



**Tobacco and Nicotine:
Prevention, Addiction,
Treatment and
Management**

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Armenian American Medical Society

Agenda

PART 1 : Discuss smoking and the significant role nicotine has on addiction

1. Discuss why people smoke, why they should stop, and how to stop
2. Outline the clinician's role in screening for tobacco use, and providing cessation counseling
3. Provide resources for smoking cessation
4. Go over various pharmacologic therapies (i.e, Nicotine Replacement Therapies, etc)

PART 2 : Provide information on E-cigarettes/Vaping/Hookahs

3 Post-Test Questions



Facts

- ▶ Smoking is the **leading preventable** cause of death
- ▶ ~500K deaths per year in US
 - ▶ ~40K deaths are a result from secondhand smoke exposure.
- ▶ **30%** of all cancer deaths related to smoking
- ▶ Affects nearly every organ system in the body
- ▶ On average, smokers die 10 years earlier than nonsmokers
- ▶ *******Each Cigarette cuts 6 minutes off of life*******

Trend:

- ▶ Cigarette smoking has decreased by >20% over the past 10 years (21%→16%)-per CDC
- ▶ Use of other tobacco products (including cigars) and nicotine containing products (e-cigarettes) are increasing

Questions:

1. Why do people smoke?
2. Why should they stop/benefits?
3. How do we stop?

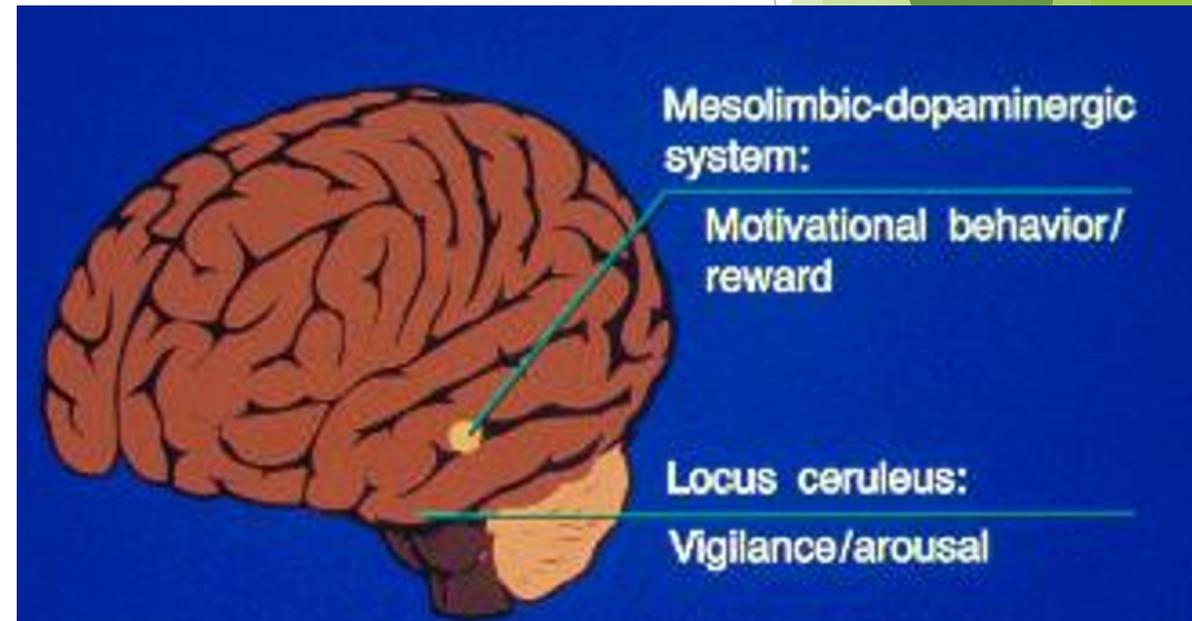
1. Why do people smoke?

3-Pronged Dependency to Nicotine

1. Physiological
2. Psychological
3. Behavioral

Why Do People Smoke? - Physiological

- ▶ **Nicotine** to brain - 7 seconds
- ▶ Binds to nicotine receptors resulting in secretion of Dopamine
- ▶ Causes a pleasurable sensation and cognitive arousal



Physiological

▶ Enhance:

- ▶ Concentration
- ▶ Alertness
- ▶ Memory

• Decrease:

- Tension
- Anxiety

Promotes feeling of well being

Nicotine Dependence

“As an addictive substance, nicotine, on a milligram for milligram basis, is 10 times more potent than heroin...”

2. Why should we stop smoking?

- Benefits of quitting start in minutes and continue for years
 - Even after decades of smoking, stopping significantly reduces risk for death, slows deterioration of lung function
- Those who quit smoking by age 50 decrease their risk of dying over the next 15 years by 50% compared with those who do not stop **
- 10 years: risk for lung cancer reduced by half
- 1 year: 50% reduction for heart attack

Why is it so difficult to stop smoking?

Nicotine is highly addictive

1. **Physiologic/Psychological:** Withdrawal symptoms:

- ▶ Depressed mood, anxiety, irritability, restlessness, insomnia, increased appetite, difficulty concentrating
- ▶ Symptoms peak in first week, can continue ≥ 6 weeks
- ▶ Psychological cravings for nicotine can last longer

2. **Behavioral:** Quitting smoking also requires behavior change

- ▶ Smoking is a comforting habit to many smokers

How do we stop smoking?

How Do We Stop Smoking?

- ▶ **QUESTION:** How many times does someone try to quit smoking before they quit for good??
- ▶ Abstinence rate for unaided cessation < 5%
- ▶ Physicians/Health Professionals have a prominent role in tobacco control - **Have the trust**
- ▶ A simple advice or basic clinical interventions will lead to **higher smoking cessation rates**
- ▶ Can educate about the harms of tobacco use and exposure to second-hand smoke, and how to overcome their addiction
- ▶ Refer patients to certified tobacco treatment specialists
- ▶ For more meaningful abstinence rates, **comprehensive** tobacco dependence treatment is best
 - ▶ >30% abstinence



Screening tool for providers

5A's (Developed by US Public Health Service)

- ▶ **ASK—About tobacco use at every encounter- including other nicotine containing products (i.e., e-cigarettes)**
 - ▶ Identify and document use
 - ▶ Consider systematic process (e.g., vital signs)
- ▶ **ADVISE—To quit tobacco use**
 - ▶ Strong, clear, personalized message
- ▶ **ASSESS—Willingness to quit**
 - ▶ If not ready, offer motivational counseling
- ▶ **ASSIST—In quitting**
 - ▶ Set a quit date
 - ▶ Address behavioral changes, pharmacotherapy, support
- ▶ **ARRANGE—follow-up**
 - ▶ Monitor progress, side effects, withdrawal

Abbreviated version of the 5 A's

AAC

- ▶ **A**sk
- ▶ **A**dvice
- ▶ **C**onnect

AAR

- ▶ **A**sk
- ▶ **A**dvice
- ▶ **R**efer

Ask and Act

- ▶ **A**sk about tobacco use
- ▶ **A**ct to help them quit.

