KAISER PERMANENTE

Tobacco and Nicotine Cessation Guideline

Last guideline approval: May 2024

Guidelines are systematically developed statements to assist patients and providers in choosing appropriate health care for specific clinical conditions. While guidelines are useful aids to assist providers in determining appropriate practices for many patients with specific clinical problems or prevention issues, guidelines are not meant to replace the clinical judgment of the individual provider or establish a standard of care. The recommendations contained in the guidelines may not be appropriate for use in all circumstances. The inclusion of a recommendation in a guideline does not imply coverage. A decision to adopt any particular recommendation must be made by the provider in light of the circumstances presented by the individual patient.

Major Changes as of May 2024

Because there is no safe tobacco product, this guideline recommends **eventual abstinence from *all* tobacco products—including e-cigarettes—as the end goal of intervention.**

There is emerging evidence that switching completely from conventional cigarettes to e-cigarettes is an effective intervention for harm reduction and for smoking cessation, at least in the short term. This guideline now includes guidance to inform conversations with **adult, non-pregnant** patients who are considering using e-cigarettes as an intermediate, harm-reduction approach when they have been unable to quit conventional cigarette smoking using the recommended pharmacologic and behavioral interventions. The guideline's strong recommendations against e-cigarette use in **adolescent** patients are unchanged.

Throughout this guideline, the term ***e-cigarette*** refers to any type of electronic nicotine delivery system (including but not limited to pods, vape pens, and mods), while the term ***vaping*** refers to the use of any e-cigarette.

Screening and Prevention of Tobacco and Nicotine Use

Screening for use of tobacco and nicotine products is standard work at Kaiser Permanente Washington. All patients aged 10 years or older must have tobacco/nicotine product history documented in KP HealthConnect. The screening question "Have you ever used tobacco or nicotine products (cigarettes, e-cigarettes, chew, vaping device)?" is included on the Well Visit Questionnaires for ages 10 and older. **All patients, including those who are pregnant, should be asked about tobacco/nicotine use at every visit.** (For adults who have never smoked, less frequent screening may be considered, but at a minimum should be done at all Well Visits.) The 2020 U.S. Surgeon General's Report found that virtually all adult smokers first tried cigarettes before the age of 18.

The USPSTF 2020 recommends that primary care clinicians provide interventions, including education or brief counseling, **to prevent initiation of tobacco use among school-aged children and adolescents** (Grade B recommendation).

Screening for Lung Cancer

Patients who are current cigarette smokers (regardless of their readiness to quit) or who have quit within the past 15 years should be assessed to determine whether they are eligible for lung cancer screening. See the KPWA Lung Cancer Screening Guideline for more information.

As of March 2022, lung cancer screening with low-dose computed tomography (LDCT) is recommended for patients who meet **all** of the following criteria:

- Are ages 50 through 79,
- Have at least a 20-year pack history,
- Currently smoke or quit less than 15 years ago, **and**
- Have no significant comorbidities that would preclude surgical treatment or limit life expectancy.

While screening with LDCT can prevent some lung cancer deaths, it is important to emphasize to patients that the single most effective way to reduce lung cancer risk is smoking cessation. For every year patients don't smoke, their risk for lung cancer goes down.

Recommended Interventions by Population

All users of tobacco and/or nicotine products (such as e-cigarettes) should be strongly encouraged to quit. The goal is sustained cessation of all tobacco and/or nicotine products.

Safe, effective treatments that have been approved by the FDA are recommended as first-line options for smoking cessation. For **adult, non-pregnant** patients who have been unable to quit conventional cigarette smoking using these pharmacologic and behavioral interventions, consider using shared decision-making to discuss the benefits and risks of using e-cigarettes as a smoking cessation aid. See E-Cigarettes section, pp. 8–9.

Table 1. Recommended interventions for tobacco and/or e-cigarette cessation

Population	Behavioral interventions	Medication therapy [1]	
		NRT (patch, gum, lozenge)	Varenicline or bupropion
Adults (USPSTF 2021)	Yes	Yes	Yes
Teens [2] (USPSTF 2020)	Yes	Consider	Consider
Pregnant persons (USPSTF 2021)	Yes	No	No

1. Medication therapy is most effective when combined with behavioral interventions.
2. Intervention recommendations in this guideline apply to teens aged 13–18 years. For younger patients who are using tobacco or e-cigarettes, consider consultation with Mental Health and Wellness.

Stages of readiness

Ask current tobacco and/or e-cigarette users if they are ready to make a quit attempt now.

