7 Smoking Cessation

Key Points:
1. Smoking cessation is the single most important approach to preventing and treating COPD.
2. Abstinence from smoking tobacco is associated with a variety of health improvements, including decreased mortality and reduced risk of developing lung cancer, myocardial infarction, and stroke.
3. Patients should be screened for tobacco use at every visit; patients who do use tobacco products should be asked about any smoking-related concerns and desire to stop smoking.
4. It is important to investigate a patient’s stage-of-change when discussing smoking cessation and ask questions that are appropriate to the patient’s current stage.
5. Nicotine replacement therapies and other tobacco treatment medications, used either alone or in combination with counseling, lead to the highest cessation rates.

7.1 Introduction

Smoking-related deaths and diseases are preventable but continue to affect a considerable number of individuals. Tobacco use is thought to be responsible for more than 438,000 premature deaths each year in the United States and is considered to be one of the main risk factors responsible for the development of Chronic Obstructive Pulmonary Disease (COPD). Although there are other causes of COPD, 80–90% of those (in the United States and the developed world) who have been diagnosed with COPD are current or past smokers (Rabe, 2007). Parker and Eaton (2012) suggest that the most important approach to preventing and treating COPD in current smokers is smoking cessation. They also suggest that smoking cessation is the only evidenced-based treatment that makes impactful physical changes in multiple areas of functioning (i.e., reduces the accelerated rate of lung function decline, decreases symptoms of cough and sputum, and reduces COPD exacerbations). Their research also indicates that smoking cessation is associated with a short-term increase in lung function (up to 50 mL increase in the forced expiratory volume in one second, FEV1), which lasts approximately one year, followed by a continued decline in lung functioning at the rate of a nonsmoker.
7.2 Smoking Risks

The risks of increased disability and premature death for smokers who have COPD is reflected in Figure 7.1 (Lung Age Graph; Panos, 2014). The graph also depicts improvements in longevity and health that might be gained when one stops smoking. Research indicates that complete abstinence from tobacco decreases mortality and reduces the risks of developing lung cancer, myocardial infarction, and stroke (Anthonisen, 2005). Non-smokers who have COPD can experience disease exacerbations, including increased cough and sputum production, if exposed to passive smoke (Leuenberger, 1994). Complete elimination of exposure to tobacco smoke, whether active or passive, is recommended.

7.3 Factors Associated with Cessation

COPD develops after years of tobacco use. Approximately 50% of current smokers over the age of 75 have COPD (Lundback, 2003). Older age, along with the duration and severity of nicotine dependence, add to the challenges of quitting (Tashkin, 2001).
A chronic illness model is often used to conceptualize tobacco use (Burke, 2008). Smoking cessation is a process that occurs across a series of attempts that finally culminate in permanent abstinence. Smokers often relapse after quitting; half of the patients who reach six months of abstinence will smoke again within eight years (Yudkin, 2003). Thus, ongoing assessment and relapse prevention are important even after a patient successfully quits. It is recommended that health care providers continue to engage with patients who have experienced a smoking relapse, similar to how patients who have poorly-controlled hypertension or diabetes are treated.

### 7.4 Screening Recommendations

The Clinical Practice Guideline for Treating Tobacco Use and Dependence (henceforth known as Clinical Practice Guideline; U.S. Department of Health and Human Services, 2008) recommends that all patients be screened for tobacco use at every visit. Screening is especially critical for patients who are at risk for or have been diagnosed with COPD. This recommendation applies to all healthcare professionals (e.g., primary care providers, specialty physicians, nurses, dentists, psychologists, pharmacists). A team approach, in which each health care provider with whom the patient has contact explores the patient’s concerns and readiness for change, is optimal.

More than 70% of the 45 million smokers in the United States report that they would like to quit, and approximately 44% of these smokers attempt to quit each year (Centers for Disease Control and Prevention, 2006). However, whereas smokers might view quitting as desirable or important, they might also lack the skills, abilities, resources, and/or coping strategies needed to feel confident in their ability to succeed. The distinction between how important it is to quit and how confident the patient is in his/her ability to quit is critical. Health care providers might erroneously assume that smokers are not concerned or do not care about the negative effects of smoking on their health when the actual barrier to quitting might actually be a patient’s lack of confidence in their ability to succeed.

