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REVISED

## TREATING TOBACCO 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 secondhand smoke.
- Encourage patients to maintain a smoke-free home.

Smoking is the leading preventable cause of death in the United States (US). Up to one half of life-long smokers, depending on age, are expected to die of tobacco-related diseases.<sup>1</sup> Smokers who die of tobacco-related diseases lose an average of 14 years of life.<sup>2</sup> In New York City (NYC), smoking kills more than 7,400 people a year, a third of them before age 65.<sup>3</sup> Quitting at any age reduces the risk of tobacco-related diseases and prolongs life (Table 1).

The rate of smoking in NYC has decreased dramatically since a comprehensive tobacco-control program was launched in 2002, falling to 15.8% in 2009.<sup>4</sup> The program increased the tax on tobacco, eliminated smoking in virtually all workplaces, implemented a hard-hitting media campaign, and increased access to cessation services (including large-scale distribution of free nicotine replacement therapy). Still, more than 1 million New Yorkers continue to smoke.<sup>5</sup>

Most smokers want to quit—and every year, more than half of them try. But without assistance, fewer than 10% are successful over the long term.<sup>6</sup> Studies have consistently shown that physicians can double the proportion of patients who quit smoking, achieving long-term quit rates as high as 30%, when counseling, nicotine replacement therapy (NRT) and other drug treatments are appropriately used.<sup>6</sup> In fact, smoking cessation interventions are more cost effective than many other routine medical interventions.<sup>7</sup>

**TABLE 1. IMMEDIATE AND LONG-TERM BENEFITS OF QUITTING SMOKING<sup>8</sup>**

- **20 minutes:** Heart rate drops.
- **12 hours:** Carbon monoxide level in blood drops to normal.
- **48 hours:** Ability to smell and taste improves.
- **2–3 weeks:** Chance of heart attack drops, circulation improves, walking becomes easier, lung function improves.
- **1–9 months:** Coughing and shortness of breath decrease.
- **1 year:** Excess risk of coronary heart disease is half that of a smoker.
- **5 years:** Risk of stroke is reduced to that of non-smoker.
- **10 years:** Lung cancer death rate is about half that of a smoker; risk of cancer of the mouth, throat and esophagus decreases.
- **15 years:** Risk of coronary heart disease returns to that of a non-smoker.

Your health starts improving the minute you quit smoking



## EFFECTIVE INTERVENTION

Tobacco addiction is like any drug addiction: It is a chronic disease with profound negative effects on the user's life. Even after a smoker successfully quits, relapse can occur. Fortunately, proven interventions can be integrated into a busy practice. Here are basic steps you can take to influence your patients' smoking behaviors:

**1. Ask every patient about tobacco use.** In order to make tobacco-use screening a regular part of your practice, it is helpful to have office systems in place such as a vital signs stamp (sample below) or a prompt in an electronic health record. Such reminders will enable you to systematically document tobacco-use status.

### Vital Signs:

BP: \_\_\_\_\_ PULSE: \_\_\_\_\_ RR: \_\_\_\_\_  
 WT: \_\_\_\_\_ HT: \_\_\_\_\_ BMI: \_\_\_\_\_

### Tobacco Use:

Current \_\_\_\_\_ Former \_\_\_\_\_ Never \_\_\_\_\_

**2. Assess your patient's level of tobacco dependence.** Ask each current smoker how much and how long he or she has smoked. To assess a patient's level of addiction, administer the Heavy Smoking Index (HSI), which consists of 2 simple questions.

### HEAVY SMOKING INDEX (HSI)

**How many cigarettes, on average, do you smoke per day?**

- 1-10 (score 0)       11-20 (score 1)  
 21-30 (score 2)     31+ (score 3)

**How soon after waking do you smoke your first cigarette?**

- Within 5 minutes (score 3)       6-30 minutes (score 2)  
 31-60 minutes (score 1)       61+ minutes (score 0)

An HSI score greater than or equal to 4 indicates a high level of nicotine dependence in adults with good sensitivity (79.5%) and specificity (96.5%), though it is not a reliable indicator of addiction in adolescents (see Table 6).<sup>9</sup> The HSI score will guide the choice of a pharmacotherapy regimen for those smokers who are willing to quit.