1. *JAMA Intern Med.* 2013;173(6):458-464. doi:10.1001/jamainternmed.2013.3751

2. American Academy of Family Physicians (AAFP) - <https://www.aafp.org/patient-care/public-health/tobacco-nicotine/ask-act.html>

American Academy of Family Physicians- add to your EHR

What should be included in a tobacco cessation EHR template?

Including tobacco use status as a vital sign provides an opportunity for office staff to begin the process. Status can be documented as:

- Current every day smoker
- Current some day smoker
- Former smoker
- Never smoker
- Smoker, current status unknown
- Unknown if ever smoked

A complementary field can document secondhand smoke exposure: current, former, or never, and work, home, or social.

The template may include some or all of the following data points or prompts:

HISTORY

Type of tobacco:

- Cigarettes Packs per day/week (20 cigarettes/pack): _____
- Pipe Bowls per day/week: _____
- Cigars Number per week: _____
- Smokeless Cans/pouches per day/week: _____
- Other tobacco products (orbs, strips, sticks, hookah, etc)
Amount per day/week: _____
- E-Cigarettes Cartridges per day/week or mg/mL liquid nicotine: _____

Approximate date of last quit attempt: _____

a) How long did you quit that time? _____

Longest period of time quit in past: _____

a) How long ago? _____

b) What caused relapse? _____

Medication used in previous quit attempt:

- Nicotine patch
- Nicotine gum
- Nicotine lozenge
- Nicotine nasal spray
- Nicotine oral inhaler
- Varenicline
- Bupropion
- Nortryptiline
- Other (i.e., herbal): _____
- No medication

ASSESSMENT

Readiness to Quit:

- Not interested in quitting
- Would like to quit sometime (but not within the next month)
- Would like to quit now or soon (within the next month)

Other smokers in household (Y / N)

PLAN

Quit date: _____

Counseling:

Time counseled:

- less than 3 minutes
- 3 to 10 minutes
- greater than 10 minutes

Topics covered:

- Tobacco-proof home and car
- Changing daily routines
- Dealing with urges to smoke
- Getting support
- Anticipating/avoiding triggers
- Secondhand smoke
- Teach behavioral skills
- Reinforce benefits
- Counseling notes: _____

PHARMACOTHERAPY

Recommended OTC:

- Nicotine Replacement Therapy (NRT) Gum
- NRT Lozenge
- NRT Patch
- NRT Patch Plus (combination of patch plus gum or lozenge)

Medical Treatment:

- NRT Nasal Spray
Dosing: 1–2 doses/hour (8–40 doses/day); one dose = one spray in each nostril; each spray delivers 0.5 mg of nicotine
- NRT Oral Inhaler
Dosing: 6–16 cartridges/day; initially use 1 cartridge q 1–2 hours (best effects with continuous puffing for 20 minutes)
- Bupropion SR
Dosing: Begin 1–2 weeks prior to quit date; 150 mg po q AM x 3 days (as tolerated), then increase to 150 mg po bid. Contraindications: head injury, seizures, eating disorders, MAO inhibitor therapy.
- Varenicline
Dosing: Begin 1 week prior to quit date; days 1–3: 0.5 mg po q AM; days 4–7: 0.5 mg po bid; weeks 2–12: 1 mg po bid. Monitor for neuropsychiatric symptoms.

AAFP Handouts Provided:

- Quit Smoking "Prescription"
- Quitline Referral Card
- Steps to Help You Quit Smoking Brochure
- Quit Smoking Guide (Self-Help Booklet)
- Familydoctor.org information on Tobacco Addiction
- Other: _____

FOLLOW-UP PLAN

- Fax referral to quitline
- Referred to cessation program: _____
- Follow-up visit in two weeks
- Staff to follow up in _____ weeks
- Quit date call: _____
- Address at next visit

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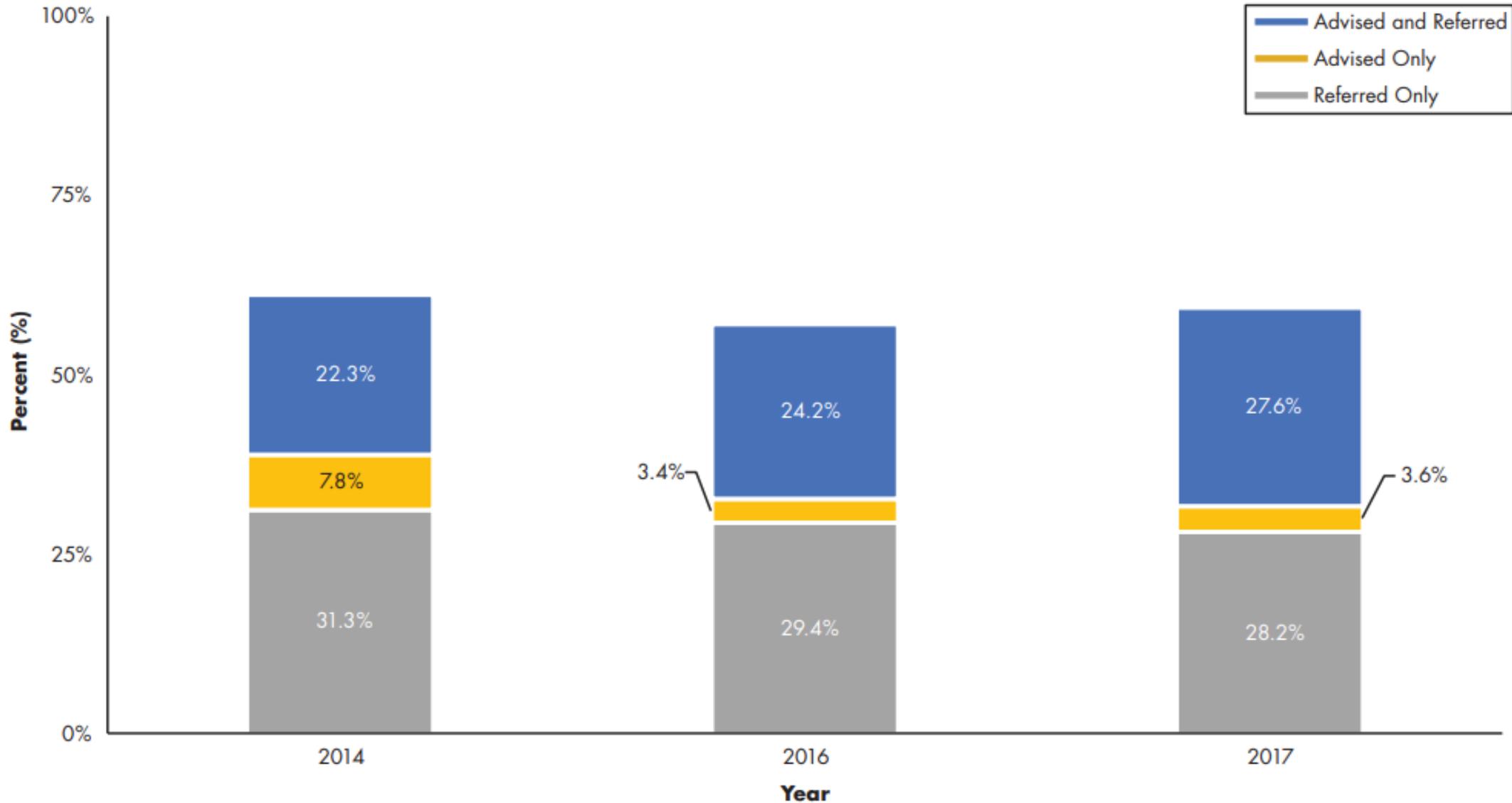
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DOCTOR REFERRALS TO CESSATION PROGRAMS