- **Ready now:** Develop a quit plan with the patient that includes behavioral interventions, education, and medications as appropriate. Use .AVSTOBACCOREADY
- **Not ready but interested:** Provide education and information about behavioral interventions (including referral to Quit For Life). Consider offering nicotine replacement therapy if patient is willing to reduce nicotine consumption prior to attempting cessation. Nicotine abstinence is not required before starting NRT. Use .AVSTOBACCONOTREADY
- **Not ready and not interested:** Continue screening standard work at future visits and provide encouragement to choose a quit date at every visit. Use .AVSTOBACCONOTREADY

See Appendix 1 for talking points to use in conversations with adults and teens at each stage of readiness.

A note about menthol tobacco products
The KP Washington 2024 evidence review for this guideline included a question about the effectiveness of medications for users of menthol versus non-menthol cigarettes. The review concluded that there is insufficient evidence to determine whether the effectiveness of nicotine-cessation medications differs based on the type of cigarette (menthol versus non-menthol) used by the patient. For more information about menthol, see Menthol Tobacco Products on the CDC website.

Behavioral Intervention Options

Behavioral Intervention Options	Adults	Teens
Quit For Life® - *First-line recommendation*	x	x
Comprehensive tobacco cessation program **for adults and teens aged 13 years and over.** KP members are eligible to participate in the program at no cost. Quit For Life provides individual telephone counseling sessions with coaches who screen participants for medication appropriateness, contraindications, or precautions; make initial dosing recommendations; and provide follow-up and support for medication use. Participants can also access the program coaches via text or online. Bilingual coaches and online content also available for Spanish speakers. **Have the patient call 1-800-462-5327 for more information, or use REF QUIT FOR LIFE in KP HealthConnect.**		
Washington State Quitline Patients can get online information and resources at http://www.quitline.com or call 1-800-QUIT-NOW (1-800-784-8669). Phone lines available in Spanish, Chinese, Korean, and Vietnamese; interpreter services available for 240 other languages.	x	x
Nicotine Anonymous 1-877-TRY-NICA (1-877-879-6422) Group support – telephone, online, in-person	x	
Freedom from Smoking (American Lung Association)	x	
Smokefree.gov text-based programs (National Cancer Institute)	x	x
How to Quit (CDC)	x	x
Not for Me (American Lung Association)		x
Truth Initiative text DITCHVAPE to 88709		x
QuitStart app (National Cancer Institute)		x

Medication Options

Medication treatment should be offered to current, non-pregnant nicotine users who are motivated and ready to quit, and who smoke more than one-half pack per day or use e-cigarettes regularly.

Behavioral therapy should be offered in conjunction with medication treatment.

There is limited evidence on the effectiveness of smoking cessation medications and behavioral interventions for e-cigarettes; however, because nicotine addiction is the underlying reason that patients continue to use both conventional cigarettes and e-cigarettes, **it is reasonable to consider using the same smoking cessation interventions for e-cigarettes** as for conventional cigarettes.

A note about medications and teens
All nicotine cessation medications are **off-label for teens** due to insufficient evidence. Because the benefits of nicotine cessation outweigh the possible harms of medications, consider offering medication treatments to teens who smoke 10 or more cigarettes per day or use e-cigarettes regularly. Because many teens who use nicotine smoke fewer than 10 cigarettes per day or are occasional users of e-cigarettes, shared decision-making is recommended prior to prescribing NRT to avoid inadvertently increasing the amount of nicotine consumed.

Three types of medication are recommended for nicotine cessation, alone or in various combinations: **nicotine replacement therapy (NRT), varenicline, and bupropion**. Evidence suggests that each of these medications is equally effective but that all have different therapeutic and side effects, so shared decision-making is recommended to choose the medication combination that may work best for each patient (see Table 2).

If using a single medication type is not sufficient, consider combining medication types:

- **Varenicline *or* bupropion + NRT** is more effective than any of these medications as monotherapy (Guo 2022 *[Addict Behav],* Guo 2022 *[Drug Alcohol Depend],* Shang 2022, Livingstone-Banks 2023, Vila-Farinas 2024, Thomas 2022).
- **Varenicline + bupropion** may also be considered, as moderate evidence suggests that the combination is more effective than varenicline alone (Zhong 2019).

Table 2. Considerations for selecting nicotine cessation medication

Nicotine replacement therapy (NRT): 1st-line if two forms combined, 2nd-line if single form used.

Prescription and over-the-counter, treats physical dependence on nicotine. Can help relieve withdrawal symptoms without exposing people to the thousands of chemicals found in cigarettes. **Recommended forms: patches, gum, lozenges.** (Inhaler and nasal spray forms may have more adverse effects and are less affordable.) Two forms taken concurrently (patch/gum or patch/lozenge) are more effective than a single form.