A patient’s stance on smoking cessation can be quickly and easily assessed with the Importance and Confidence Rulers (Miller, 2013). After determining that the patient is a current smoker, the provider might ask a few exploratory questions:

- “What are your thoughts about quitting?”
- “What concerns you the most about continuing to smoke?”
- “What would be the benefits of quitting?”
- “On a scale from 1 to 10, with 1 being ‘not at all important’ and 10 being ‘the most important thing in your life,’ how important is it for you to stop smoking?”

With regard to the last question, the health care provider should follow-up on the patient’s response by asking why the patient chose that number and not a lower
number (e.g., “Why is it a seven and not a three?”). Ideally, the patient will verbalize desires, reasons, and needs for quitting, which reinforces the likelihood that the patient will quit. These questions provide a relatively quick (i.e., three to five minutes) way for the provider to clarify the patient’s knowledge and concerns about tobacco use which can then be used to tailor the rest of the discussion to the patient’s individual needs. Further, the act of verbalizing how important it is to quit is associated with increased behavioral change (Miller, 2009). Patients who report an importance level of seven or higher tend to be more motivated to make a change.

If a patient indicates an importance level of seven or higher, a few questions about how he or she would quit smoking should follow:

– “What are your thoughts about how you might quit?”
– “What resources or supports will you need to help you quit?”
– “What might get in the way?”
– “On a scale from 1 to 10, with 1 being ‘not at all confident’ and 10 being ‘completely confident,’ how confident are you that you can stop smoking?”

Once again, with regard to the last question, the health care provider should follow up on the patient’s response by asking why the patient chose that number and not a lower number. A confidence level of seven or higher is again associated with higher likelihood of making a change. Exploring these questions with patients is necessary, as patients might not be aware of many of the resources available to assist with tobacco cessation, or they may feel ambivalent about whether the resources will actually help them. Patients might benefit from receiving information from providers about effective strategies for smoking cessation, which will be addressed later in this chapter. Refer to The Five R’s – Strategies to Enhance Motivation to Quit (Table 7.1) for more detailed information about exploring importance and confidence levels.

For patients who are not ready to attempt smoking cessation, the Clinical Practice Guideline (2008) suggests making a professional recommendation that the patient quit. Approximately 5–10% of patients quit smoking based upon a clinical recommendation from their healthcare provider alone (Wilson, 1990). Some possible statements might include, “As your provider, it is important for me to tell you that quitting tobacco is the single most important thing you can do to improve your health” or “I am not sure if you realize, but quitting tobacco is the most effective treatment for COPD. It can slow the progression of the disease and improve breathlessness. I would like to help you quit whenever you are ready.”

For those who have successfully quit, screening for current use and risks for relapse remains important, as tobacco dependence is a chronic condition and may require multiple quit attempts and treatment interventions.
**Table 7.1: The Five R’s: Strategies to Enhance Motivation to Quit**

<table>
<thead>
<tr>
<th>R’s</th>
<th>Motivational Factors</th>
<th>Sample Open-Ended Questions</th>
<th>Possible Patient Responses</th>
</tr>
</thead>
</table>
| Relevance Importance | “What are your thoughts about quitting smoking?” | Patient offers specific personal concerns that might include:  
– prior quitting experiences  
– desires and reasons to quit  
– perceived ability to quit  
– personal barriers to cessation |
| Risks Importance | “What concerns you the most about continuing to smoke?” | Provider reflects patients concerns and may probe for concern in three specific areas:  
– Acute risks: Shortness of breath, chronic cough, respiratory infections, harm to pregnancy, impotence, infertility, loss of smell and taste.  
  e.g., “What symptoms are you experiencing that seem related to smoking?”  
– Long-term risks: Increased risk for heart attacks, strokes, vascular disease, lung and other cancers; increased likelihood of long-term disability and need for extended care.  
  e.g., “How do you think your smoking affects your COPD and overall health?”  
– Environmental risks: Increased risk of lung cancer and heart disease in household family members; higher rates of smoking in children of tobacco users; increased risk of low birth weight, sudden infant death syndrome (SIDS), asthma, middle ear disease, and respiratory infections in children of smokers; fires.  
  e.g., “What concerns you about the affect your smoking has on your family?” |
Smoking Cessation