-Advised to quit and referred to cessation programs among adult cigarette smokers in California, 2014 to 2017



Source:
<https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CTCB/CDPH%20Document%20Library/ResearchandEvaluation/FactsandFigures/CATobaccoFactsandFigures2019.pdf>

Resources

▶ QUITLINES:

- ▶ **1-800-QUIT-NOW (English)**
- ▶ 1-855-DÉJELO-YA (Spanish)
- ▶ Others for Mandarin, Cantonese, Korean and Vietnamese

▶ California Smokers' Helpline

- ▶ 1-800-NO-BUTTS (1-800-662-8887)

▶ “*Tips From Former Smokers*®” campaign -motivated >500,000 tobacco smokers to quit for good-

<https://www.cdc.gov/tobacco/campaign/tips/>

▶ MOBILE APP: **QuitSTART** at smokefree.gov/apps-quitstart

▶ TEXT PROGRAM: **SmokefreeTXT** at smokefree.gov/smokefreetxt

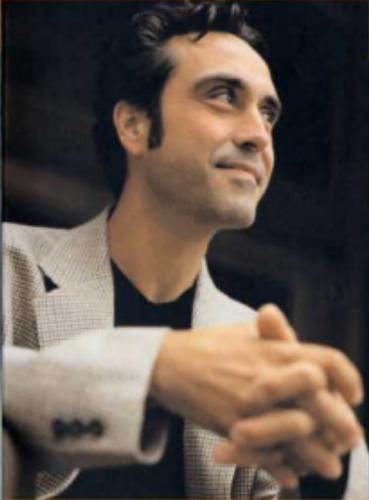
▶ Others:

- ▶ Self-help therapy /Motivational interviewing/ Individual/Group therapy/ Acupuncture, hypnosis

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1 Դուք Կարող Եք Դադարեցնել Ծխելու Սովորությունը



Եթե որոշել եք դադարեցնել ծխելը, տեղին կլինի շնորհավորել ձեզ: Դուք ծխելու սովորությունից հրաժարված միլիոնավոր ուրիշների միանալու ճանապարհին եք արդեն: Եթե նրանք կարող են, դու՛ք էլ եք կարող:

www.glendaleadventist.com

Glendale Adventist Medical Center
Adventist Health

Coding for Tobacco Screening and Cessation

▶ Medicare

- ▶ Covers two levels of tobacco cessation counseling per 12-month period
 - ▶ Symptomatic patients - Both coinsurance and deductible apply.
 - ▶ Asymptomatic patients - Both coinsurance and deductible are waived.

▶ Medicaid-varies by state

▶ Private/Commercial Insurance Carriers-varies by plan

▶ Affordable Care Act (ACA) covered preventive services include:

- ▶ Tobacco use screening for all adults and adolescents
 - ▶ Tobacco cessation counseling for adults and adolescents who use tobacco, and expanded counseling for pregnant women
- ▶ See Billing Guide for tobacco screening and cessation (in Appendix)

Pharmacologic therapies



1st Line Agents

- 1. Combination of two nicotine replacement therapies (NRT)** (a patch plus a short-acting form such as the gum or lozenge)
- 2. varenicline (Chantix) alone**
- 3. Bupropion:**
 - ▶ Can be used alone or in combination with NRT agents

2nd Line Agents: Nortriptyline; clonidine

1. <https://www.aafp.org/aafp/2012/0315/p591.html>
2. https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/pharmacologic-guide.pdf
3. USPSTF - <https://www.uspreventiveservicestaskforce.org/>
4. UpToDate

How to select a therapy

- ▶ **All smokers** should receive pharmacotherapy unless it is contraindicated
- ▶ Efficacy of all 1st-line FDA-approved medications **similar**
 - ▶ Choice should be guided by patient preference, comorbidities and side effect profile, patient experiences, access, cost
- ▶ Bupropion is less effective than combination NRT or varenicline (Chantix)
 - ▶ Is an option if the patient had short-term success with bupropion in a previous quit attempt or if cost is an issue
 - ▶ if the patient has depression or wishes to temporarily avoid post-cessation weight gain

Nicotine replacement therapy (NRT)

OTC: Nicotine replacement therapy (NRT)

- ▶ Long-acting NRT (patches) provides consistent nicotine levels.
- ▶ Short-acting NRT (e.g, gum, lozenge) -For breakthrough cravings



Rx: oral inhaler

- ▶ Helps address behavioral and sensory aspects of smoking
- ▶ Nicotine vapor (not smoke) is released, deposited primarily in the oropharynx, and absorbed through the oral mucosa. Does not reach the lungs to an appreciable extent.



Rx nasal spray

- ▶ Causes rapid rise in plasma nicotine concentration (within 10min)
- ▶ Limitation: Nasal irritation



Tips:

- ▶ Single agent NRT is less effective than combination NRT therapy.
- ▶ Recommend lozenge over the gum if patient has temporomandibular joint disease, poor dentition, or dentures
- ▶ Remove patch at night if the patient is having vivid dreams at night-no effect on smoking cessation rate

Therapies (Cont)

▶ varenicline (Chantix)

- ▶ Begin therapy 1 week prior to quit date
- ▶ Non-nicotine drug acts at the $\alpha 4$ - $\beta 2$ -nicotinic receptor as a partial agonist and antagonist



▶ Bupropion (Zyban, generics)

- ▶ Begin therapy 1-2 weeks prior to quit date
- ▶ Non-nicotine drug inhibits serotonin, norepinephrine, and dopamine reuptake



Are there conditions that contraindicate or caution against pharmacologic therapy?