Benefits	Side effects/contraindications	Monitoring
Better adherence than varenicline or bupropion.	Do not use if recent heart attack, irregular heartbeat, or chest pain. Avoid NRT patch if eczema, rash, or other skin condition. Avoid NRT gum if jaw problems such as temporomandibular joint disease.	Test heart rate and blood pressure periodically. Discontinue NRT in any form if signs of nicotine toxicity: severe headache, dizziness, mental confusion, disturbed hearing and vision, abdominal pain, excessive salivation, nausea, vomiting, diarrhea, cold sweat, weakness, or rapid, weak, and irregular pulse. Discontinue NRT patch if rash develops. Consider discontinuing NRT patch or reducing the dose if symptoms of myalgia, arthralgia, abnormal dreams, insomnia, nervousness, dry mouth, or sweating.

Varenicline: 1st-line

Prescription medication that works by interfering with nicotine receptors in the brain. It reduces nicotine withdrawal symptoms, including cravings, while also blocking the effects of nicotine on nicotine receptors, thereby diminishing the rewarding effects of cigarettes.

Benefits	Side effects/contraindications	Monitoring
Achieves slightly higher abstinence rates than bupropion or NRT.	Do not use in patients with a history of serious hypersensitivity or skin reactions to varenicline. Common side effects include nausea, sleep disturbances, constipation, flatulence and vomiting.	Patients should be advised to contact their doctor if they experience signs or symptoms of depression, suicidal thoughts, nervousness, emotional ups and downs, abnormal thinking, anxiety, or lack of interest in life.

Bupropion: 2nd-line

Prescription medication that decreases cravings and other nicotine withdrawal symptoms. It also has some nicotine receptor blocking activity, which may diminish the rewarding effects of cigarettes.

Benefits	Side effects/contraindications	Monitoring
Because bupropion is an antidepressant, it may be the preferred choice for patients with concurrent depression.	FDA black box warning about an increased risk of suicide when initiating therapy for teens and young adults. Do not use if at risk for seizures or if history of bulimia/anorexia nervosa. Common side effects include dry mouth, insomnia, and restlessness.	Patients should be advised to contact their doctor if they experience signs or symptoms of depression, suicidal thoughts, nervousness, emotional ups and downs, abnormal thinking, anxiety, or lack of interest in life.

Medication dosing

These medications may be prescribed for e-cigarette users as well as smokers of conventional cigarettes. **Use clinical judgment for NRT dosing for e-cigarette users**. Use the Tobacco & Nicotine Cessation SmartRx (available in KP HealthConnect) to order medication treatment and refer to Quit for Life.

Table 3. Dosing for nicotine cessation medications

Medication	Initial dose	Maximum dose
Nicotine transdermal patch	***Tapering schedule***	
	> 10 cigarettes per day	
	Weeks 1–4: 21 mg patch per day Weeks 5–6 14 mg patch per day Weeks 7–8: 7 mg patch per day	—
	≤ 10 cigarettes per day	
	Weeks 1–6: 14 mg patch per day Weeks 6–8: 7 mg patch per day	—
Nicotine gum	***Tapering schedule***	
	Time from waking to first cigarette: **≤ 30 minutes**: Use **4 mg** piece. **> 30 minutes:** Use **2 mg** piece.	
	Weeks 1–6: 1 piece every 1–2 hours (at least 9 per day) Weeks 7–9: 1 piece every 2–4 hours Weeks 10–12: 1 piece every 4–8 hours	Up to 24 pieces per day
Nicotine lozenge	***Tapering schedule***	
	Time from waking to first cigarette: **≤ 30 minutes**: Use **4 mg** lozenge. **> 30 minutes:** Use **2 mg** lozenge.	
	Weeks 1–6: 1 lozenge every 1–2 hours (at least 9 per day) Weeks 7–9: 1 lozenge every 2–4 hours Weeks 10–12: 1 lozenge every 4–8 hours	5 lozenges every 6 hours; up to 20 lozenges per day
Varenicline [1]	Begin 1 week before the quit date. Day 1–3: 0.5 mg once daily Day 4–7: 0.5 mg twice daily Day 8 through week 12: 1 mg twice daily	1 mg twice daily
Bupropion sustained release (SR) [1]	Begin 1–2 weeks before the quit date. Day 1–3: 150 mg once daily Day 4 through week 12: 150 mg twice daily	300 mg per day

1. Reassess at 12 weeks to determine if continuation of therapy is appropriate (i.e., benefit is greater than risk).

E-Cigarettes for Harm Reduction and Smoking Cessation

There is emerging, high-quality evidence that switching completely from conventional cigarettes to e-cigarettes is an effective intervention for harm reduction and for smoking cessation, at least in the short term. Users of e-cigarettes are exposed to fewer (and lower levels of) toxic substances than users of conventional cigarettes, and while not without health risks, e-cigarette use is generally less harmful than smoking cigarettes.

However, because the consequences of long-term use of e-cigarettes are unknown, e-cigarettes should be considered only an interim step toward full abstinence from all tobacco and nicotine products.