Table 7.1: The Five R’s: Strategies to Enhance Motivation to Quit

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<th>Sample Open-Ended Questions</th>
<th>Possible Patient Responses</th>
</tr>
</thead>
</table>
| **Rewards**   | Importance           | “What would be the benefits of quitting?” | The specific rewards identified by the patient should be reflected and emphasized several times throughout the conversation. Rewards include:  
  - Improved personal and family health  
  - Breathe more easily  
  - Food tastes better  
  - Improved sense of smell  
  - Significant financial savings  
  - Feel better about self  
  - Home, car, clothing, breath will smell better  
  - Stop worrying about quitting - free from addiction  
  - Set a good example for children  
  - Stop worrying about exposing others to smoke  
  - Feel better physically  
  - Improved performance at work and in physical activities  
  - Reduced wrinkling/aging of skin |
| **Roadblocks**| Confidence           | “What might get in the way of quitting?” | Provider could ask permission to share information about tobacco resources to address barriers. Typical barriers might include:  
  - Withdrawal symptoms  
  - Fear of failure  
  - Weight gain  
  - Managing stress  
  - Lack of support  
  - Enjoyment of Tobacco |
| **Repetition**| Importance and/or Confidence | “What are your thoughts about quitting today?” | Repeat the process at every visit for patients who continue to smoke. Reassure them that the average smoker has seven to nine quit attempts before achieving success. Offer to share strategies that will maximize their likelihood of success. |
7.5 Using Physiological Data When Addressing Smoking

Medical providers might use physiological data to encourage patients to consider smoking cessation. In the case of COPD, spirometry results that confirm the diagnosis and/or indicate the severity of the disease might increase patients’ concerns about smoking. Research supports the combination of providing spirometry results, supportive counseling, and nicotine replacement products to promote smoking cessation (Anthonisen, 1994; Toljamo, 2010). The manner in which a health care provider presents the information (e.g., physiological results, counseling) has a significant impact on effectiveness. Kotz and colleagues (2009) found that patients made more quit attempts but did not achieve sustained abstinence in response to health care providers who used a confrontational style to provide education about the consequences of smoking and prognosis with continued smoking.

Motivational interviewing (described later in this chapter) and the explanation of spirometry results in terms of “lung age” improve abstinence rates (Parkes, 2008). “Lung age” is the translation of FEV₁ values into a concept that is easier for patients to understand and internalize. Providing information about “lung age,” or the age that the lungs would appear to be if the spirometry test had been completed on a healthy person who never smoked, demonstrates premature aging in the lungs that is caused by smoking and/or other environmental irritants. For example, telling a 55-year-old smoker that his lung function is comparable to that of a 95-year-old who has never smoked might be more meaningful and effective than telling him that his FEV₁ is 77% of predicted. (See Chapter 4, Pulmonary Function Testing: Spirometry: Presence and Severity of Airflow Limitation/Obstruction for more information.)

Researchers have identified specific populations who seem to benefit from receiving spirometry results as part of the smoking cessation intervention. Patients who are diagnosed with moderate to severe airflow obstruction experience more success with smoking cessation when spirometry results are provided (Gorecka, 2003). Additionally, patients who are motivated to quit, are receiving pharmacotherapy, are of older age, and have a higher body mass index demonstrate more success with tobacco cessation when spirometry results are provided (Toljamo, 2010).

7.6 How to Present Spirometry Results to Promote Smoking Cessation

Motivational interviewing (MI), a collaborative approach that elicits patients’ reasons for change, offers an effective strategy when sharing spirometry results with patients. In keeping with the patient-focused spirit of MI, it is critical to ask for the patient’s permission before providing information. Asking the patient before sharing results demonstrates respect for the patient’s autonomy and the patient’s ability to choose whether he/she wants to hear the information. After gaining permission to
discuss spirometry results, a four-step process of Ask–Elicit–Tell–Elicit is recommended. Table 7.2 depicts each step in a sample conversation between a provider and patient.

The Ask–Elicit–Tell–Elicit sequence supports patient autonomy by offering a small amount of information in easy-to-understand terms and then probing for the patient’s reaction and understanding. It is essential that the provider seeks the patient’s reaction without imposing his/her own opinions so that the patient will feel free to articulate his/her experience and concerns.

### 7.7 Readiness for Change

The Transtheoretical Model of Change (Prochaska, 1983) is a theoretical model of behavior change that was originally drafted by examining the attributes and strategies of self-changers who successfully quit smoking without professional assistance. This temporal model is based on the assumption that behavior change is not a discrete event, but rather a process that occurs in stages across time. Rather than
assuming that the decision to quit smoking happens on one specific day, the model acknowledges that people are more likely to go through an extended process that may include the following: spend a few months questioning whether to quit or not, seek help from a PCP, weigh the pros and cons for another month, set a quit date, buy nicotine replacement products, change daily routines, seek support from a friend, stop smoking on the quit date, call a telephone quit line for support, relapse after two weeks, seek additional support, etc.