**3. Advise your patient to quit smoking.** Once tobacco-use status has been identified and quantified, advise the patient to quit. Smokers say their clinician's advice to quit is an important motivator for attempting to stop smoking.<sup>5</sup> The advice must be clear, strong, and personalized, for example: "As your physician and someone who cares about you and your health, I would like to help you quit smoking because quitting smoking is the best thing you can do to improve your health."

**TABLE 2.  
BENEFITS OF QUITTING FOR PATIENTS  
WITH CERTAIN MEDICAL CONDITIONS**

<b>Coronary Artery Disease and Hypertension</b>	Risk of a first heart attack decreases as soon as the patient quits, drops by 50% the first year, and continues to fall. <sup>10</sup>
<b>Previous Myocardial Infarction</b>	Risk of another heart attack is reduced by 50%. <sup>10</sup>
<b>Peripheral Vascular Disease</b>	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. <sup>11</sup>
<b>Diabetes</b>	Smoking dramatically increases the risk of cardiovascular complications. Quitting immediately lowers this risk. <sup>12</sup>
<b>Chronic Obstructive Pulmonary Disease (COPD)</b>	Smoking causes approximately 80%–90% of COPD cases. Death rates from COPD are 10 times higher among people who smoke a pack a day than among non-smokers. 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. <sup>1</sup>
<b>Combined Hormonal Contraception</b>	Smokers who use combined hormonal contraception have a higher risk of heart attack, stroke, and thromboembolic disease, especially those 35 and older. After quitting, risk falls immediately. <sup>13</sup>
<b>Pregnancy</b>	Women who smoke are more likely to have miscarriages and stillbirths. Their babies are, on average, 500 grams lighter, and are more likely to die or be developmentally delayed. The babies of smoking mothers are more likely to die of Sudden Infant Death Syndrome. <sup>1</sup>
<b>Macular Degeneration and Cataracts</b>	Blindness from these causes is half as likely among non-smokers than among smokers. <sup>1</sup>
<b>Surgery</b>	Patients who stop smoking before surgery heal better and reduce their risk of infection and of pulmonary and vascular complications. <sup>1</sup>

A patient for whom tobacco poses a special risk should receive tailored advice (Table 2). For example, a pregnant smoker or a smoker considering pregnancy should be informed that smoking during pregnancy increases the likelihood of miscarriage and stillbirth, and greatly increases the risk of having a low-birthweight baby.

**4. Assess readiness to quit.** Ask each patient who smokes whether he or she would like to quit. Although many smokers fear they will be unable to quit because of past unsuccessful attempts and withdrawal symptoms, most would like to stop smoking. Many patients cycle among thinking about quitting, making quit attempts, relapsing, and trying to quit again.<sup>14</sup> In counseling, use:

- Open-ended questions: *“What are some of the reasons you would like to quit smoking?”*
- Affirming statements: *“It’s great that you are motivated to quit smoking.”*
- Reflective listening: *“It sounds like trying to quit smoking has been frustrating for you.”*

Offer support (counseling and/or pharmacotherapy) to help move patients toward quitting smoking. If a patient is not yet ready to make a quit attempt, reiterate that *“quitting smoking is the most important thing you can do for your health”* during each visit.

**5. Counsel patients to quit.** Just 3 to 5 minutes of firm, specific counseling by a clinician doubles quit rates.<sup>5</sup> To help patients who express a desire to stop smoking, use techniques such as motivational interviewing.<sup>15</sup> Long-term quit rates can be as high as 20% with either consistent follow-up counseling or pharmacotherapy, and rise to 30% when counseling is combined with pharmacotherapy.<sup>6</sup> Physician counseling can be brief, but should include practical suggestions for quitting and the best ways of managing withdrawal symptoms and getting support (Table 3).

**6. Prescribe pharmacotherapy to all adult smokers who want to quit (unless contraindicated).** Table 4 outlines suggested treatment regimens for patients with varying characteristics: number of cigarettes smoked, addicted vs. non-addicted (HSI score), and quit attempts history. Many recommended regimens consist of a combination of counseling, NRT, and/or other medications. Most patients will achieve maximum benefit with 6-8 weeks of pharmacologic treatment. Highly addicted patients have a greater risk of relapse and may need prolonged treatment.

