



City Health Information

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UPDATED
AND REVISED

TREATING NICOTINE ADDICTION

- Ask every patient about smoking status. *Advise every smoker to quit.*
- Provide brief counseling and pharmacotherapy to help patients become tobacco free.
- Educate patients about the risk of second-hand smoke to their families.
- Encourage a smoke-free home.

Smokers who die from tobacco lose, on average, 14 years of life. Smoking *doubles* the risk of death in every age group, killing nearly 10,000 people a year in New York City (a third of these before age 65). Smokers who quit at *any* age reduce their risk of tobacco-related disease and prolong their lives (*Table 1*).

More than 20% of adults in New York City smoke. Most see a physician every year; they also see dentists, nurses, counselors, physical therapists, and many other caregivers. More than two-thirds of smokers say they *want* to quit – and every year, more than half *try*. Without assistance, however, only a few (less than 10%) are successful over the long term.

There is strong evidence that physicians can greatly increase smokers' success in quitting. With proper counseling and appropriate use of nicotine replacement therapy (NRT) and other drug treatment, long-term quit rates rise from less than 10% to up to 30%. Many patients who don't succeed at first will later be successful.

Medical practitioners must learn how to provide brief counseling to their patients who smoke, offering options for further counseling and treatment or referral to appropriate programs.

One-third of all smokers and half of heavy smokers will die prematurely of tobacco-related disease. Because physician intervention is so effective, failure to provide optimal counseling and treatment amounts to failure to meet the standard of care — *and could be considered malpractice!*

TABLE 1. THE BENEFITS OF QUITTING SMOKING START RIGHT AWAY

| | |
|-------------------|--|
| 24 hours: | • Chance of heart attack drops |
| 48 hours: | • Ability to smell and taste improves |
| 2–3 weeks: | • Circulation improves • Walking becomes easier • Lung function improves |
| 1 month: | • Cough, sinus congestion, fatigue, and shortness of breath decrease • Cilia re-grow, reducing infection risk |
| 1 year: | • Excess risk of coronary heart disease is half that of a smoker |
| 5 years: | • Risk of cancer of the mouth, throat, and esophagus drops by about half • Risk of stroke and coronary heart disease is reduced to that of non-smokers (about 5 to 15 years after quitting) |
| 10 years: | • The risk of lung cancer drops by about half • Lung cancer death rate approaches that of non-smokers |



Brief Counseling

Nicotine addiction is a chronic disease, and relapse after initially successful treatment is not uncommon. Persistent efforts are required, but proven techniques for brief counseling are quick and easily integrated into a busy practice (*see infold*).

Ask every patient about smoking status at every office visit. Most will give a direct answer, which can be noted with a line or sticker on the front sheet of the medical record:

Tobacco Use (Circle One): Current Former Never

Some patients may at first be uncomfortable telling their doctors they smoke — persons with known heart, vascular, or lung disease and pregnant women, for example. Open-ended questions often work better with these patients.

Practitioners should ask former and current smokers *how much* and *how long* they've smoked. All patients for whom tobacco poses a special risk should understand that risk. In the case of pregnancy, the risk to the fetus posed by tobacco is high, and firm counseling is indicated.

Is the Patient Addicted?

Counseling and (unless contraindicated) pharmacotherapy should *always* be offered to addicted smokers. Strongly addicted patients have a high risk of relapse and may need prolonged treatment.

To assess addiction, ask:

How long after waking up do you light your first cigarette?

A person who lights up within an hour is almost certainly strongly addicted. (*This question is the single best predictor of addiction and the need for intensive treatment.*)

Does the Patient Want to Quit?

Combine this question with a clear statement of the importance of quitting and an offer to help:

“Quitting smoking is the most important thing you can do for your health. We can help you quit.”

Physician advice must be clear, strong, and *personal*. If a patient is at risk for a particular medical problem, tailored information strengthens the message (*Table 2*).

TABLE 2. WHY QUIT SMOKING?