According to this model, there are five stages through which people progress, often in a non-linear fashion. In general, a person moves from being uninterested, unaware, or unwilling to make a change (precontemplation), to considering a change (contemplation), to deciding and preparing to make a change (preparation), to taking steps and problem-solving challenges or barriers (action), to incorporating the change into a daily routine (maintenance). Relapses are almost inevitable and become part of the process of working toward permanent change. The following descriptions of each stage were adapted from Velicer and colleagues (1998):

### 7.7.1 Precontemplation

Precontemplation, the initial stage, is characterized by people who have no intention of quitting in the next six months. Smokers in this stage are likely to deny that smoking causes any problems in their lives. Patients in this stage are uninformed or under informed. When information is presented, they may try to avoid or deny it. People in this stage might have tried to change and failed, leaving them feeling hopeless and demoralized. Tobacco treatment programs are often not designed for people in the precontemplation stage. It is estimated that 40% of current smokers are in the precontemplation stage (Velicer, 1995).

**Clinician Goals During the Precontemplation Stage:**
1. Validate the patient’s experience.
2. Encourage further self-exploration through smoking self-assessment tools (e.g., Fagerstrom Test for Nicotine Dependence (Heatherton, 1991)).
4. Offer websites where patients can go to learn more (e.g., www.smokefree.gov).
5. Leave the door open for future conversations.

**Open-Ended Questions to Facilitate Change During the Precontemplation Stage:**
1. “What would have to happen to let you know that smoking is a problem?”
2. “What warning signs would let you know that smoking is a problem?”
3. “Tell me about times when you have tried to quit in the past.”
4. “How might smoking cause problems for you in the future?”
5. “If you do nothing to change the way you take care of your health, what is the worst thing that might happen in 10 years?”

7.7.2 Contemplation

Contemplation, the second stage, is characterized by patients who intend to change in the next six months. They are more likely to acknowledge that smoking is a problem and consider reasons for quitting. Unresolved ambivalence is a hallmark of this stage, as patients consider the costs and benefits of continuing to smoke. The importance of quitting might rise, but a lack of confidence and a fear of failure interferes with quit attempts. Patients who are attempting to stop smoking spend an average of two years in contemplation, searching for a feasible, simple, quick solution. They are often not ready for traditional, action-oriented programs. Forty percent of current smokers tend to be in the contemplation stage.

Clinician Goals During the Contemplation Stage:
1. Validate the patient’s experience.
2. Explore the patient’s perceptions of the barriers and benefits of quitting smoking.
3. Help the patient clarify values that are inconsistent with smoking, such as being a good role model for children.
4. Encourage further self-exploration through smoking self-assessment tools (Fagerstrom Test for Nicotine Dependence (Heatherton, 1991)).
5. Offer factual written information about the risks of smoking and the benefits of quitting.
6. Educate about the resources available and their efficacy, including nicotine replacement treatments (NRTs), medications, quit lines, text support, mobile apps
7. Leave the door open for moving to preparation.

Open-Ended Questions to Facilitate Change During Contemplation Stage:
1. “Why do you want to stop smoking now?”
2. “What are the reasons for not quitting?”
3. “What concerns you the most about your smoking?”
4. “What might keep you from quitting right now?”
5. “What might help you overcome the barriers to quitting?”
6. “What people, programs or behaviors might help you quit?”
7. “What do you think you need to learn about the effects of smoking or how to quit?”
7.7.3 Preparation

Preparation, the third stage, occurs when patients plan to make a behavioral change in the next month. They have taken steps to prepare, like researching tools and programs that they might use to quit. Ambivalence may still be present, but the pros tend to outweigh the cons. Patients in the preparation stage may spend a considerable amount of time thinking about and planning the strategies they will use. Small steps leading toward behavior change might be attempted (e.g., cutting back on the number of cigarettes smoked, making their intentions to quit public). These patients are ready for traditional tobacco treatment programs and are likely to follow through with treatment. About 20% of current smokers are in the preparation stage.