Safe, effective treatments that have been approved by the FDA continue to be recommended as first-line options for smoking cessation. **For adult, non-pregnant patients who have been unable to quit using these pharmacologic and behavioral interventions and who may be considering using e-cigarettes,** use shared decision-making to discuss the benefits and risks of using e-cigarettes as a smoking cessation aid.

Switching from conventional cigarettes to e-cigarettes:

- Requires a shared decision-making conversation with patients that clearly explains the quality of existing evidence and where the evidence is weak or absent. See Table 4, "Key points comparison of e-cigarettes and conventional tobacco," to support shared decision-making.
- May increase the success rate for smoking cessation over NRT in the short term (for at least 6 months).
- Reduces exposure to carcinogens and lowers smoking-related disease risks in the short term; however, long-term risks of e-cigarette use are unknown.
- Is not recommended for teens or pregnant persons.

A minimal number of e-cigarette products have undergone rigorous scientific review, including toxicologic assessments, and have been found by the FDA to meet the statutory public health standard. Patients interested in switching to e-cigarettes:

- Should stop smoking conventional cigarettes completely when switching to e-cigarettes, and
- May want to consider using an FDA authorized tobacco product. (Most e-cigarettes, including popular brands such as Juul, have not undergone scientific review or received approval by the FDA.)

What other organizations say

- The U.S. Preventive Services Task Force (2021) concluded that there was insufficient evidence to recommend the use of e-cigarettes for tobacco cessation in adults (USPSTF Grade I).
- The CDC considers e-cigarettes to have the potential to benefit adult smokers who are not pregnant if used as a complete substitute for regular cigarettes, but recommends against the use of e-cigarettes for youth, pregnant adults, and adults who do not currently use tobacco products.
- The Washington Quitline (DOH) does not recommend use of e-cigarettes for smoking cessation but does recommend that former smokers who have switched completely to vaping continue to use e-cigarettes if they feel at risk of returning to smoking until they can transition to NRT.
- Some international organizations (such as in the UK, New Zealand, Australia) recommend switching from conventional tobacco products to e-cigarettes, prioritizing stopping smoking rather than stopping nicotine use. For example, the NICE (2021) guideline considers e-cigarette use to be a form of NRT and, when combined with behavioral support, a first-line option for smoking cessation.

Table 4. Key points comparison of e-cigarettes and conventional tobacco		
	E-cigarettes	**Conventional tobacco products**
Harms	• While e-cigarettes are generally a lower-risk alternative for **non-pregnant adults** who smoke cigarettes, the use of e-cigarettes is not risk-free. • E-cigarette aerosol contains harmful substances such as heavy metals, carcinogens, volatile organic compounds, ultrafine particles, and toxic flavorings. • When switching to e-cigarettes, it is possible for former smokers to end up ingesting more nicotine if they vape more frequently than they smoked. • Smokers who become dual users of e-cigarettes and conventional cigarettes may end up increasing their harms. • Since there is no safe tobacco product, **eventual abstinence from all tobacco products should be the end goal.**	• Tobacco use is the leading preventable cause of disease, disability, and death in the U.S. • Smoking increases the risk for all-cause mortality, cancer, respiratory disease, cardiovascular disease, and diabetes, and harms nearly every organ in the body. • **Based on strong evidence (USPSTF Grade A), cessation is strongly recommended for all current tobacco users.** •

Interventions for cessation	• Evidence is limited on behavioral and pharmacologic interventions for e-cigarette cessation.
	• **Behavioral interventions** are recommended for all e-cigarette users.
	• **Pharmacologic interventions:**
	  ○ Are recommended for non-pregnant adults.
	  ○ Are off-label for adolescents, but *may be considered* for adolescents who are ready to quit.
	  ○ Are *not* recommended for pregnant persons.
		• There is strong evidence for behavioral and pharmacological interventions for smoking cessation in adults (USPSTF Grade A).
		• A combination of both behavioral and pharmacological interventions is preferred.
		• Despite insufficient evidence, it is recommended that behavioral interventions (especially apps and other digital interventions) be offered to adolescents and pregnant persons, due to the likelihood that benefits outweigh harms.
		• Off-label use of smoking cessation medications may also be considered for adolescents who are motivated to quit.
		• Pharmacologic interventions are not recommended for pregnant persons.
		• There is moderate-quality evidence that use of e-cigarettes is less harmful than continuing to smoke cigarettes.

Evidence Summary

The Tobacco and Nicotine Cessation Guideline was developed using an evidence-based process, including systematic literature search, critical appraisal, and evidence synthesis.

As part of our improvement process, the Kaiser Permanente Washington guideline team is working towards developing new clinical guidelines and updating the current guidelines every 2–3 years. To achieve this goal, we are adapting evidence-based recommendations from high-quality national and international external guidelines, if available and appropriate. The external guidelines should meet several quality standards to be considered for adaptation. They must: be developed by a multidisciplinary team with no or minimal conflicts of interest; be evidence-based; address a population that is reasonably similar to our population; and be transparent about the frequency of updates and the date the current version was completed.