General Reasons

- **Reduce your risk of:**
 - Heart attack, stroke, and coronary heart disease.
 - Cancers of the mouth, larynx, esophagus, lung, blood, stomach, pancreas, bladder, kidney, urethra, cervix, colon.
 - Emphysema, bronchitis, asthma, and pneumonia.
 - Blindness, aortic aneurysm, and infertility (women).
- **Reduce the chance that:**
 - Your children will develop or suffer from worsened asthma, middle-ear infections, and bronchitis.
 - Your family will develop cancer, heart disease, and other illnesses caused by second-hand smoke.
 - Your children will smoke.
- **More money in your pocket!**

Special Medical Reasons

- **Coronary artery disease and hypertension.** Risk of a first heart attack decreases as soon as the patient quits, drops by 50% the first year, and continues to fall.
- **Previous myocardial infarction.** Risk of another heart attack will be reduced by 50%.
- **Peripheral vascular disease.** 90% of persons with peripheral vascular disease are smokers. All will do better if they quit, and some with early disease will be completely relieved of symptoms.
- **Diabetes.** Smoking dramatically increases the risk of vascular complications. Quitting immediately lowers this risk.
- **Chronic obstructive pulmonary disease.** The lungs of people with alpha-1 anti-trypsin deficiency are especially sensitive to tobacco smoke; most who start smoking at a young age will develop severe COPD. Death rates from COPD are 10 times higher among persons who smoke a pack a day than among non-smokers. Modest improvement in lung function is expected when a symptomatic patient stops smoking. *The most important benefit, however, is immediate reduction in the rate of disease progression.*
- **Combined hormonal contraception.** Smokers who use combined hormonal contraception have a higher risk of heart attack, stroke, and thromboembolic disease, especially those 35 and older. After quitting, the risk falls immediately.
- **Pregnancy.** Women who smoke are more likely to have miscarriages and stillbirths. Their babies are on average 500 grams lighter, and more likely to die or be developmentally delayed. The babies of smoking mothers are more likely to die of sudden infant death syndrome.
- **Macular degeneration and cataract.** Blindness from these causes is twice as common among smokers.
- **Surgery.** Patients who stop smoking before surgery heal better and cut their risk of infection and pulmonary and vascular complications.

Effective Interventions

Just 3 to 5 minutes of firm, positive counseling by a clinician *doubles* quit rates, to 10% of smokers. *Long-term quit rates rise to 20% with consistent follow-up counseling or pharmacotherapy and up to 30% when counseling is combined with pharmacotherapy.*

With such strong evidence, it makes sense to offer counseling, quit tips, and (unless contraindicated) drug treatment to all smokers (Tables 3,4). Clinical judgment will be needed for the use of drug therapy for adolescents and patients with conditions that complicate treatment, such as pregnancy, substance abuse, and mental illness (Table 5, *in fold*). Drug therapy may not be necessary for smokers who are not addicted. Those who prefer to quit *without* drugs should be supported – 80% of all smokers who try to quit do it without drugs or counseling.

Follow-Up Counseling

Subsequent counseling can be individual, group, by telephone, or on the Web.

Intensive individual or group counseling *greatly* increases the odds of success. Counseling should highlight the health and financial costs of smoking versus the benefits of stopping (Table 2). Counseling should also provide practical tips (Table 3). Single-session counseling is less effective than a series of sessions. There is a strong dose-response relationship: effective counseling consists of 4 or more sessions, each at least 10 minutes long. Counseling is even *more* effective if several types of clinicians (e.g., doctors, nurses, and counselors) reinforce smoking-cessation messages.

TABLE 3. QUIT TIPS

- 1. Write down your reasons for quitting.**
Look at the list often for support.
- 2. Consider nicotine replacement products and other medication.**
 - Nicotine replacement therapy and medication such as bupropion ease irritability, depressed mood, difficulty concentrating, insomnia, and smoking urges.
 - Even without drugs, withdrawal symptoms usually peak the first week, last 2 to 4 weeks, and then subside.
- 3. Identify smoking triggers.**
 - Alcohol, other smokers, caffeine, and stress (including time pressure) are common triggers.
 - Establish a smoke-free home.
- 4. Identify coping strategies.**
 - Keep busy.
 - Stay in non-smoking areas.
 - Drink lots of water.
 - Exercise to relieve stress, elevate mood, and improve health. Try a daily, 30-minute, brisk walk.
- 5. Set a quit date and prepare for it.**
 - Discard cigarettes, lighters, and ashtrays at home and in the car.
 - Choose a “normal” quit date (no vacations/holidays, major work deadlines, or big life events such as weddings, moving, etc.).
- 6. Get support.**
 - Get a “quitting buddy.”
 - For help, including free or low-cost counseling and other services, call 311.