Use clinical judgment in providing smoking cessation treatment to pregnant and adolescent smokers. Pay special attention to smokers who have psychiatric or substance abuse problems (Table 6).

### TABLE 3. QUITTING TIPS FOR SMOKERS

- **Set a quit date—ideally within 2 weeks.** In preparation:
  - Write down your reasons for quitting. Look at the list often for support.
  - Review past quit attempts, if any; reuse strategies that were helpful.
  - Establish a smoke-free environment by removing tobacco products, lighters, and ashtrays from homes, cars, and other places where you spend a lot of time. Avoid going to places where people smoke.
  - If other smokers reside with you, establish your home as a smoke-free zone.
  - If a person close to you also smokes, encourage him or her to quit with you or not to smoke in front of you.
- **Consider nicotine replacement products and other medications and use them correctly.** Nicotine replacement therapy (NRT) and oral medications such as bupropion and varenicline ease withdrawal symptoms and cravings, doubling your chance of success.
- **Try to avoid smoking triggers.** Alcohol, other smokers, caffeine, and stress are common triggers. About half of quitters relapse while drinking alcohol.
- **Anticipate future challenges to prevent relapse.**
  - Be prepared for some withdrawal symptoms, including moodiness, difficulty concentrating, irritability, and sleep disturbance. These will be reduced with the use of medication. Withdrawal symptoms usually peak within 1-3 weeks after quitting.
  - Keep busy to avoid the urge to smoke.
  - Be physically active to help relieve stress, fight cravings, reduce withdrawal symptoms,<sup>16</sup> elevate mood, and control weight. While many smokers will gain some weight when they quit, the health benefits of quitting far outweigh the effects of weight gain. Exercise, combined with a healthy diet and cessation medications, can help maintain weight. Try a daily, 30-minute brisk walk—or break it up and take 3-4 10-minute walks each day.
- **Get support.**
  - Tell your family, friends, and co-workers that you are trying to quit smoking and ask for their support.
  - Get a “quitting buddy.”
  - Call 311 to be referred to free or low-cost counseling services and medications.

First-line medications approved by the US Food and Drug Administration are listed in **Table 5**.<sup>\*</sup> They include:

- **Nicotine replacement therapy (NRT)**, which reduces cravings. In recommended doses, NRT is safe for most patients, including those with stable heart disease. Some conditions, such as pregnancy, may complicate treatment (**Table 6**). NRT is available in several forms, including patches, gum, lozenges, an oral inhaler, and nasal spray. Patches, gum, and lozenges are available over the counter (OTC). The nasal spray and nicotine inhaler are dispensed by prescription only. The once-a-day OTC nicotine patch is the most effective and convenient form of NRT for most smokers. Combining daily use of the nicotine patch with other forms of NRTs (e.g., gum), used as needed, results in long-term quit rates higher than those observed when a single form of NRT is used.<sup>6</sup>
- **Bupropion SR**, which increases quit rates. First marketed as the antidepressant Wellbutrin SR<sup>®</sup>, it is now also marketed as Zyban<sup>®</sup> for smoking cessation treatment. Due to its anti-depressant effects, it is the best choice of medication for patients with a history of depression.

Contraindications for use include a history of seizures, bipolar disorder, or an eating disorder.

- **Varenicline (Chantix<sup>®</sup>)**, which was specifically developed for smoking cessation treatment. While varenicline does not contain nicotine, it mimics the effects of nicotine and activates nicotine receptors in the ventral tegmental area of the brain, maintaining low-dose stimulation of dopamine neurons to prevent cravings. At the same time, varenicline possesses antagonist properties that block nicotine entering the brain from latching onto receptors, eliminating the pleasurable effects of smoking a cigarette. Randomized controlled trials found that varenicline was superior to placebo and to bupropion alone in helping people to quit smoking.<sup>17,18</sup>

Some smokers who have successfully quit smoking continue to use self-dosing NRT formulations such as nicotine gum or lozenges, as needed. The long-term use of these therapies is not known to present health risks. The FDA has approved bupropion SR for long-term maintenance.

<sup>\*</sup>Use of brand names is for informational purposes only and does not imply endorsement by the New York City Department of Health and Mental Hygiene.