▶ **NRT**

- ▶ NRT's are safe in stable cardiovascular disease (CVD)
- ▶ Use caution within 2 weeks of recent MI, severe angina, or life-threatening arrhythmias

▶ **Bupropion**

- ▶ Contraindicated: recent history of seizures
- ▶ Drug interactions with antipsychotics and MAO inhibitors or drugs with MAO inhibitor-like activity
- ▶ Associated with hypertension (monitor blood pressure)

▶ **varenicline (Chantix)**

- ▶ Claims have been dropped for neuropsychiatric and CV side effects of varenicline (Chantix)
- ▶ Concerns regarding neuropsychiatric effects (erratic and hostile behavior) and possibly cardiovascular events
- ▶ Use cautiously in patients with renal impairment

How long should patients use pharmacologic therapy before it is considered ineffective?

- ▶ Explain how each of these medications work and how to use them
- ▶ Use for as long as clinically necessary
- ▶ **NRT**: typically prescribed for 8-12 weeks
 - ▶ NRT may be extended and even used indefinitely if needed.
- ▶ **Bupropion**: typically prescribed for 8-12 weeks
 - ▶ Safely used for long periods in treatment of depression
 - ▶ Approved for long-term maintenance of cessation
- ▶ **varenicline (Chantix)**: can be used up to 24 weeks to prevent relapse
 - ▶ Safety established for up to 1 year

What about those who are unable to quit or relapse?

If unable to quit:

- ▶ Assess if drug(s) are being used correctly
 - ▶ Chewing nicotine gum too rapidly or not using gum or lozenge frequently enough
 - ▶ Avoid coffee, carbonated drinks with lozenges/gum (they decrease nicotine absorption)
- ▶ Assess dose of NRT, and add/increase short-acting NRT
- ▶ If using first-line medications (including short-acting NRT) correctly and maximally without sufficient effect at four weeks → Add another first- or second-line agent
- ▶ Assess counseling support that they are receiving

If relapsing:

- ▶ Relapse is a reality of any addiction, and is part of natural history of tobacco dependence
 - ▶ Many patients require **several attempts** before achieving durable abstinence
- ▶ If relapsed- Restart a pharmacologic agent that previously worked for the patient. And add more intensive behavioral support



Recap Part 1

1. Smoking is **the leading preventable** cause of death
2. Nicotine is highly addictive and leads to physiological/psychological/behavioral dependencies
3. On average, it takes **8-10** quit attempts before one quits smoking for good
4. Physicians and healthcare professionals have a prominent role in smoking prevention and cessation
5. Adopt the abbreviated smoking screening tool (**AAR**) and include tobacco/nicotine use screening as one of the vital signs you collect
 - Incorporate the AAFP Assessment tool in your EMR/office visits
6. **Pharmacotherapy + behavioral therapy** increases success rates for smoking cessation/abstinence
7. Start smoking cessation therapy with 1st line therapies (when patient is ready)
 - Combination of 2 nicotine replacement therapies (NRT)
 - varenicline (Chantix) alone
 - Bupropion (with or without NRT)
8. Refer to Quitline via fax or electronic referral: **1-800-QUIT-NOW (English)**
9. The earlier they quit, the greater the benefit
10. Have frequent follow ups after initiation of smoking cessation

A close-up photograph of a person's face and hand. The person is holding a black vape pen in their right hand and exhaling a plume of white vapor. The background is a soft, out-of-focus blue. A red rectangular box is overlaid on the center of the image, containing white text. The overall image has a green border on the right and bottom edges.

Part 2: Vaping/e-Cigarettes/Hookas

Electronic Nicotine Delivery Systems



Image Source: FDA



JUUL

Cig-a-Likes * Vape Pens * Mods * Advanced Personal Vaporizers * E-cigars/Pipes * Pod Systems

What is an e-cigarette? What is “vaping”?

- ▶ **E-cigarette-** A handheld battery-powered vaporizer that simulates smoking
- ▶ Instead of cigarette smoke, the user inhales an aerosol, inaccurately called vapor
 - ▶ "vaping" -Using an e-cigarette
- ▶ **E-Liquid** (aka e-juice)-is the solution that's heated up and converted to an aerosol. It contains:
 - ▶ Nicotine (0-59+mg/ml); Flavorings; Propylene glycol (PG); Glycerin; Formaldehyde, Acetaldehyde, Acrolein
- ▶ These devices do not burn tobacco
- ▶ Reusable and disposable
- ▶ Entered into the market in 2003
- ▶ No federal agency oversees the e-cigarette industry



E-cigarettes

- ▶ E-cigarettes/vaping in youth as an **EPIDEMIC**
- ▶ There is no role for the use of e-cigarettes in youth
- ▶ Appeal to youth with their flavors, discreetness, designs, social media advertising, online videos
- ▶ In 2018, more than 3.6 million U.S. middle and high school students used e-cigarettes in the past 30 days, including 4.9% of middle school students and 20.8% of high school students
- ▶ Most e-cigarettes contain nicotine
- ▶ 1 pod of **JUUL** contains same amount of nicotine levels as a **pack cigarettes** or 200 puffs
 - ▶ Teens can go through a JUUL pod in one day
- ▶ Include them when taking smoking as a Vital Sign
 - ▶ Do you smoke?
 - ▶ Do you vape or use electronic cigarettes?
 - ▶ Do you use JUUL?



Are E-Cigarettes Safe?

- ▶ Appear to be less hazardous than regular cigarettes; and are less dangerous for those exposed to secondhand aerosol
- ▶ It is **not** harmless water vapor
- ▶ Can cause the same lung changes that lead to emphysema in smokers
- ▶ The U.S. Preventive Services Task Force concluded that the current evidence is insufficient to recommend Electronic nicotine delivery systems (ENDS) for smoking cessation

“As Vaping Illnesses Rise, Doctors Warn Of Possible 'Irreversible Damage' To Lungs”

-More than 1200 cases of lung disease have been reported in 46 states and the U.S. Virgin Islands.
-The CDC has confirmed >25 deaths, in 10 states.

“Many of the patients were diagnosed with lipid pneumonia, which means that oils or fats have entered the lung that should not be there.”

1. <https://www.npr.org/sections/health-shots/2019/09/19/762306652/as-vaping-illnesses-rise-doctors-warn-of-possible-irreversible-damage-to-lungs>

2. Research from University of North Carolina School of Medicine)

Are Hookahs (or waterpipes) safe?

- ▶ The device works by burning charcoal that will then burn a tobacco mixture, as well as heat up the water. The smoke the charcoal generates helps move the tobacco through the water and hose and up to the mouthpiece
- ▶ Charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals
- ▶ Water in the hookah does not filter out the toxic ingredients in the tobacco smoke
- ▶ Hookah smoke poses dangers associated with secondhand smoke.
- ▶ Hookah smoking is not safer than cigarette smoking
- ▶ **Nontobacco Hookah Products-** the smoke still contains carbon monoxide and other toxic agents known to increase the risks for smoking-related



Time for 3 Post-Test Question

Question 1:

The abbreviated smoking screening tool encourages providers to Ask, Advice, and Refer patients to appropriate smoking cessation programs.

▶ TRUE

▶ FALSE

Question 2:

All smokers should receive pharmacotherapy unless it is contraindicated.

