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ACC Expert Consensus Guidance on Tobacco Cessation

The American College of Cardiology (ACC) has issued an expert consensus decision pathway that outlines and standardizes tobacco-cessation treatment. The document is published online December 6 in the *Journal of the American College of Cardiology*.

Doctors should take a front-line approach in delivering smoking-cessation therapy to patients who come to their clinic or who are in the hospital because they have had a cardiac event, because we know these are times that offer a teachable moment when patients are more primed and open to these discussions. In a recent study, roughly 23% received at least one smoking-cessation pharmacotherapy during hospitalization, most commonly a nicotine patch.

Smoking is a "chronic relapsing substance use disorder", which requires clinicians to adopt a chronic disease-management strategy, monitoring progress over time and making repeated efforts to encourage and facilitate smoking cessation. Most smokers who attempt to quit will have "repeated cycles of abstinence followed by relapse to smoking" before they achieve long-term abstinence.

Current evidence strongly supports combining pharmacotherapy with behavioral interventions to help smokers attain and to maintain abstinence. The pharmacologic component helps smokers adjust to the absence of nicotine after cessation of smoking by lessening the symptoms of nicotine withdrawal, whereas the behavioral treatments are based on principles of behavioral and cognitive psychology that attempt to bolster smokers' self-control over their smoking.

The consensus document has also addressed electronic cigarettes or e-cigarettes, as they are commonly referred to, which differ from cigarettes and other combustible products in that they do not produce smoke by burning tobacco. Approximately one-half of the committee felt e-cigarettes are associated with less short-term harm than combustible cigarettes and may be of benefit for smokers.

All patients should try to quit smoking using the standard therapies, but those who are failing and want to try e-cigarettes have to recognize that the long-term health risks are largely unknown at this time. They should also recognize that the e-cigarette should be discontinued as soon as the target is achieved, and they should set a specific date for that quitting as well.

ABOUT E-CIGARETTES AND EXCERPTS FROM THE CONSENSUS STATEMENT

Also known as electronic nicotine delivery systems (ENDS), e-cigarettes do not produce smoke by burning tobacco; this is how they differ from the traditional cigarettes and other combustible tobacco products. Instead, they heat a solution (e-liquid) that usually contains nicotine, propylene glycol or vegetable glycerin, and flavorings to generate an aerosol that the user inhales.

E-cigarette devices vary considerably in design. First-generation products are disposable devices that

mimic the appearance and experience of smoking a combustible cigarette. Second-generation devices are larger and have rechargeable batteries and/or replaceable cartridges of e-liquid. Third-generation e-cigarettes allow the user to customize the devices by manipulating features such as batteries, temperature and dose of nicotine.

Recently, a novel vaping device emerged that differs from previous e-cigarettes in its technology, product design and marketing. Exemplified by JUUL, the device is designed to resemble a computer flash drive and encapsulates nicotine, flavorings and other contents in small replaceable cartridges called "pod-mods". The device's battery, rechargeable via a USB port, heats the liquid to produce vapor. The product differs from the earlier e-cigarettes in the chemical formulation of nicotine used in the product. Pod-mod devices use nicotine salts, which produces more protonated nicotine at a lower pH than the free-base form of nicotine used in other e-cigarettes, which has a higher pH and activates nicotine sensory receptors. Therefore, the nicotine in the newer devices is less irritating when inhaled.

Additionally, these devices can deliver a higher concentration of nicotine to the user. A higher dose of nicotine might benefit adult smokers who are seeking to quit cigarettes but might also promote nicotine dependence among nonsmoking adolescents and young adults.

E-cigarettes have the potential for large public health benefit if they help smokers to quit smoking combustible cigarettes, especially smokers who have not been willing or able to quit using current treatments. This potential benefit must be balanced against e-cigarettes' own long-term health risks, which are largely unknown at this time, and against the potential for e-cigarettes to attract youth and young adults who might not otherwise smoke to take up their use and perhaps increase the uptake of cigarettes.