**TABLE 4. SUGGESTED REGIMENS FOR SMOKING CESSATION<sup>6,19</sup>**

Patient Characteristics	Nicotine Replacement Therapy	Other Oral Medications	Counseling
<ul style="list-style-type: none"> <li>• HSI score = 0–1 e.g., 1–10 cigarettes/day; smokes within 1 hour after waking.</li> </ul>	<ul style="list-style-type: none"> <li>• Ad libitum NRT (gum, lozenges).</li> </ul>	<ul style="list-style-type: none"> <li>• Not usually indicated.</li> <li>• If patient has depression, consider bupropion (unless contraindicated).</li> </ul>	<ul style="list-style-type: none"> <li>• Phone, Web-based, or optional group counseling.</li> </ul>
<ul style="list-style-type: none"> <li>• HSI score = 2–3 e.g., &gt;10 cigarettes/day; smokes within 1 hour of waking.</li> </ul>	<ul style="list-style-type: none"> <li>• 14 mg/24 hr patch for those who smoke 10–15 cigarettes/day.</li> <li>• 21 mg/24 hr patch for those who smoke 16–20 cigarettes/day. Consider combining with gum (for those with strong cravings).</li> </ul>	<ul style="list-style-type: none"> <li>• Consider varenicline or bupropion alone.</li> <li>• If patient has depression or a psychiatric condition, consider bupropion (unless contraindicated) alone or in combination with NRT.</li> </ul>	<ul style="list-style-type: none"> <li>• Group or individual counseling if patient is willing, ideally with 4 or more sessions of at least 10 minutes each. Otherwise use phone or Web-based counseling.</li> </ul>
<ul style="list-style-type: none"> <li>• HSI score = 4–6 e.g., &gt;20 cigarettes/day; smokes within 30 minutes of waking.</li> <li>• Has a condition that complicates treatment.<sup>*</sup></li> <li>• Prior failed quit attempts despite NRT or bupropion SR.</li> </ul>	<ul style="list-style-type: none"> <li>• Patch and ad libitum NRT (gum and/or lozenges) strongly recommended.</li> <li>• Consider combining patch and nasal spray if patient has a psychiatric condition (see <b>Table 6</b>).</li> </ul>	<ul style="list-style-type: none"> <li>• If patient has depression or a psychiatric condition, strongly consider bupropion (unless contraindicated) alone or in combination with NRT.</li> <li>• Strongly consider varenicline, which as a single drug might achieve similar benefits to combination therapies with bupropion and NRT. Varenicline should not be taken concurrently with NRT.</li> </ul>	<ul style="list-style-type: none"> <li>• Strongly encourage group or individual counseling of 4 or more sessions of at least 10 minutes each.</li> </ul>

<sup>\*</sup>Conditions include depression, psychiatric conditions, alcohol and substance use, pregnancy, adolescent age group.