▶ **TRUE**

▶ **FALSE**

Question 3:

Which of the following are considered first line therapies for smoking cessation:

- A. Combination of two nicotine replacement therapies (NRT) (a patch plus a short-acting form)
- B. varenicline (Chantix) alone
- C. Bupropion
- D. All of the above



The End

Thank you!



(See Appendix for more information)

Appendix



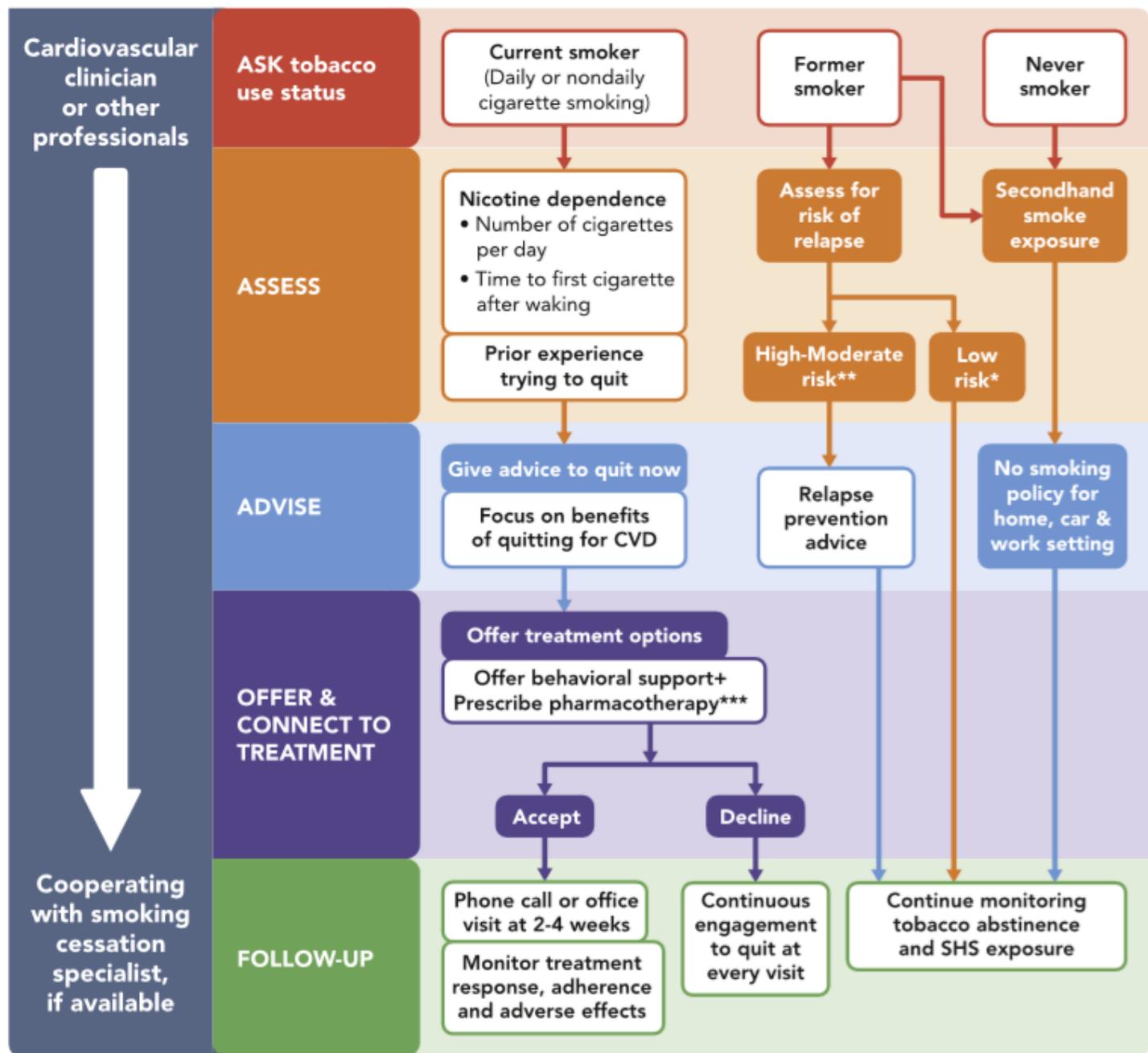
BILLING GUIDE FOR TOBACCO SCREENING AND CESSATION

HCPCS/CPT Codes	Type of Service	Description
99406	Intermediate counseling cessation treatment	Smoking and tobacco use cessation counseling visit greater than three minutes, but not more than 10 minutes.
99407	Intensive counseling	Smoking and tobacco use cessation counseling visit is greater than 10 minutes.
99078	Provider educational services (group counseling)	Group counseling for patients with symptoms or established illness.
59075	Smoking cessation treatment	Non-physician provider. S codes are temporary national codes, and these are no longer available for use.
59453	Smoking cessation classes	
G0436	Tobacco cessation counseling	As of September 30, 2016, no longer available for use.
G0437	Tobacco cessation counseling	
99381-99397	Preventive medicine services	Comprehensive, preventive evaluation based on age and gender to include appropriate history, examination, counseling/anticipatory guidance, risk factor reduction interventions, and related plan of care.
-25 modifier		Append to the appropriate CPT-code for services provided during the same day or visit as different, separately identifiable Evaluation & Management (E/M) services (e.g. 99406-25).
99241-99245	Outpatient consultation E/M	Time-based E/M, Levels 1 – 5 based on minutes, which can include tobacco E/M.
99201-99205	New patient E/M	
99211-99215	Established patient E/M	

The document contains I. Coverage requirements for Medicaid, Medicare and Private Insurance II. Coding and documentation requirements (Diagnosis codes and Procedure code; and III. Reasons for claims denials