In addition to identifying the recently published guidelines that meet the above standards, a literature search was conducted to identify studies relevant to the key questions that are not addressed by the external guidelines.

External guidelines eligible for adapting

- **Canadian Pediatric Society 2021** Protecting children and adolescents against the risks of vaping.
- **National Comprehensive Cancer Network 2023** NCCN Clinical Practice Guidelines in Oncology. Smoking Cessation, Version 3.2022
- **NICE 2021** Tobacco: preventing update, promoting quitting and treatment dependence.
- **Thoracic Society 2020** Initiating Pharmacologic Treatment in Tobacco-dependent Adults: An Official ATS Clinical Practice Guideline
- **USPSTF 2021** Tobacco Smoking Cessation in Adults, Including Pregnant Persons: Interventions.
- **USPSTF 2020** Tobacco Use in Children and Adolescents: Primary Care Interventions.

Key questions from the KPWA review

Question 1. What is the safety and effectiveness of e-cigarettes (ECs) as an aid for smoking cessation in current smokers (adolescents, adults, pregnant women)?

A new systematic review and meta-analysis (Lindson 2024) that included 88 studies—47 of which were randomized controlled trials (RCTs)—involving 27,235 adults suggests:

- There is high-quality evidence that nicotine ECs increase smoking cessation in the short term (for at least 6 months) compared to NRT. There is moderate evidence that nicotine ECs increase smoking cessation compared to ECs without nicotine. In addition, low-quality evidence shows that smoking cessation is higher for ECs with nicotine compared to no support or behavioral support.
- Low-quality evidence indicates that the rates of serious adverse events are comparable between groups. Moderate-quality evidence suggests comparable rates of adverse events between ECs with nicotine versus NRT, or ECs with nicotine versus ECs without nicotine.

However, long-term effects cannot be ascertained due to short follow-up. The balance of benefits and harms cannot be fully determined.

Several other systematic reviews and meta-analyses also indicate that nicotine ECs may increase smoking cessation in adults in the short term (6–12 months); however, the quality of their evidence is low.

In pregnant women and adolescents, the evidence is still insufficient.

Question 2. Does switching to e-cigarettes (ECs) reduce smoking-related health risks in adult/adolescent/pregnant smokers?

RCTs
Five RCTs (Edmiston 2022, George 2019, Pulvers 2020, Jay 2020, D'Ruiz 2017) including adult smokers were reviewed. The studies compared participants who switched to ECs to current smokers. The type of ECs varied. Follow-up was short, as participants were followed for 5 days to 24 weeks. The findings consistently suggest that switching from combustible cigarettes to ECs may be beneficial to patients over the short term. It may also reduce exposure to carcinogens. A complete switch from conventional cigarettes to ECs may lower smoking-related disease risks. The results should be interpreted with caution due to limitations/high risk of bias of individual studies.

Observational studies
Five cohort studies (Dai 2022, Flacco 2020, Mahoney 2022, Polosa 2020, Walele 2018) were reviewed. Participants were adult smokers who switched to ECs and were compared to smokers not using ECs. Follow-up varied from 1 to 6 years. Three studies reported potential harm reduction while two studies stated a lack of harm reduction or insufficient evidence. In conclusion, the findings are mixed regarding harm reduction. The findings should be interpreted with caution owing to the low quality of the studies (small sample size, short follow-up, high attrition bias, conflict with manufacturer, unseen confounders).

Question 3. What is the efficacy and safety of the combination of medications (NRT, varenicline, bupropion) as an aid for smoking and nicotine cessation (both cigarettes and e-cigarettes) in current adult and teen smokers?

Conventional tobacco cessation

- **Adults:** The findings did not change current KPWA guidelines. (Guo 2022 *[Addict Behav],* Guo 2022 [*Drug Alcohol Depend]*, Shang 2022, Livingstone-Banks 2023, Vila-Farinas 2024, Thomas 2022)
- **Adolescents and pregnant women:** Evidence is insufficient.

E-cigarette cessation
Two RCTs were reviewed (Palmer 2023, Caponnetto 2023). Participants were adult EC users who were willing to quit. While Palmer compared combination NRT (21 mg patches, 4 mg lozenges) plus supportive booklet to Quitline referral and followed patients for 56 days, Caponnetto assessed varenicline 1 mg plus counselling versus placebo with counselling and followed participants for 12 weeks. The findings suggest that compared to Quitline referral, combination NRT may result in abstinence from vaping (33% vs 0; P=0.057) (Palmer 2023). Similarly, varenicline may lead to continuous EC abstinence over the short term (OR = 2.52, [1.14–5.58], P = 0.0224) (Caponnetto 2023). Results should be interpreted with caution due to high risk of bias.