Clinician Goals During the Preparation Stage:
1. Praise the decision to change behavior.
2. Offer a variety of resources to quit, including NRTs, medications, tobacco treatment groups, quit lines, text support, and mobile apps.
3. Identify and assist in problem-solving obstacles.
4. Encourage small initial steps.
5. Encourage identification of social supports.

Open-Ended Questions to Facilitate Change During the Preparation Stage:
1. (Pick one of the patient’s barriers to quitting) “What are some things you could do to overcome this barrier?”
2. “What additional steps can you take to feel certain that you will succeed?”
3. “How will you feel about yourself when you are able to quit for good?”
4. “Who will support you in your first few months of quitting?”
5. “How will you change your environment to help you quit?”
6. “What will you do to distract yourself when you have a craving?”

7.7.4 Action

Action involves an actual smoking cessation attempt and includes the first six months after quitting. Patients in the action stage move from thinking and planning to doing. The strategies used in the action stage involve stimulus control, substitution, and rewards. Behaviors that support stimulus control include disposing of cigarettes and paraphernalia (e.g., lighters, ash trays) before the quit date, avoiding the gas station or other location where cigarettes were typically purchased, and choosing not to drink alcohol during the first three months of quitting (because of the strong association between smoking and consuming alcohol). Behaviors that support substitution involve planning an alternate activity or action to replace smoking or smoking related behaviors. Patients might drink water or use a nicotine replacement therapy when a craving arises. Some patients substitute a cinnamon stick or flavored toothpick for a cigarette
to satisfy the familiar hand-to-mouth action that is involved in smoking. Rewards that are obtained during this stage can be internal or external. Positive self-statements and a sense of accomplishment and pride can offer powerful reinforcement. Tangible rewards, such as using the money saved from cigarettes to invest in a desired item or activity, are concrete benefits of quitting. Recognition of positive changes from other members and providers in a tobacco treatment program can also be reinforcing.

Clinician Goals During the Action Stage:
1. Affirm steps to change.
2. Explore and highlight successful strategies and benefits.
3. Probe for cravings and struggles, and problem-solve ways to manage them.
4. Encourage continued use of a variety of support options, including NRTs, medications, tobacco treatment groups, quit lines, text support, and mobile apps.

Open-Ended Questions to Facilitate Change During the Action Stage:
5. “What has worked in taking this step?”
6. “What could help it work even better?”
7. “What else would help?”
8. “How do you reward yourself for not smoking?”
9. “How committed are you to remaining a non-smoker?”

7.7.5 Maintenance

Maintenance generally begins six months after quitting and can last indefinitely. Cravings tend to dwindle for most patients and less vigilance and effort is required to remain smoke-free. However, relapse is common during this stage. The average smoker makes seven to nine quit attempts before becoming fully successful. The most frequently cited reason for relapse is the emersion of an emotional stressor. The patient in the maintenance stage should be encouraged to consider and plan for how he or she might manage stressful situations without resuming smoking. Weight gain is a second reason people (particularly women) cite for a relapse. It is important for the patient to incorporate healthy strategies that will address managing both emotional stressors and cravings during the maintenance stage. Examples of these strategies include using nicotine replacement therapies, participating in exercise, and engaging in relaxation. While relapse potential is high (95% in some samples), research suggests that the majority of smokers who relapse (85%) do not return to the beginning of the change process (i.e., the precontemplation stage) (Prochaska, 2006). Rather, patients are much more likely to return to the contemplation stage.

Clinician Goals During Maintenance Stage:
1. Praise continued success.
2. Review and highlight successful strategies and benefits.
3. Explore risks for relapse and problem-solve ways to manage them.
Open-Ended Questions to Facilitate Change During the Maintenance Stage:
4. “Congratulations! What’s helping you?”
5. “What else will help?”
6. “What are your high risk situations and how do you prepare for them?”
7. “What is the best part about being a non-smoker?”

### 7.8 The 5 A’s Model

The 2008 Clinical Practice Guideline (U.S. Department of Health and Human Services) recommend providers use a five-step process (Ask, Advise, Assess, Assist, Arrange) for identifying current smokers and assisting them in quitting.