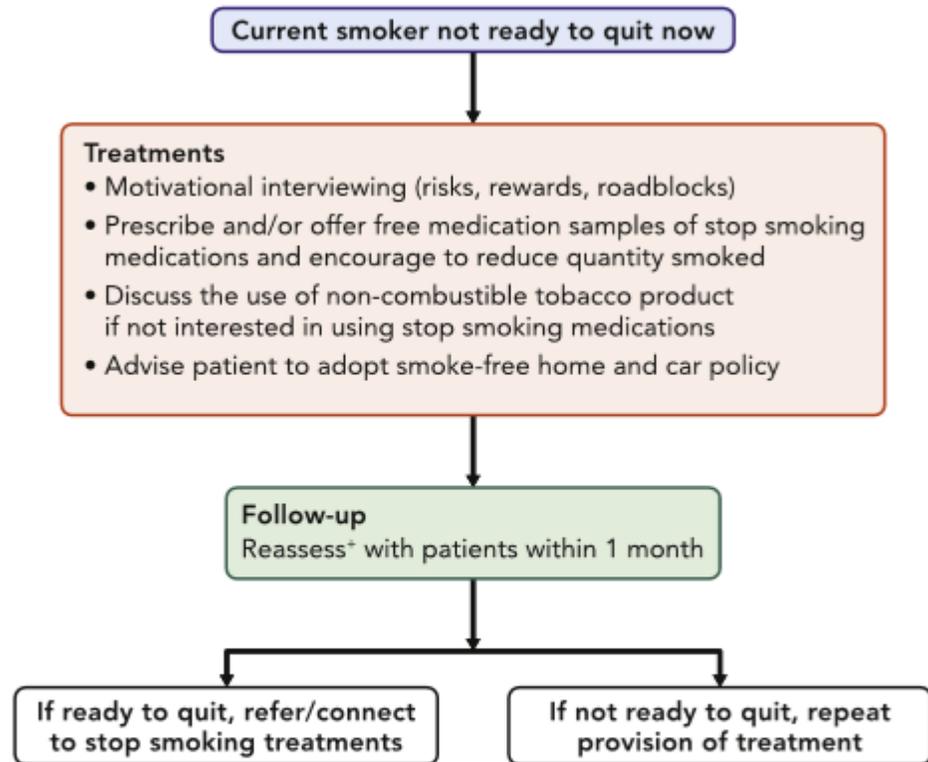
Adapted from: American Lung Association. "Billing guide for tobacco screening and cessation"

FIGURE 1 Pathway for Tobacco Cessation Treatment



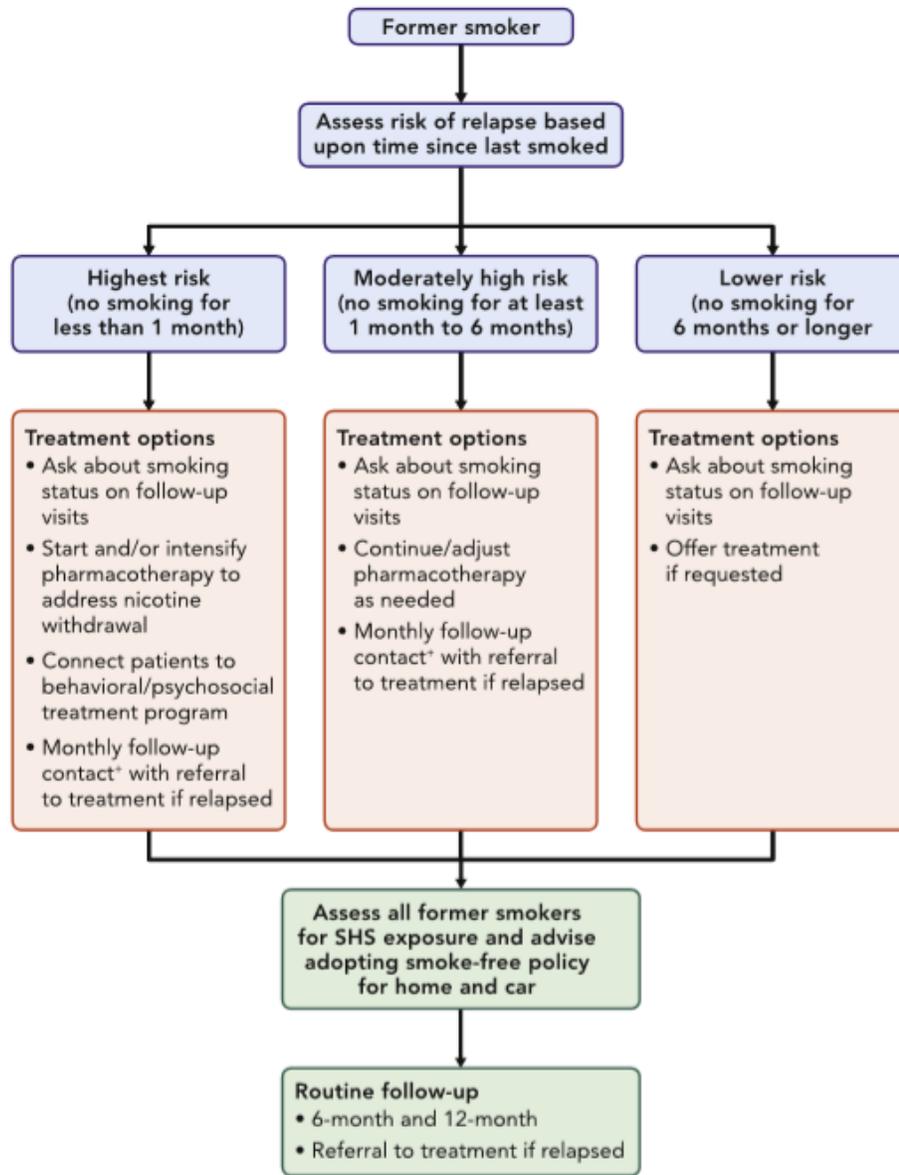
Adapted from: 2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment VOL. 72, NO. 25, 2018

FIGURE 3 Algorithm for Patients Not Ready to Quit



+ Reassess by connecting with the patient within ~ 1 month through the following: face-to-face contact during an office visit, sending MyChart query, e-mail or text message, or calling the patient on the phone.

FIGURE 2 Algorithm for a Former Smoker



* reassess by connecting with the patient within ~ 1 month via either a face-to-face contact during an office visit, or by sending MyChart query, e-mail or text message, or calling the patient on the phone.

TABLE 4**Recommended Pharmacotherapy for Smoking Cessation in Patients with CVD**

	Outpatient With Stable CVD	Inpatient With ACS
1st line	Varenicline OR combination NRT*	<i>In-hospital to relieve nicotine withdrawal:</i> Nicotine patch OR combination NRT* <i>At discharge:</i> Combination NRT or varenicline†
2nd line	Bupropion OR single NRT product	<i>At discharge:</i> Single NRT product
3rd line	Nortriptyline‡	Bupropion§
If single agent is insufficient to achieve abstinence	Combine categories of FDA-approved drugs: Varenicline + NRT (single agent) Varenicline + bupropion Bupropion + NRT (single agent)	n/a

*Combination NRT comprises a nicotine patch plus the patient's choice of nicotine gum or lozenge or inhaler or spray.