The evidence is insufficient to draw strong conclusions on the effectiveness of combinations of medications (varenicline, bupropion, NRT) on e-cigarette cessation.

Dual use cessation
Evidence is insufficient.

Question 4. Is there a differential effectiveness of medication on menthol versus non-menthol cigarette use?

In summary, two cohort studies are the basis of the conclusion. The findings are mixed. While one study (D'Silva 2012) indicates no significant differences in self-reported 30-day point prevalence abstinence rates between menthol and non-menthol smokers (17.3% vs 13.8%, P=0.191), the second study (Gandhi 2009) suggests that African American menthol smokers experienced decreased success in quitting compared to non-menthol smokers at 6 months (OR = 0.48; 95% CI = 0.25, 0.9). The quality of the studies is low owing to high attrition rate, short follow-up, retrospective nature of one of the cohort studies, and lack of data on interaction between treatment and menthol cigarettes on smoking cessation.

Four other studies (Okuyemi 2003, Okuyemi 2007, Smith 2014, Selva Kumar 2021) were briefly reviewed since they are secondary analyses and of very low quality. These studies reported that menthol cigarettes

may lead to reduced smoking cessation compared with non-menthol cigarettes over the short term despite medical treatment.

Overall, the evidence is insufficient to draw a conclusion on the differential effectiveness of medication on menthol versus non-menthol cigarette use.

References

Caponnetto P, Campagna D, Ahluwalia JS, et al. Varenicline and counseling for vaping cessation: a double-blind, randomized, parallel-group, placebo-controlled trial. *BMC Med*. 2023;21(1):220. Published 2023 Jul 5. doi:10.1186/s12916-023-02919-2

D'Ruiz CD, O'Connell G, Graff DW, Yan XS. Measurement of cardiovascular and pulmonary function endpoints and other physiological effects following partial or complete substitution of cigarettes with electronic cigarettes in adult smokers. *Regul Toxicol Pharmacol*. 2017;87:36-53. doi:10.1016/j.yrtph.2017.05.002

D'Silva J, Boyle RG, Lien R, Rode P, Okuyemi KS. Cessation outcomes among treatment-seeking menthol and nonmenthol smokers. *Am J Prev Med*. 2012;43(5 Suppl 3):S242-S248. doi:10.1016/j.amepre.2012.07.033

Dai H, Benowitz NL, Achutan C, Farazi PA, Degarege A, Khan AS. Exposure to Toxicants Associated With Use and Transitions Between Cigarettes, e-Cigarettes, and No Tobacco. *JAMA Netw Open*. 2022;5(2):e2147891. Published 2022 Feb 1. doi:10.1001/jamanetworkopen.2021.47891

Edmiston JS, Webb KM, Wang J, Oliveri D, Liang Q, Sarkar M. Biomarkers of Exposure and Biomarkers of Potential Harm in Adult Smokers Who Switch to e-Vapor Products Relative to Cigarette Smoking in a 24-week, Randomized, Clinical Trial. *Nicotine Tob Res*. 2022;24(7):1047-1054. doi:10.1093/ntr/ntac029

Flacco ME, Fiore M, Acuti Martellucci C, et al. Tobacco vs. electronic cigarettes: absence of harm reduction after six years of follow-up. *Eur Rev Med Pharmacol Sci*. 2020;24(7):3923-3934. doi:10.26355/eurrev_202004_20859

Gandhi KK, Foulds J, Steinberg MB, Lu SE, Williams JM. Lower quit rates among African American and Latino menthol cigarette smokers at a tobacco treatment clinic. *Int J Clin Pract*. 2009;63(3):360-367. doi:10.1111/j.1742-1241.2008.01969.x

George J, Hussain M, Vadiveloo T, et al. Cardiovascular Effects of Switching From Tobacco Cigarettes to Electronic Cigarettes. *J Am Coll Cardiol*. 2019;74(25):3112-3120. doi:10.1016/j.jacc.2019.09.067

Guo K, Wang S, Shang X, et al. The effect of Varenicline and Bupropion on smoking cessation: A network meta-analysis of 20 randomized controlled trials. *Addict Behav*. 2022;131:107329. doi:10.1016/j.addbeh.2022.107329

Guo K, Zhou L, Shang X, et al. Varenicline and related interventions on smoking cessation: A systematic review and network meta-analysis. *Drug Alcohol Depend*. 2022;241:109672. doi:10.1016/j.drugalcdep.2022.109672

Jay J, Pfaunmiller EL, Huang NJ, Cohen G, Graff DW. Five-Day Changes in Biomarkers of Exposure Among Adult Smokers After Completely Switching From Combustible Cigarettes to a Nicotine-Salt Pod System. *Nicotine Tob Res*. 2020;22(8):1285-1293. doi:10.1093/ntr/ntz206