TABLE 4. SUGGESTED REGIMENS FOR SMOKING CESSATION

| Patient Characteristics*† | Nicotine Replacement Therapy | Sustained-Release Bupropion | Counseling |
|---|---|--|--|
| <ul style="list-style-type: none"> • Not addicted • No complicating factors | <i>Ad libitum</i> NRT (gum, spray, and/or inhaler) | Not usually | Phone, Web-based, or optional group counseling |
| <ul style="list-style-type: none"> • Addicted • No complicating factors • First quit attempt with clinical assistance | Patch | Usually | Group or individual counseling if willing, ideally with 4 or more sessions of at least 10 minutes each; otherwise phone or Web-based |
| <ul style="list-style-type: none"> • Addicted • Either complicating factors or prior failed quit attempts despite NRT or bupropion SR | Patch AND <i>ad libitum</i> NRT (gum, spray, and/or inhaler) | Strongly consider unless contraindicated | Strongly encourage group or individual counseling of 4 or more sessions of at least 10 minutes each |

All patients should be given quit tips, educational materials, and phone numbers and Web sites for support.

* **Addiction:** Patients who smoke 10 or more cigarettes a day are addicted. Smoking 15 or more a day, or lighting up within an hour of waking indicates *strong* addiction.

† **Complicating factors:** Depression, mental illness, substance abuse, significant life stress (e.g., job change, divorce, personal loss).

CME/CNE Activity Treating Nicotine Addiction

1. A 58 year-old patient with a 30-year history of smoking 20 cigarettes per day wants to stop smoking. She reports a history of a seizure disorder. Her medical and psychiatric history is otherwise unremarkable. Appropriate treatment options may include all of the following except: (Check one.)
- A. Brief tobacco cessation counseling
 - B. Bupropion sustained-release tablets starting at a dose of 150 mg per day
 - C. Nicotine polacrilex lozenges starting at a dose of ten 4 mg lozenges per day
 - D. Nicotine polacrilex gum starting at a dose of 2 mg per hour, up to 24 pieces per day
 - E. Nicotine transdermal patch, starting at one 21 mg patch per day
2. Which of the following is true about nicotine replacement therapy (NRT)? (Check one.)
- A. The nicotine lozenge is available only by prescription
 - B. The nicotine lozenge should be taken immediately before meals
 - C. NRT should not be used in patients with a history of clinical depression
 - D. NRT may be used in combination with bupropion
 - E. All of the above
3. Which of the following is true about insomnia? (Check one.)
- A. It is a common adverse effect of treatment with sustained-release bupropion
 - B. It is a common adverse effect of treatment with the nicotine lozenge
 - C. It is a possible symptom of nicotine withdrawal
 - D. All of the above
 - E. None of the above
4. A patient who reports smoking within 20 minutes of awakening each morning is determined to be a good candidate for treatment with the nicotine lozenge. The appropriate lozenge to prescribe is: (Check one.)
- A. 1 mg
 - B. 2 mg
 - C. 4 mg
 - D. 8 mg
 - E. None of the above
5. Which of the following is true about the treatment of nicotine addiction? (Check one.)
- A. The relapse rate is higher in persons with a history of mental illness
 - B. Patients who take psychotropic medications may need to have their daily dosages of these medications adjusted after they quit smoking
 - C. The nicotine gum may damage dental work
 - D. Nortriptyline has been used as a second-line treatment
 - E. All of the above
6. The following is true about nicotine replacement therapy: (Check one.)
- A. The nicotine patch is the only form of nicotine replacement that provides steady levels of nicotine
 - B. The nicotine patch should be started on the quit date
 - C. It is the only form of pharmacotherapy approved by the FDA for tobacco dependence treatment
 - D. A and B only
 - E. All of the above
7. How well did this continuing education activity achieve its educational objectives?