Products	Dosing ^a	Advantages/Disadvantages	Additional Info/ Counseling Points
Patch Available OTC <i>(NicoDerm CQ, NicoDerm [Canada], etc)</i>	<ul style="list-style-type: none"> Start with the 21 mg patch if patients smoke ≥ 10 cigarettes/day.^{1,2} Start with the 14 mg patch if patients smoke < 10 cigarettes/day (or if patients weigh < 45 kg [Canada]).^{1,2} 	Advantages: <ul style="list-style-type: none"> Long-acting NRT: provides consistent nicotine levels throughout the day.^{1,2} Easiest NRT product to use.^{1,2} Disadvantages: <ul style="list-style-type: none"> Possible side effects may include local skin irritation, insomnia (difficulty sleeping), and vivid dreams.¹ <ul style="list-style-type: none"> Insomnia and vivid dreams may lessen after three to four days.³ 	<ul style="list-style-type: none"> Rotate patch sites to minimize skin irritation.¹ Advise patients to remove the patch at bedtime if they continue to experience difficulty sleeping or vivid dreams after several days.¹ Tapering is optional after about six weeks on a dose. Tapering does NOT improve smoking cessation rates.¹ Usually used for about ten to 12 weeks, but can be used for longer than three months.^{1,2}

Products	Dosing ^a	Advantages/Disadvantages	Additional Info/ Counseling Points
Lozenge Available OTC (Nicorette, Nicorette Mini Lozenge [Canada], etc)	<ul style="list-style-type: none"> Available in 2 mg and 4 mg. Use 4 mg for patients who smoke their first cigarette within ≤ 30 minutes of waking (or who smoke more than 25 cigarettes/day [Canada]).^{1,5} Max: 20 lozenges/day (max of 15 lozenges/day [Canada]).^{1,5} 	Advantages: <ul style="list-style-type: none"> Short-acting; allows flexible dosing.^{1,2} Provides an oral substitute for a cigarette.¹ May be easier to use than gum, especially for patients with dental work or dentures.^{1,2} Disadvantages: <ul style="list-style-type: none"> Possible side effects may include mouth irritation, hiccups, heartburn, nausea.¹ 	<ul style="list-style-type: none"> Place lozenge between gum and cheek and allow to melt slowly (takes about 10 minutes to completely dissolve).^{1,5} No food or drink within 15 minutes before or during use.^{1,5} Can be used for three months or more.¹ Canadian product labeling supports as needed use for up to six months.⁵
Gum Available OTC (Nicorette gum, etc)	<ul style="list-style-type: none"> Available in 2 mg and 4 mg. Use 4 mg for patients who smoke their first cigarette within ≤ 30 minutes of waking (or who smoke more than 25 cigarettes/day [Canada]).^{1,4} Max: 24 pieces/day (20 pieces/day [Canada]).^{1,2} 	Advantages: <ul style="list-style-type: none"> Short-acting; allows for flexible dosing.¹ Provides an oral substitute for a cigarette.¹ Disadvantages: <ul style="list-style-type: none"> Possible side effects may include mouth irritation, jaw soreness, heartburn, hiccups, nausea.¹ 	<ul style="list-style-type: none"> Proper chewing is required to minimize side effects.² Chew briefly until tingling sensation begins, then “park” gum inside cheek until tingling fades (usually about 1 minute). Repeat chewing and parking process. Spit gum out after 30 minutes.^{1,2} No food or drink within 15 minutes before use or during use.¹ Can be used for three months or more.¹ Canadian product labeling supports as needed use for up to six months.⁴

Products	Dosing ^a	Advantages/Disadvantages	Additional Info/ Counseling Points
Inhaler Requires a prescription (U.S.); available OTC (Canada). (<i>Nicotrol</i> [U.S.], <i>Nicorette Inhaler</i> [Canada])	<ul style="list-style-type: none"> Puff into mouth or throat until cravings stop. Do not inhale into lungs.¹ Max: 16 cartridges/day (12 cartridges/day [Canada]). Each cartridge contains about 80 puffs).^{1,2} 	Advantages: <ul style="list-style-type: none"> Short-acting; allows for flexible dosing.¹ Provides a substitute for the hand-to-mouth ritual of smoking.^{1,2} Disadvantages: <ul style="list-style-type: none"> Requires frequent puffing.¹ Possible side effects may include mouth and throat irritation. Coughing can also happen if inhaled too deeply.¹ 	<ul style="list-style-type: none"> Change cartridge when nicotine taste disappears.¹ Can be used for three months or more.¹
Nasal Spray (U.S. only) Requires a prescription (<i>Nicotrol NS</i>)	<ul style="list-style-type: none"> One spray in each nostril every one to two hours.¹ Max: 80 sprays/day.¹ 	Advantages: <ul style="list-style-type: none"> Short-acting; allows for flexible dosing.¹ Disadvantages: <ul style="list-style-type: none"> Associated with the most side effects of the NRT products.¹ Possible side effects may include nasal and throat irritation, runny nose, sneezing, coughing, tearing.¹ 	<ul style="list-style-type: none"> Regular use for one week may help patients adjust to side effects.⁷ Patients should not sniff or inhale while spraying and wait two or three minutes after use before blowing their nose.⁷ Can be used for three months or more.¹
Oral Mist (Canada only) Available OTC (<i>Nicorette QuickMist</i>)	<ul style="list-style-type: none"> Spray one spray (two sprays if one does not reduce craving) into mouth every 30 minutes, as needed.⁶ Wait a few seconds after spraying before swallowing.⁶ Avoid inhaling the spray.⁶ Max of 64 sprays/day.⁶ 	Advantages: <ul style="list-style-type: none"> Rapid-acting NRT (effects may be seen within 60 seconds) allows for flexible dosing.² Disadvantages: <ul style="list-style-type: none"> Possible side effects may include hiccups, throat irritation, heartburn, nausea, strong taste.⁶ 	<ul style="list-style-type: none"> Avoid use for longer than six months, unless instructed to do so by a healthcare professional.⁸

Non-NRT Medications Approved for Smoking Cessation: There are fewer data to support adding these to NRT or combining these medications, but these options can be considered for patients who fail or only partially respond to first-line therapy.^{1,18,19}