Lindson N, Butler AR, McRobbie H, et al. Electronic cigarettes for smoking cessation. *Cochrane Database Syst Rev*. 2024;1(1):CD010216. Published 2024 Jan 8. doi:10.1002/14651858.CD010216.pub8

Livingstone-Banks J, Fanshawe TR, Thomas KH, et al. Nicotine receptor partial agonists for smoking cessation. *Cochrane Database Syst Rev*. 2023;5(5):CD006103. Published 2023 May 5. doi:10.1002/14651858.CD006103.pub8

Okuyemi KS, Ahluwalia JS, Ebersole-Robinson M, Catley D, Mayo MS, Resnicow K. Does menthol attenuate the effect of bupropion among African American smokers?. *Addiction*. 2003;98(10):1387-1393. doi:10.1046/j.1360-0443.2003.00443.x

Okuyemi KS, Faseru B, Sanderson Cox L, Bronars CA, Ahluwalia JS. Relationship between menthol cigarettes and smoking cessation among African American light smokers. *Addiction*. 2007;102(12):1979-1986. doi:10.1111/j.1360-0443.2007.02010.x

Palmer AM, Carpenter MJ, Rojewski AM, Haire K, Baker NL, Toll BA. Nicotine replacement therapy for vaping cessation among mono and dual users: A mixed methods preliminary study. *Addict Behav*. 2023;139:107579. doi:10.1016/j.addbeh.2022.107579

Palmer AM, Price SN, Foster MG, Sanford BT, Fucito LM, Toll BA. Urgent Need for Novel Investigations of Treatments to Quit E-cigarettes: Findings from a Systematic Review. *Cancer Prev Res (Phila)*. 2022;15(9):569-580. doi:10.1158/1940-6207.CAPR-22-0172

Polosa R, Morjaria JB, Prosperini U, et al. COPD smokers who switched to e-cigarettes: health outcomes at 5-year follow up. *Ther Adv Chronic Dis*. 2020;11:2040622320961617. Published 2020 Oct 10. doi:10.1177/2040622320961617

Pulvers K, Nollen NL, Rice M, et al. Effect of Pod e-Cigarettes vs Cigarettes on Carcinogen Exposure Among African American and Latinx Smokers: A Randomized Clinical Trial. *JAMA Netw Open*. 2020;3(11):e2026324. Published 2020 Nov 2. doi:10.1001/jamanetworkopen.2020.26324

Selva Kumar D, Peterson M, Zhang C, Fagan P, Nahvi S. The impact of menthol cigarette use on quit attempts and abstinence among smokers with opioid use disorder. *Addict Behav*. 2021;118:106880. doi:10.1016/j.addbeh.2021.106880

Shang X, Guo K, E F, et al. Pharmacological interventions on smoking cessation: A systematic review and network meta-analysis. *Front Pharmacol*. 2022;13:1012433. Published 2022 Oct 24. doi:10.3389/fphar.2022.1012433

Smith SS, Fiore MC, Baker TB. Smoking cessation in smokers who smoke menthol and non-menthol cigarettes. *Addiction*. 2014;109(12):2107-2117. doi:10.1111/add.12661

Thomas KH, Dalili MN, López-López JA, et al. Comparative clinical effectiveness and safety of tobacco cessation pharmacotherapies and electronic cigarettes: a systematic review and network meta-analysis of randomized controlled trials. *Addiction*. 2022;117(4):861-876. doi:10.1111/add.15675

Vila-Farinas A, Pérez-Rios M, Montes-Martinez A, et al. Effectiveness of smoking cessation interventions among pregnant women: An updated systematic review and meta-analysis. *Addict Behav*. 2024;148:107854. doi:10.1016/j.addbeh.2023.107854

Walele T, Bush J, Koch A, Savioz R, Martin C, O'Connell G. Evaluation of the safety profile of an electronic vapour product used for two years by smokers in a real-life setting. *Regul Toxicol Pharmacol*. 2018;92:226-238. doi:10.1016/j.yrtph.2017.12.010

Zhong Z, Zhao S, Zhao Y, Xia S. Combination therapy of varenicline and bupropion in smoking cessation: A meta-analysis of the randomized controlled trials. *Compr Psychiatry*. 2019;95:152125. doi:10.1016/j.comppsych.2019.152125

Guideline Development Process and Team

Development process

The Tobacco and Nicotine Cessation Guideline was developed using an evidence-based process, including systematic literature search, critical appraisal, and evidence synthesis. For details, see Evidence Summary and References.

This edition of the guideline was approved for publication by the Guideline Oversight Group in June 2024.