In August 2016, the FDA gained regulatory authority over e-cigarettes, allowing it to enforce laws preventing the sale of e-cigarettes to persons under the age of 18 years, ban provision of free product samples, and regulate the labeling and content of e-cigarettes. A 2018 systematic evidence review by the National Academies of Sciences, Engineering and Medicine (NASEM) concluded that while scientific evidence is insufficient to allow reliable conclusions to be made about the long-term health effects of e-cigarettes (including cardiovascular outcomes or measures of subclinical atherosclerosis), such risks could be less than those associated with smoking, because toxicants and carcinogens present in cigarette smoke are absent or present at much lower concentrations in e-cigarette aerosols (*2018. NASEM. Public Health Consequences of E-Cigarettes. ed. The National Academies Press, Washington, DC*).

The NASEM report concluded that completely switching from combustible tobacco products to e-cigarettes should reduce short-term adverse health effects of continued smoking, indicating e-cigarettes' potential for harm reduction.

Dual use of both cigarettes and e-cigarettes is bad. Smoking even one cigarette daily increases cardiovascular disease (CVD) risk in epidemiological studies. The NASEM report found only limited evidence that e-cigarettes are effective as cessation aids when compared with no treatment or current FDA-approved cessation therapies, but it found moderate evidence that e-cigarettes may be more likely to lead to smoking cessation when used more frequently as compared to infrequent or intermittent use.

Despite gaps in the evidence base about the effectiveness of e-cigarettes for smoking cessation, many smokers are asking physicians in clinical practice for guidance about e-cigarettes.

Writing committee members were unanimous on 3 points:

1. The clinician's role is to encourage and support a smoker's efforts to stop using cigarettes and other combustible tobacco products.
2. Given the uncertainties of the long-term effects of e-cigarettes on health, a clinician should advise cigarette smokers seeking to quit to use evidence-based, FDA-approved, safe and effective smoking cessation pharmacotherapies as first-line treatments in preference to e-cigarettes.
3. Clinicians should be prepared to discuss the risks and benefits with patients who ask about or are already using an e-cigarette. If a smoker decides to use e-cigarettes, the committee felt that the clinician should play a supportive role, helping the patient to use the product in a way that minimizes risk to themselves and others and indicating that the eventual goal is complete abstinence from all products, including e-cigarettes.

Approximately one-half of the committee felt e-cigarettes are associated with less short-term harm than combustible cigarettes and may be of benefit for smokers who have been unable to quit smoking after

multiple attempts using FDA-approved medications and behavioral support or for smokers who are unwilling to quit but seek to reduce tobacco-related health harms. In these situations, e-cigarette use is likely to minimize risk if smokers switched completely to e-cigarettes, avoided dual use, and used e-cigarettes temporarily as an aid to cessation of both cigarettes and e-cigarettes. Other committee members felt that the limited evidence of benefit of e-cigarettes for cessation of combustible tobacco products and the insufficient evidence regarding long-term health effects outweighed any potential benefits of e-cigarettes at this time.

Like smokers using conventional cessation therapies, those using e-cigarettes should be followed regularly by the clinician or smoking cessation professional. Although there are no data yet to show that behavioral support enhances the potential effectiveness of e-cigarettes for cessation, it is reasonable to encourage e-cigarette users to use the standard resources for behavioral support. "Heat-not-burn" (HNB) devices are also alternative tobacco products that, like e-cigarettes, do not burn tobacco. Unlike e-cigarettes, which heat a nicotine-containing liquid, HNB products heat tobacco itself. A pen-like device heats a tobacco stick to a temperature lower than that required for combustion but high enough to release an aerosol that users inhale.

Studies funded by the manufacturers have reported that HNB products produce lower levels of harmful chemicals compared with conventional cigarettes.

Little is known about the health effects of HNB products. Novel HNB products are not currently approved for sale in the United States, but one tobacco company has applied to the FDA for approval to market its product as a modified-risk tobacco product.

Should e-cigarettes be introduced in India under NRT? The answer is yes.

Source: 2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment. A Report of the American College of Cardiology Task Force on Clinical Expert Consensus Documents. J Am Coll Cardiol. Published online December 6, 2018.

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CHAT WITH DR KK

Jan Aushadhi Kyon Nahi Gaye?