Pharmacotherapy

Several types of nicotine replacement therapy (NRT) have been approved by the Food and Drug Administration (FDA), including a patch, gum, an oral inhaler, a nasal spray, and a lozenge. In recommended doses, NRT is safe for most patients, including those with stable heart disease. Some conditions (for example, pregnancy) may complicate treatment. (See Tables 5–7, *in fold.*)

Patches, gum, and lozenges are available over-the-counter. In New York State, both over-the-counter and prescribed NRT are covered by Medicaid, but a prescription is needed.

The once-a-day nicotine patch is probably the most effective and convenient form of NRT and should be encouraged. Patients who prefer other forms of NRT should of course be supported.

Sustained-release bupropion (bupropion SR), an antidepressant marketed as Wellbutrin SR or Zyban, effectively increases quit rates, especially among women. The most important contraindication is a history of seizures. Because interactions between bupropion SR and other psychotropic drugs can produce serious adverse effects, a psychiatrist should manage the care of patients who are taking both.

For strongly addicted smokers, bupropion SR is commonly prescribed in combination with 1 or even 2 kinds of NRT (e.g., bupropion SR plus the patch, plus gum).

Two other drugs (nortriptyline and clonidine) known to be effective for nicotine withdrawal have not been approved for this use by the FDA. Because both have significant adverse effects, they should be used with caution and only in patients unable to use NRT or bupropion SR. Other drugs, including other antidepressants, have *not* been shown to increase quit rates; neither have acupuncture nor hypnosis.

FREE OR LOW-COST HELP TO QUIT

Call 311 for

- A list of quit-smoking clinics in New York City, or visit: www.nyc.gov/html/doh/pdf/smoke/smoke-cess1.pdf
- The Smokers' Quitline (phone counseling and referrals)
Or call direct toll-free: 1-866-NY QUIT (1-866-697-8487)

Additional Online Support

- **Centers for Disease Control and Prevention:** www.cdc.gov/tobacco/how2quit.htm
- **American Lung Association:** www.ffsonline.org

Sources

This issue was drawn in large part from:

- Crofton J, Simpson D. Tobacco: A Global Threat. Hong Kong: Macmillan Education. 2002.
- Fiore MC, Bailey WC, Cohen SJ, et al. Treating Tobacco Use and Dependence. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000.
- Rigotti NA. Clinical practice. Treatment of tobacco use and dependence. *N Engl J Med.* 2002;346:506-512.



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2 Lafayette Street, 20th Floor, CN-65, New York, NY 10007 (212) 676-2142 nyc.gov/health

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E-Mail City Health Information at: nycdohrp@health.nyc.gov

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CME/CNE Activity Treating Nicotine Addiction

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Objectives

At the conclusion of the course, the participants

1. The health risks of tobacco use and the health benefits of quitting smoking
2. The clinical assessment of nicotine addiction
3. Effective interventions for treating nicotine addiction including counseling and pharmacotherapy
4. Conditions that may complicate the treatment including weight gain, concurrent psychiatric conditions
5. The relative advantages and disadvantages of the various methods used to treat nicotine addiction

Accreditation

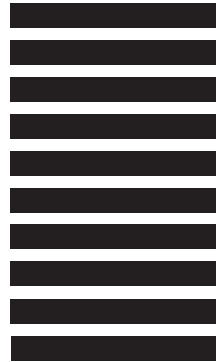
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Treating Nicotine Addiction

HEALTH

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should be familiar with:

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The Continuing Nursing Education (CNE) activity is open to nurses. The DOHMH is an approved provider of continuing education by the New York State Nurses Association, which is accredited as an approver of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. A total of 2.4 contact hours will be awarded to nurses for participation in this activity.

Participants must submit the accompanying exam by May 1, 2006.

CME/CNE Activity Faculty:

McCord CW, Silver LD, Abedin RU, Bassett M, Frieden TR.

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Instructions

Read this issue to find the correct answers to the questions. To receive continuing education credit you must answer 5 of the first 6 questions correctly.

To Submit by Mail

1. Complete all information on the response card, including your name, degree, mailing address, telephone number, and e-mail address. PLEASE PRINT LEGIBLY.
2. Select your answers to the questions and check the corresponding boxes on the response card.
3. Return the response card (or a photocopy) postmarked **no later than May 1, 2006**. Mail to:

CME/CNE Administrator, NYC Dept. of Health and Mental Hygiene,
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