduce exposure to cancer-causing chemicals.	Moderate/High

Recommendations — Cardiovascular Health	Evidence Quality
1. People who do not smoke should not use e-cigarettes in order to avoid exposure to:	
1a) cancer-causing chemicals.	High/Moderate
1b) adverse effects on the cardiovascular system.	Moderate/High
2. Tobacco users* who have been unable/unwilling to quit using current best evidence-based approaches, should switch completely to nicotine-containing e-cigarettes to reduce:	
2a) exposure to cardiovascular toxicants and	Moderate/High
2b) improve measures of cardiovascular function.	Moderate/Low

Recommendations — Dependence	Evidence Quality
1. Those who do not smoke should not use nicotine-containing e-cigarettes as it may lead to dependence.	High/Moderate
2. Tobacco users* who have been unable/unwilling to quit using current best evidence-based approaches, should switch completely to nicotine-containing e-cigarettes to:	
2a) increase their chance of remaining smoke-free	High/Moderate
2b) reduce their dependence**	Moderate/Low
3. People who use nicotine-containing e-cigarettes should avoid long-term use (where relapse to combustible cigarettes is not a concern) as this maintains dependence.	Moderate/High

Recommendations — Respiratory Health	Evidence Quality
1. People who do not smoke should not use e-cigarettes in order to avoid respiratory dysfunction and symptoms.	High/Moderate
2. Tobacco users* with pre-existing respiratory diseases (e.g., COPD, asthma) who have been unable/unwilling to quit using current best evidence-based approaches, should switch completely to e-cigarettes for better lung health.	Moderate
3. People who use e-cigarettes should avoid long-term use (where relapse to combustible cigarettes is not a concern) to reduce exposure to respiratory toxicants and potentially minimize respiratory symptoms and dysfunction.	Moderate/Low

Consideration Statement: Cancer

While there is no current evidence from human studies to suggest that e-cigarettes cause cancer, there is evidence that people who use e-cigarettes are exposed to cancer-causing chemicals. Using e-cigarette products instead of smoking combustible tobacco leads to a significant reduction in exposure to cancer-causing chemicals.

Health care practitioners should discuss the potential overall health risks associated with using e-cigarette products with their clients. For commercial combustible tobacco cigarette smokers, the potential health risks of e-cigarettes should be compared with other evidence-based treatment options, such as nicotine replacement therapy.

Consideration Statement: Cardiovascular Health

Health care practitioners should exercise caution when recommending e-cigarettes to clients who have had cardiovascular events, such as myocardial infarctions. This is because:

1. Acute use of nicotine-containing e-cigarettes is associated with increases in heart rate and blood pressure equivalent to the acute use of combustible cigarettes.
2. Acute use of nicotine and non-nicotine-containing e-cigarettes is associated with increases in endothelial dysfunction (flow-mediated dilatation) and arterial stiffness.

Consideration Statements: Dependence

There is insufficient evidence to describe criteria for an e-cigarette use disorder since only cravings, tolerance and withdrawal have been described. To meet the criteria for an addiction, there is not enough evidence beyond the preceding criteria and loss of control over use. Other criteria for a use disorder, such as continued use despite harm, and use in places where it is dangerous to do so, are not met.

1. Given the prevalence and health risks associated with polysubstance use, health care practitioners should assess clients who use nicotine-containing e-cigarettes for co-use of other substances, including cannabis, alcohol, and/or tobacco, and modify their treatment approach accordingly.
2. E-cigarettes might not completely eliminate symptoms of nicotine withdrawal compared to combustible cigarettes.

Consideration Statement: Respiratory Health

Health care practitioners should note that among people who use e-cigarettes, there is an increase in self-reported symptoms of asthma.

*Tobacco users as a term refers to individuals who use commercial combustible tobacco products, including cigarettes, cigars, hookah, or pipes. This recommendation will need adaptation if applied to children and adolescent tobacco users.
 **No consensus on strength of recommendation

For more information, see the full [Guidance and Recommendations](#).