Practice Guidelines

Medications for Smoking Cessation: Guidelines from the American Thoracic Society

Key Points for Practice

- Varenicline is more effective than nicotine patches and bupropion with similar or fewer adverse events, even with comorbid psychiatric or substance abuse conditions.
- Combining varenicline with nicotine patches appears to be more effective than using varenicline alone based on limited evidence.
- For people who smoke and are not ready to quit, prescribing varenicline increases six-month abstinence with an NNT of 6 compared with waiting for readiness.
- Extending treatment beyond 12 weeks increases abstinence, with an NNT of 19 compared with shorter treatment durations.

From the *AFP* Editors

Despite concerted efforts at reducing tobacco use, cigarette smoking remains the leading cause of preventable disease, disability, and death in the United States. Since 1994, the U.S. Preventive Services Task Force has recommended treatment for tobacco dependence, yet clinicians infrequently prescribe tobacco cessation therapy. Without treatment, only 3% of smokers achieve abstinence in any given year. The American Thoracic Society (ATS) published guidelines for medication initiation in tobacco-dependent adults based on a systematic review.

Medication Recommendations

The ATS recommends varenicline (Chantix) as the most effective medication for smoking cessation. Compared with nicotine patches, varenicline is more effective and better tolerated. For every 25 people treated, one additional person will remain abstinent at six months using varenicline instead of a nicotine patch (number needed to treat [NNT] = 25; 95% CI, 15 to 56). Slightly more significant adverse events occur with nicotine patches than with varenicline use. The evidence for varenicline compared with bupropion (Zyban) is similar. Abstinence at six months is more likely with varenicline than bupropion with an NNT of 13 (95% CI, 10 to 25), with similar rates of adverse events.

Combining varenicline with nicotine patches appears to be more effective compared with varenicline alone, with an NNT of 10 (95% CI, 5 to 48) for abstinence at six months. Adverse event rates may be slightly increased with combination therapy.

Although 12 weeks of varenicline can cost up to $1,600 compared with less than $250 for nicotine patches, varenicline is cost-effective because of effectiveness. The patent expired in December 2020, so varenicline should become more affordable and more cost-effective.

People with Psychiatric Conditions or Substance Abuse

People with psychiatric disorders consume 40% of cigarettes sold in the United States and are less likely to engage in treatment for tobacco dependence. Fewer than one-half of mental health and substance use disorder treatment facilities offer tobacco-dependence therapies.

Limited data in people with comorbid psychiatric conditions or substance use disorders suggest varenicline has the same benefit over nicotine patches without increasing significant adverse events, including psychiatric events.

People Not Ready to Abstain

Although people who smoke are often not ready to quit, many would be willing to start a cessation medication. Prescribing varenicline to these people increases six-month abstinence with an NNT of 6 (95% CI, 5 to 9) compared with waiting for readiness. This benefit is slightly offset by a small increase in adverse events.

Because tobacco dependence is more prevalent among people who experience poverty, early treatment may help reduce health disparities. Standardization of treating before readiness offers the advantage of shifting focus from smoking behavior to the compulsion that drives dependence.

Coverage of guidelines from other organizations does not imply endorsement by *AFP* or the AAFP.

This series is coordinated by Michael J. Arnold, MD, contributing editor.

A collection of Practice Guidelines published in *AFP* is available at https://www.aafp.org/afp/practguide.

CME **This clinical content** conforms to AAFP criteria for CME. See CME Quiz on page 331.

Author disclosure: No relevant financial affiliations.

Duration of Treatment

Treatment with varenicline, bupropion, or nicotine patches for more than 12 weeks increases abstinence at one year with an NNT of 19 (95% CI, 11 to 59) compared with shorter treatment periods, with a probable slight increase in adverse events. The American College of Cardiology also recommends treatment durations of at least three months.

Evidence Limitations

The available evidence evaluates only cigarette smoking because of insufficient data on oral tobacco use. Studies of nicotine replacement are limited to nicotine patches because data are lacking on other forms of nicotine replacement, including electronic cigarettes.

Editor's Note: The numbers needed to treat were calculated by the author using data provided in the guideline.

This guideline makes a strong case for the primary use of varenicline in smoking cessation and dispels the notion that adverse events limit acceptability. The U.S. Preventive Services Task Force (USPSTF) recommendations for interventions for tobacco smoking cessation support these ATS recommendations.[1] Although the USPSTF continues to recommend asking all adults about tobacco use, advising cessation, and providing behavioral and pharmacologic therapy, the text also notes that varenicline is more effective than both nicotine replacement and bupropion, which are similarly effective. What is perhaps a more interesting point in the ATS guideline is the reframing of tobacco use as a need for craving control based on evidence that prescribing varenicline is more effective than awaiting readiness for change or setting a quit date. The relationship between medication use and readiness to quit is not addressed by the USPSTF.—Michael J. Arnold, MD, Contributing Editor

1. Krist AH, Davidson KW, Mangione CM, et al. Interventions for tobacco smoking cessation in adults, including pregnant persons: US Preventive Services Task Force recommendation statement. *JAMA*. 2021; 325(3):265-279.

Guideline source: American College of Physicians

Evidence rating system used? Yes

Systematic literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? No

Recommendations based on patient-oriented outcomes? Yes

Published source: *Am J Respir Crit Care Med*. July 15, 2020; 202(2):e5-e31

Available at: https://www.atsjournals.org/doi/full/10.1164/rccm.202005-1982ST

MaryAnn Dakkak, MD
Boston University Medical Center, Boston, Mass.
Email: maryann.dakkak@bmc.org ■