#### 7.8.1 Step 1: ASK

The best practice for identifying current tobacco users is to ask every patient about his or her smoking habits at every visit. Some may view this approach as “badgering” the patient. However, assessing smoking habits at every visit can have a significant impact across time if the questions are asked in a non-judgmental way that takes into account the patient’s readiness to change. System changes can be used to standardize this approach by implementing a reminder system within an electronic medical record or incorporating tobacco screening in the collection of vitals, although the effectiveness of reminders systems has been mixed. A review of seven randomized control trials found that reminder systems alone increased the number of patients advised to quit by 13% and the patients who were successful in quitting by 4% (Zaza, 2005). However, the Clinical Practice Guideline (2008) reviewed three studies and found that reminder systems did not have a significant impact on smoking cessation rates. Reminders sometimes prompt health care professionals to address smoking cessation in an ineffective way (e.g., “You meet this criteria. Do you want this service?”). While asking is an important first step, evidenced-based approaches should then be used to motivate and prepare smokers to quit. Caplan and colleagues (2011) indicate that two-thirds of patients are asked about smoking status, yet only about 20% of those identified as smokers are offered support for quitting. As such, appropriate clinical follow-up with strategies discussed in this chapter should also be used to improve the effectiveness of these systems.
7.8.2 Step 2: ADVISE

As reviewed earlier in this chapter, a personalized statement recommending that the patient consider quitting can have an impact on those who are ambivalent. Including a message of support and assistance can help to create a sense of collaboration.

7.8.3 Step 3: ASSESS

Assess whether current smokers are ready to quit. Use open-ended questions to explore readiness for change. Use the importance and confidence rulers (Table 7.1) to gauge investment and potential barriers. See the Screening and Readiness for Change sections earlier in this chapter for more specific strategies.

7.8.4 Step 4: ASSIST

Assist patients who are willing to quit by offering nicotine replacement therapy (NRT), medications, and more intensive services. Offer the full array of options available and allow the patients to select the ones that suit them the best. Share information about success rates for each form of treatment and the most effective combinations of treatments. Honor whatever choice they select without judgment. Specific options and more detailed information about NRTs and medication will be discussed in the Interventions section of this chapter.

Patients who elect to take NRTs or medication without additional services, as well as those who decline to receive any services, should be invited to consider some strategies to help them prepare to quit, if they are ready to do so. Written patient education materials can be useful and effective, especially fill-in-the-blank-style handouts that patients can use to personalize their quit plans (see Figure 7.2 for an example; “Tobacco Cessation: How to Change?” Handout (Altum, 2013)). Table 7.3 identifies key ingredients of a quit plan to review when a patient decides to quit. Table 7.4 lists potential barriers to quitting, triggers for smoking, and strategies that patients can use to overcome these challenges (Himstreet, 2013).

7.8.5 Step 5: ARRANGE

Ideally, the provider or a nurse on the Primary Care team offers follow-up either in-person or by phone. Secure email may be another option. Clinical Practice Guideline (2008) recommend contact at one week and one month after the quit date. Issues to address in the follow-up contacts include:
Tobacco Cessation: How to Change?

Do you want to change your tobacco use?  
If you answer yes, the best way is to take into account all the factors that contribute to your use. It can help to think of these factors as falling into one of these 3 main groups:

- Physical Factors  
- Behavioral Factors (habits)  
- Psychological Factors (feelings)

Physical Factors  
Nicotine is the most addictive substance on the planet. But, there is help. Your doctor will help you decide if you can use a nicotine replacement product, such as the patch or gum. These products are shown to help people quit and are often the key to success.

- Most often there is a better success rate when a medication type of product is used.
- Some medications, like Zyban, are very helpful to some people. But for others, they don’t seem to offer enough help with nicotine cravings.
- For some people, using two types of products will work better to relieve cravings and withdrawal symptoms than just using one.

Work closely with your doctor to find the best replacement product(s) for you.

Behavioral Factors  
You need to change your habits and the situations where you most often use tobacco. There are some times when you have greater cravings for tobacco. Counseling and support are helpful to those trying to quit. You can learn skills to help you make other choices at these times.

- Be more aware of the situations when you are most tempted to use nicotine
- Learn problem-solving skills to better cope with these situations

What does the VA offer to help?  
- Tobacco cessation groups/classes
- Individual counseling through tobacco cessation clinics.

If you would find telephone counseling helpful, you can call 1-800-QUIT-NOW (1-800-784-8669). You will be connected to your state’s phone support staff.

Behavioral Factors  
Your feelings (thoughts and emotions) are some of the hardest aspects of tobacco use to change. Often, people think that they need tobacco to get through their tough times. Changing these thoughts to cope with stress is a vital aspect of beating this habit.