Team

The Tobacco and Nicotine Cessation Guideline development team included representatives from the following specialties: adolescent medicine, family medicine, general internal medicine, pharmacy, and preventive care.

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Appendix 1. Talking Points for Counseling Interventions: All Patients

Arrange for follow-up contacts, either in person or via telephone. The first two follow-ups are recommended within 1 week and 1 month of the quit date, respectively. Relapse is most common in the first 1–2 weeks after quitting.

The former tobacco/nicotine user should receive repeated congratulations on any success (even if only brief) and strong encouragement to remain abstinent or make a new quit attempt, if necessary. Relapse remains common within the first year of cessation.

For recent quitters, use open-ended questions relevant to the topics below:

- The benefits, including potential health benefits that derive from cessation.
- Any success the patient has had in quitting (duration of abstinence, reduction in withdrawal, etc.).
- The problems encountered and dangers to maintaining abstinence.
- A medication check-in, including adherence and side effects.

Recognize danger situations that increase the risk of relapse:

- Depression
- Being around other smokers
- Drinking alcohol
- Experiencing urges
- Time pressure
- Life stressors

Provide basic information about smoking and successful quitting:

- Tobacco/nicotine use is addictive.
- Withdrawal symptoms include negative mood, urges to smoke, and difficulty concentrating.
- Withdrawal typically peaks within 1–3 weeks after quitting.
- Any smoking (even a single puff) increases the likelihood of full relapse.
- Use of pharmacotherapies can reduce withdrawal symptoms. See “Pharmacologic options,” p. __.
- Odds of successful quitting are significantly increased with combination use of medication and counseling compared to either counseling or medication alone.

Former tobacco/nicotine users with lapses

Goal

Encourage another quit attempt or a recommitment to total abstinence.

Counseling interventions

- Suggest continued use of medications, which can reduce the likelihood that a lapse will lead to a full relapse.
- Reassure the patient that quitting may take multiple attempts, and use the lapse as a learning experience.
- Refer the patient to the Quit For Life Program.

All current tobacco/nicotine users

Goal

Quit all tobacco/nicotine use.

Counseling interventions

Urge every tobacco/nicotine user to quit in a clear, strong, and personalized manner.

- "As your clinician, I need you to know that quitting is the most important thing you can do to protect your health now and in the future. The clinic staff and I will help you."

- Tie use to the patient's current health or illness, social and economic costs, impacts on children, pets, and others in the household.

Assess the patient's readiness to attempt to quit using tobacco/nicotine. Ask, "Are you willing to make a quit attempt within the next 30 days?"

- If **yes,** see "Tobacco/nicotine users who are ready to quit," below.
- If **no,** acknowledge the patient's choice, let the patient know that effective treatments are available when they are ready to quit, and follow up at subsequent visits.

Strategies for engaging patients and enhancing their motivation to quit can include:

- Encouraging them to indicate why quitting is personally relevant, being as specific as possible.
- Asking them to identify potential benefits of stopping tobacco use.
- Using a "readiness ruler." Patients can be asked the following questions at every engagement visit:

    On a scale from 0 to 10:

    1. How IMPORTANT do you feel it would be to change your tobacco use?
    2. How CONFIDENT do you feel that you can change your tobacco use?

Ask follow-up questions about the patient's self-rating. Asking, "Why not a higher number?" gives the patient an opportunity to explore and articulate current **barriers** to quitting tobacco, while "Why not a lower number?" can elicit the patient's **motivations** to change or their self-efficacy. The actual number patients assign themselves is not important, but the discussion that follows can help increase a smoker's readiness to quit.

Current tobacco/nicotine users who are ready to quit

Goals

Develop a quit plan with the patient. Discuss smoking cessation programs, clinic-based counseling (Primary Care or Adolescent Center), web- or mobile phone–based interventions, drug treatment, and follow-up.

Help patients with a quit plan by instructing them to:

- Set a quit date. Ideally, the quit date should be within 2 weeks.
- Tell family, friends, and coworkers about quitting and request their understanding and support.
- Anticipate challenges to planned quit attempt, particularly during the critical first few weeks. These include nicotine withdrawal symptoms.
- Remove tobacco products from their environment. Prior to quitting, avoid smoking in places where they spend a lot of time (e.g., work, home, car).

Provide practical counseling by addressing:

- Abstinence. Total abstinence is essential, including "not even a single puff after the quit date."
- Past quit experiences. Review past quit attempts, including identification of what helped during the quit attempt and what factors contributed to relapse.
- Potential triggers or challenges in the upcoming attempt. Discuss challenges/triggers and how the patient will successfully overcome them.
- Alcohol use. Because alcohol can cause tobacco relapse, the patient should consider limiting/abstaining from alcohol while quitting.
- Other smokers in the household. Quitting is more difficult when there is another smoker in the household. Patients should encourage housemates to quit with them or not smoke in their presence.