**TABLE 5. FIRST-LINE MEDICATIONS FOR NICOTINE ADDICTION**

Product and availability	General information, dosage availability, suggested regimens, and duration of treatment	Common adverse effects	Advantages	Disadvantages
<b>Nicotine Replacement Therapy (NRT)</b>				
<b>Transdermal patches</b> Generic Nicoderm CQ® Habitrol® Nicotrol®*	<p><b>General information:</b> Nicotine is absorbed through the skin. Avoid putting on areas with a lot of hair or body fat.</p> <p><b>Dosage availability:</b> 21 mg/24 hrs, 14 mg/24 hrs, 7 mg/24 hrs, 15 mg/16 hrs. 16- and 24-hour patches are of comparable efficacy.</p> <p><b>Suggested regimen:</b>            &lt;10 cig/day – no patch, use gum or bupropion.            10-15 cig/day – start with 14 mg/24 hrs.            16-20 cig/day – start with 21 mg/24 hrs.            21+ cig/day – start with 21 mg/24 hrs, add gum.</p> <p><b>Duration of treatment:</b> 4 weeks on initial dose, then continue at lower dose for a total of 8 weeks. Treatment of 8 weeks has been shown to be as efficacious as longer treatment periods.</p>	<ul style="list-style-type: none"> <li>• Skin irritation</li> <li>• Insomnia</li> </ul>	<ul style="list-style-type: none"> <li>• Provides steady levels of nicotine.</li> <li>• Easy to use.</li> <li>• Unobtrusive.</li> <li>• No prescription needed—OTC.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Dose is not adjustable if cravings occur.</li> <li>• Slower release than other NRT products.</li> </ul>
<b>Polacrilex gum</b> Generic Nicorette®*	<p><b>General information:</b> Nicotine is absorbed through buccal mucosa. Avoid acidic beverages and foods (coffee, soft drinks) before and during use. “Chew and park”—Do not chew like regular gum. Alternate chewing and “parking” between cheek and gum until taste dissipates.</p> <p><b>Dosage availability:</b> 2 mg/pc, 4 mg/pc.</p> <p><b>Suggested regimen, when used alone:</b>            1-24 cig/day – 2 mg/hour (up to 24 pcs/day).            25+ cig/day – 4 mg/hour (up to 24 pcs/day).            Fixed schedule more effective than PRN.</p> <p><b>Duration of treatment:</b> Up to 12 weeks; taper number of pieces or dosage after 4 weeks.</p>	<ul style="list-style-type: none"> <li>• Mouth irritation</li> <li>• Sore jaw</li> <li>• Nausea</li> <li>• Hiccups</li> <li>• Heartburn</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used with patches to control urges in addicted smokers.</li> <li>• User controls dose.</li> <li>• No prescription needed—OTC.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Proper user technique required.</li> <li>• Difficult for smokers with bad teeth or denture wearers.</li> </ul>
<b>Lozenges</b> Generic Commit®*	<p><b>General information:</b> Do not chew or swallow—let lozenge dissolve in mouth.</p> <p><b>Dosage availability:</b> 2 mg, 4 mg.</p> <p><b>Suggested regimen, when used alone:</b>            2 mg – 1st cigarette more than 30 min after waking            4 mg – 1st cigarette less than 30 min after waking            Fixed schedule more effective than PRN.</p> <p><b>Duration of treatment:</b> up to 12 weeks, 9-20 lozenges/day for first 6 weeks, then gradually decrease dose.</p>	<ul style="list-style-type: none"> <li>• Mouth irritation</li> <li>• Nausea</li> <li>• Hiccups</li> <li>• Heartburn</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used with patches to control urges in addicted smokers.</li> <li>• User controls dose.</li> <li>• No prescription needed—OTC.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• No eating or drinking before and during use.</li> <li>• Takes lozenges 20-30 mins to dissolve.</li> </ul>
<b>Vapor inhaler</b> Nicotrol inhaler®*	<p><b>General information:</b> The nicotine inhaler, also nicknamed “the puffer,” is a plastic cartridge that contains a porous nicotine plug in its base. By puffing on the cartridge, nicotine vapor is extracted and absorbed through the mouth lining.</p> <p><b>Dosage availability:</b> each cartridge delivers 4 mg in the vapor, 2 mg of which is absorbed in the mucosa.</p> <p><b>Suggested regimen, when used alone:</b>            6-16 cartridges/day.            Fixed schedule is more effective than PRN.</p> <p><b>Duration of treatment:</b> up to 12 weeks; taper number of cartridges after 6 weeks.</p>	<ul style="list-style-type: none"> <li>• Mouth and throat irritation</li> <li>• Cough</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used with patches to control urges in addicted smokers.</li> <li>• User controls dose.</li> <li>• Addresses hand-mouth fixation.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent puffing; 80 puffs needed to draw the same amount of nicotine as a cigarette.</li> <li>• Does not work in cold (&lt;40°F).</li> <li>• No eating and drinking before and during use.</li> <li>• Smokers with reactive airway disease cannot use.</li> <li>• Prescription needed.</li> </ul>