Products	Dosing ^a	Advantages/Disadvantages	Additional Info/ Counseling Points
<p>Varenicline Requires a prescription (<i>Chantix</i> [U.S.]; <i>Champix</i>, generics [Canada])</p> <p>MOA: blocks nicotine binding to alpha-4-beta-2 nicotinic acetylcholine receptors and partially stimulates nicotinic receptors to lessen pleasure from nicotine and reduce cravings, respectively.</p>	<ul style="list-style-type: none"> Begin one to four weeks BEFORE quit date. However, quit date can range from one week to three months after starting therapy.¹ Titrate up over several days:^{1,9} <ul style="list-style-type: none"> Day 1 to 3: 0.5 mg once a day Day 4 to 7: 0.5 mg twice a day (per Canadian product labeling, patients may continue taking 0.5 mg twice daily instead of titrating up) From day 8 forward: 1 mg twice a day Varenicline can be used for three to six months.¹ 	<p>Advantages:</p> <ul style="list-style-type: none"> Relieves withdrawal AND blocks reward of smoking.¹ Allows for a flexible quit date.¹ <p>Disadvantages:</p> <ul style="list-style-type: none"> Possible side effects may include constipation, nausea, vomiting, insomnia, vivid dreams, headache, and seizures.^{1,13} <ul style="list-style-type: none"> Taking varenicline with food and a full glass of water may reduce nausea.¹ 	<ul style="list-style-type: none"> Monotherapy is considered a first-line option, due to safety and efficacy, even in patients with stable CV disease.¹ Data are limited and conflicting for use in patients hospitalized with an ACS.¹ Experts recommend using with caution in patients hospitalized with an ACS or to delay starting until discharge (e.g., when patients are more stable) [Evidence Level C].¹ Similar potential for psychiatric side effects to other smoking cessation meds.¹
<p>Sustained-Release Bupropion Requires a prescription (<i>Zyban</i>, etc)</p> <p>MOA: blocks reuptake of dopamine and norepinephrine. Weak nicotinic receptor antagonist.</p>	<ul style="list-style-type: none"> Begin one to two weeks BEFORE quit date.^{1,13} Titrate up over a few days:¹ <ul style="list-style-type: none"> Day 1 to 3: 150 mg once a day From day 4 forward: 150 mg twice a day Bupropion can be continued for three to six months.¹ 	<p>Advantages:</p> <ul style="list-style-type: none"> Suppresses weight gain associated with smoking cessation.^{1,15} <p>Disadvantages:</p> <ul style="list-style-type: none"> Possible side effects may include insomnia, agitation, dry mouth, constipation, seizures, and headache.^{1,13} 	<ul style="list-style-type: none"> Can be used safely in patients with CV disease.¹⁵ <ul style="list-style-type: none"> Considered second-line after combination NRT or varenicline in patients with stable CV disease or third-line in hospitalized patients with an ACS [Evidence Level C].¹ Can consider for patients with concomitant depression.^{1,10}

Other Medications Used for Smoking Cessation			
Products	Dosing^a	Advantages/Disadvantages	Additional Info/ Counseling Points
<p>Clonidine Requires a prescription. Not FDA- or Health Canada-approved for smoking cessation.</p> <p>Oral tablets (<i>Catapres</i>, generics)</p> <p>Transdermal patch (U.S. only; <i>Catapres TTS</i>, generics)</p> <p>MOA: stimulates alpha-2-adrenoceptors, reducing sympathetic outflow to reduce cravings, restlessness, and anxiety associated with smoking cessation.¹²</p>	<ul style="list-style-type: none"> • Begin ≤ 3 days BEFORE quit date.¹³ • Oral tablets: Start with 0.1 mg twice daily, titrate up to a max total daily dose of about 0.7 to 0.8 mg/day.¹² • Transdermal patch: Start with 0.1 mg patch applied once weekly, titrate up to a max of 0.3 mg patch applied once weekly.¹² • Treatment durations in studies for smoking cessation ranged from four to 11 weeks.¹² 	<p>Advantages:</p> <ul style="list-style-type: none"> • Available in multiple dosage forms, including oral tablets and once-weekly transdermal patch.¹³ <p>Disadvantages:</p> <ul style="list-style-type: none"> • Possible side effects may include constipation, dizziness, drowsiness, dry mouth, postural hypotension (low blood pressure upon standing), sedation, and weakness.¹³ 	<ul style="list-style-type: none"> • Can be considered for patients unable to take, or who are unsuccessful with, approved smoking cessation therapies (e.g., NRT, varenicline).¹² • May enhance smoking cessation, but efficacy data are conflicting, and it is rarely used.¹ • Do not stop abruptly, especially with higher doses or longer durations of therapy.¹⁵ Taper over two to four days to avoid discontinuation symptoms (e.g., agitation, confusion, rapid rise in blood pressure).¹³
<p>Nortriptyline Requires a prescription. Not FDA- or Health Canada-approved for smoking cessation.</p> <p>(<i>Pamelor</i> [U.S.], <i>Aventyl</i> [Canada], generics)</p> <p>MOA: noradrenergic effects may replace those of nicotine.¹²</p>	<ul style="list-style-type: none"> • Begin nortriptyline about 10 to 28 days BEFORE quit date.¹³ • Start with 25 mg once daily.¹⁵ Slowly titrate to a max total daily dose of 75 to 100 mg.¹² • Usually taken for 12 weeks, but some continue therapy for up to six months.^{12,16} 	<p>Advantages:</p> <ul style="list-style-type: none"> • May have similar efficacy compared to bupropion.¹⁵ <p>Disadvantages:</p> <ul style="list-style-type: none"> • Possible side effects may include rapid heart rate, blurry vision, dry mouth, constipation, trouble urinating, postural hypotension (low blood pressure upon standing), and QT prolongation.^{11,13} 	<ul style="list-style-type: none"> • Can be considered for patients unable to take or who are unsuccessful with approved smoking cessation therapies (e.g., NRT, varenicline).¹² • Rarely used. May enhance smoking cessation, but efficacy data are conflicting.^{1,12} • Potential for QT prolongation should be considered, especially in patients with CV disease.¹ • Do not stop abruptly.¹³⁻¹⁵ Taper slowly to avoid flu-like symptoms, insomnia, etc.¹⁴

More . . .

Q&A with patients:

1. Why should I quit smoking?

- ▶ Smoking and secondhand smoke cause cancer, lung disease, heart disease, and many other health problems.

2. Why is it so hard to quit smoking?

- ▶ Nicotine is a strong drug. Your body becomes addicted to nicotine when you smoke. The good news is nicotine withdrawal symptoms only last a few weeks for most people.
- ▶ Routines and habits that go along with smoking can make it tough to quit too

3. How can I make it easier to quit?

- ▶ Use a medicine and counseling together
- ▶ You don't have to quit "cold turkey."
- ▶ Visit "*Tips From Former Smokers*[®]" site to see how other smokers quit for good- <https://www.cdc.gov/tobacco/campaign/tips/>

4. What is the role of e-cigarettes for smoking cessation?

- ▶ Explain there's some evidence that e-cigs help patients quit smoking...but we don't have long-term cardiovascular or other safety data.



WHAT IF
you got the help
you needed to
finally quit
tobacco?



Health benefits after quitting smoking:

- ▶ Symptoms
 - ▶ Minutes-days: Lower BP; lower carbon monoxide; better stamina, smell, taste
- ▶ Lung function
 - ▶ 2-4 weeks: Decreased respiratory infections
 - ▶ 4-12 weeks: Improved lung function
- ▶ Cardiovascular disease
 - ▶ 2-3 months: Improved circulation
 - ▶ 1 year: 50% reduction for heart attack
 - ▶ 5-15 years: Cardiovascular risk = never-smokers
- ▶ Cancer
 - ▶ 10 years: risk for lung cancer reduced by half
- ▶ Smoking cessation benefits people of all ages
 - ▶ Regardless of smoking history
- ▶ Older smokers may have:
 - ▶ Increased motivation from health concerns and symptoms of tobacco-related illness
 - ▶ Experience with what has been successful in past quit attempts
 - ▶ Better access to treatment resources.
- ▶ Two large, recent, retrospective cohort analyses showed that smokers who quit at age 55-64 years gained 4 years of life and that even those who quit after age 70 years had lower risk for mortality than those who continued to smoke.