**TABLE 5. FIRST-LINE MEDICATIONS FOR NICOTINE ADDICTION (CONTINUED)**

Product and availability	General information, dosage availability, suggested regimens, and duration of treatment	Common adverse effects	Advantages	Disadvantages
<b>Nicotine Replacement Therapy (continued)</b>				
<b>Nasal spray</b> <b>Nicotrol NS<sup>®*</sup></b>	<p><b>General information:</b> A spray pump delivers aerosolized nicotine that is rapidly absorbed by the nasal membranes inside the nose. These nicotine “hits” reach the brain much more quickly than other forms of NRT.</p> <p><b>Dosage availability:</b> Each spray delivers 0.5 mg to each nostril.</p> <p><b>Suggested regimen:</b> When used alone, 1-2 sprays/hour, minimum 8 doses/day, increasing as needed for symptom relief with a maximum of 40 doses/day (5 doses/hr).</p> <p>Fixed schedule more effective than PRN.</p> <p><b>Duration of treatment:</b> 12-24 weeks, taper number of doses after 6 weeks.</p>	<ul style="list-style-type: none"> <li>• Nasal irritation</li> <li>• Sneezing</li> <li>• Cough</li> <li>• Tearing (symptoms improve after the first week)</li> <li>• Headache</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used with patches to control urges in addicted smokers.</li> <li>• User controls dose.</li> <li>• Most rapid nicotine delivery; simulates smoking.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Localized adverse effects limit use.</li> <li>• Change in sense of smell or taste.</li> <li>• Smokers with reactive airway disease cannot use.</li> <li>• Prescription needed.</li> </ul>
<b>Non-Nicotine Therapy</b>				
<p><b>Bupropion SR</b></p> <p><b>Generic</b></p> <p><b>Zyban<sup>®*</sup></b></p> <p><b>Wellbutrin SR<sup>®*</sup></b></p> <p><i>Can be used with other NRTs</i></p>	<p><b>Dosage availability:</b> 150 mg</p> <p><b>Suggested regimen:</b> Start 1-2 weeks before quit date.</p> <p>Option 1: 150 mg/day for 3 days, then 150 mg twice a day, 8 hours between each pill.</p> <p>Option 2: 150 mg once every morning—fewer side effects (can be used in the elderly).</p> <p><b>Duration of treatment:</b> 12 weeks to 6 months; can maintain up to 6 months if successful.</p>	<ul style="list-style-type: none"> <li>• Insomnia</li> <li>• Dry mouth</li> <li>• Anxiety</li> </ul>	<ul style="list-style-type: none"> <li>• Easy to use (pill).</li> <li>• No concerns for cardiac patients.</li> <li>• Effective in patients with depression.</li> <li>• Controls weight gain.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Use with caution in: <ul style="list-style-type: none"> <li>◦ Seizure disorders.</li> <li>◦ Current use of MAO inhibitors.</li> <li>◦ Eating disorders.</li> <li>◦ Other seizure-threshold-lowering conditions (e.g., alcohol dependence, head trauma, use of levodopa).</li> </ul> </li> <li>• Prescription needed.</li> </ul>
<p><b>Varenicline HCl</b></p> <p><b>Chantix<sup>®*</sup></b></p> <p><i>Use with other NRTs not recommended</i></p>	<p><b>Dosage availability:</b> 0.5 mg starting dose, 1 mg continuing dose.</p> <p><b>Suggested regimen:</b> Start 1 week before quit date, titrating doses.</p> <p>“Starting Month Pak:”</p> <p>Days 1-3: 0.5 mg tablet every morning</p> <p>Days 4-7: 0.5 mg tablet twice daily</p> <p>Days 8 to end of week 4: 1 mg tablet twice daily.</p> <p>“Continuing Month Pak:”</p> <p>Week 5 to end of treatment, 1 mg tablet twice daily.</p>	<ul style="list-style-type: none"> <li>• Nausea</li> <li>• Insomnia</li> <li>• Abnormal dreams</li> <li>• Headache</li> </ul>	<ul style="list-style-type: none"> <li>• Easy to use (pill).</li> <li>• Blocks nicotine and, therefore, the pleasure of smoking.</li> <li>• No drug interactions.</li> <li>• Very promising results with strongly addicted smokers.</li> <li>• FDA-approved.</li> </ul>	<ul style="list-style-type: none"> <li>• Use with caution and consider dose reduction in patients with significant renal impairment or those undergoing dialysis.</li> <li>• Prescription needed.</li> </ul>

\*Use of brand names is for information only and does not imply endorsement by the New York City Department of Health and Mental Hygiene.

Sources: Fiore MC, Bailey, WC, Cohen SF, et al. Treating Tobacco Use and Dependence. Clinical Practice Guideline. Rockville, MD. US DHHS PHS. June 2000. George TP, editor. Medication Treatments for Nicotine Dependence. Taylor and Francis 2006.

Nortriptyline and clonidine are also effective for nicotine withdrawal, but are not approved for this use by the FDA. Because both have significant adverse effects—dry mouth, hypotension, dizziness—they are not frequently prescribed and should be used with caution, and only in patients unable to use NRT or first-line oral medications. Other drugs, including additional antidepressants, have *not* been shown to increase smoking quit rates. Neither acupuncture nor hypnosis has been shown to be effective.

### 7. Follow up with patients who are trying to quit.

Following up with patients, either in person or via telephone, is the final step in treating tobacco addiction. Schedule follow-up soon after the quit date, preferably within the first week. A second follow-up session is recommended within the first month, since most smokers who quit and then relapse do so within that period. Telephone follow-up is accessible to a higher proportion of patients than in-person visits. Review with the patient the proper usage of medications, emphasize that symptoms of nicotine withdrawal are most acute right after quitting, and reinforce practical counseling tips (Table 7) to help patients avoid relapse.

All patients who receive tobacco addiction treatment should be assessed for abstinence at the completion of

**TABLE 7. ELEMENTS OF PRACTICAL COUNSELING**

Counseling components	Examples
Provide basic information about what can be expected when quitting smoking.	<ul style="list-style-type: none"> <li>Smoking is addictive.</li> <li>Smoking (even a single puff) increases the likelihood of relapse.</li> <li>Withdrawal typically peaks within 1-3 weeks after quitting.</li> <li>Withdrawal symptoms include negative mood, urges to smoke, and difficulty concentrating.</li> </ul>
Recognize “danger,” i.e., situations, events, moods, or activities that increase the risk of smoking or relapse.	<ul style="list-style-type: none"> <li>Negative feelings or moods.</li> <li>Being around other smokers.</li> <li>Drinking alcohol.</li> <li>Experiencing cravings.</li> <li>Being under time pressure.</li> </ul>
Develop coping skills to deal with “danger” situations.	<ul style="list-style-type: none"> <li>Learn to anticipate and avoid temptation.</li> <li>Use cognitive and behavioral strategies to reduce negative moods and cope with cravings.</li> <li>Make lifestyle changes to reduce stress; increase pleasurable activities.</li> </ul>

**TABLE 6. ISSUES THAT COULD COMPLICATE THE TREATMENT OF TOBACCO ADDICTION**

#### • Weight gain

Because nicotine suppresses appetite, many patients who quit smoking gain some weight. Still, the benefits of quitting outweigh the effects of weight gain. Provide clear advice to patients on strategies for maintaining weight (e.g., taking frequent walks, using the stairs, and snacking on low-calorie foods like fruits and vegetables when fighting off cravings). Explain that bupropion SR and nicotine replacement therapy (NRT) can delay—but not prevent—weight gain.<sup>5</sup>

#### • Concurrent psychiatric or substance abuse problems

Smoking prevalence is high (70-90%) among the mentally ill and substance abusers.<sup>19</sup> Quitting smoking is more difficult for such patients and relapse is more common. Treat underlying psychiatric conditions concurrently to increase quit rates. There is some evidence that treatment with atypical antipsychotic medications may improve smoking cessation outcomes.<sup>20,22</sup>

When using NRT, care should be taken not to under-dose. In persons with schizophrenia, consider prescribing nicotine nasal spray, as its high peak levels mimic those of a cigarette.<sup>23</sup> Evidence also suggests that quit rates among people with schizophrenia are improved when NRT is combined with bupropion SR.<sup>24,25</sup>

Because smoking induces cytochrome P450 and reduces blood levels of anti-psychotic medications, psychotropic drug doses may need to be adjusted in patients who have quit smoking. Closely follow patients with a history of depression; quitting may exacerbate depressive symptoms.

#### • Pregnancy<sup>26</sup>

Most pregnant women stop smoking on their own, recognizing the risk to the fetus. For those who cannot quit, intensive counseling is recommended as a first-line intervention. Those patients who continue to smoke after counseling are usually highly addicted; screen for alcohol and other drug use and refer for treatment as necessary.

NRT or bupropion SR should be used during pregnancy only when non-drug treatments have failed. The risk to the fetus from these drugs should be balanced against the greater risk of maternal smoking. If NRT is used during pregnancy, recommend products that can be dosed intermittently, such as nicotine gum or lozenges. Do not prescribe NRT sprays because they deliver high peak levels of nicotine.

#### • Adolescence<sup>27</sup>

Adolescents do not display the same addictive smoking patterns as adults, but they still may be addicted. Addiction in this age group is assessed differently, using tools such as the Nicotine Dependence Scale for Adolescents (NDSA) and the Hooked on Nicotine Checklist (HONC) (Resources).

Screen pediatric and adolescent patients and their parents for tobacco use and strongly urge total abstinence from tobacco, providing age-appropriate information. Offer cessation advice to parents who smoke.

While bupropion SR is safe to use in adolescents, its long-term efficacy has not been established for them. NRT use is potentially dangerous, since adolescents are more likely to become addicted at lower and less frequent nicotine exposures. Also there are reports of adolescents using NRT for non-quitting purposes. Neither medication is approved by the FDA for use in people 17 years of age and younger.



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treatment and during subsequent contacts. Remind patients who have relapsed that it is not a sign of personal failure and that it often takes multiple tries to successfully quit smoking. Ask patients who have relapsed if they are willing to make another quit attempt. ♦

## Health Insurance Coverage for Smoking Cessation Treatment

### New York State Medicaid

Covers all smoking cessation medications. Two courses of therapy per recipient per year are allowed, defined as no more than a 90-day supply (an original order and two refills, even if less than a 30-day supply is dispensed at any fill). If a course of smoking cessation therapy is interrupted, it is still considered one complete course. Any subsequent prescriptions would then be considered the second course of therapy. Multiple smoking cessation therapies, using different routes of administration, are allowed. For example, Zyban® can be combined with nicotine patches, or the nicotine patch and gum may also be used together, if needed.

### Medicare

**As of January 1, 2011, any smoker covered by Medicare will be eligible to receive smoking cessation counseling from a physician or other Medicare-recognized health provider through Medicare Part B. Two attempts are covered each year, each attempt including up to 4 intermediate or intensive counseling sessions with a maximum of 8 sessions per year. All Medicare beneficiaries have access to smoking cessation prescription medication through the Medicare Prescription Drug Program (Part D).**

## RESOURCES

*Treating Tobacco Use and Dependence Guide*, Agency for Healthcare Research and Quality (AHRQ), available at: [www.ahrq.gov/clinic/tobacco/](http://www.ahrq.gov/clinic/tobacco/) or call 1-800-358-9295.

NYC DOHMH Bureau of Tobacco Control Web site: [www.nyc.gov/html/doh/html/smoke/smoke.shtml](http://www.nyc.gov/html/doh/html/smoke/smoke.shtml)

NYS Quit Line health care providers resources: [www.nysmokefree.com/newweb/pageview.aspx?p=50](http://www.nysmokefree.com/newweb/pageview.aspx?p=50)

NYS Fax-to-quit program provider referrals for smokers: [www.nysmokefree.com/newweb/Pageview.aspx?p=ftq](http://www.nysmokefree.com/newweb/Pageview.aspx?p=ftq)

National Institute of Drug and Alcohol Abuse (NIDA): [www.nida.nih.gov/DrugPages/Nicotine.html](http://www.nida.nih.gov/DrugPages/Nicotine.html)

Not-On-Tobacco (N-O-T): A Total Health Approach to Helping Teens Stop Smoking, available at: [www.notontobacco.com/index.php](http://www.notontobacco.com/index.php)

Hooked on Nicotine Checklist for Adolescents: [whyquit.com/whyquit/LinksYouth.html](http://whyquit.com/whyquit/LinksYouth.html)

Mental health consumers helping others improve their conditions by ending smoking, available at: [www.njchoices.org](http://www.njchoices.org)

Other Sources:  
[www.helppregnant smokersquit.org](http://www.helppregnant smokersquit.org)  
[www.nicotine-anonymous.org](http://www.nicotine-anonymous.org)



# TREATING TOBACCO ADDICTION

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