One helpful strategy is to list your top 3 reasons for quitting, and remind yourself of them as a way to stay strong if you need a boost along the way. Take a moment to list your main reasons for quitting:

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________

Figure 7.2: How to Change Handout. This How to Change Handout for Smoking Cessation uses the 5 A’s Approach: Avoid, Alter, Alternatives, Action, and Appointment to assist providers in helping their patients stop smoking.
Preparing to Quit

Your Quit Date

When is the last day and time that you are going to use tobacco?

Month_____ Day______ Year_______ Time________

Prepare Your Surroundings

What are the things that remind you to use tobacco? It is important to change these things so you won’t be reminded about tobacco use as often.

Before your quit date consider the following:

- Don’t buy tobacco in bulk (e.g., don’t buy cartons).
- Find all of your hidden stashes of tobacco. Check in the couch, the car, in your drawers at home and at work. It is unwise to keep an emergency stash once you quit.
- Get rid of tobacco-related materials—things like ashtrays and lighters. Don’t carry lighters or matches in your pockets or purse.
- Prepare family and friends. Let them know that you are planning to quit. Ask for their help. If you have friends and family who do use tobacco, ask them to avoid using it around you.
- Prepare a plan for to cope with your cravings and withdrawal symptoms. Use the combination of strategies that works for you.
- Choose a method to quit. There are many ways to think about quitting. But one of the most important considerations is to avoid thinking favorably about your last tobacco use. If you remember your tobacco fondly, then you are more likely to go back to using it when you think you need it.

Quitting is difficult. Many people feel it’s a challenge. Preparing for difficult situations as you quit can help you succeed. What do you expect to be the hardest challenge for you as you quit?

- Will it be going without a cigarette with your morning coffee?
- Will it be not smoking when your spouse or friends light up?

Anticipating and having a plan for how to handle these challenges will increase your success.

As you prepare to quit there are other things in your life that you can change that will help you to be successful. Think about the places you should avoid or things you should do differently.

- **Avoid:** What situations (e.g., bars, sporting events, smoking areas) do you need to avoid during the next month to limit your urges to use tobacco?
- **Alter:** How can you change situations that you can’t avoid so that you’ll be more successful with your quit attempt?
- **Alternatives:** “When you feel the urge to put tobacco in your mouth what could you use instead” (e.g., gum, hard candies or mints, toothpicks, cinnamon sticks)?
- **Activities:** “Are there things you can do (e.g., going for a walk) or ways to keep you busy if you feel an urge to use tobacco?”

continued **Figure 7.2:** How to Change Handout. This How to Change Handout for Smoking Cessation uses the 5 A’s Approach: Avoid, Alter, Alternatives, Action, and Appointment to assist providers in helping their patients stop smoking.
Using the Four A’s to Outsmart Tobacco Urges

Avoid. What are the situations or places that you need to avoid over the next month?
1. 
2. 
3. 

After. What situations will you need to change to help you be more successful?
1. 
2. 
3. 

Alternatives. What can you put in your mouth or hands instead of using tobacco?
1. 
2. 
3. 

Action. When you get an urge to use tobacco, what can you do to be active or busy?
1. 
2. 
3. 

Follow-Up Appointment Plan:


continued Figure 7.2: How to Change Handout. This How to Change Handout for Smoking Cessation uses the 5 A’s Approach: Avoid, Alter, Alternatives, Action, and Appointment to assist providers in helping their patients stop smoking.
Table 7.3: Key Elements of a Quit Plan

- Set a quit date. Some time to prepare is often indicated but long delays may preclude action.
- Share the quit plan with others and ask for their understanding and support.
- Identify potential challenges and triggers and how they will be overcome. These might include withdrawal symptoms, daily routines that are heavily associated with smoking, alternative strategies for coping with stress and cravings, etc. Each patient may have a different perspective of challenges. It may be useful to offer a list (see Tab. 7.4) and ask them to select the top three or four items to address.
- Remove tobacco products from home, work, and car.
- Consider making the home smoke-free.
- Identify and plan for challenging triggers by altering or avoiding them (e.g., avoid spending time with others who smoke, go for a walk in the morning instead of smoking a cigarette and taking a shower first thing).
- Consider avoiding alcohol because alcohol use is associated with tobacco relapse.
- Offer information about additional supports such as telephone quit lines, text support, mobile apps, and websites.
- Have tobacco treatment education materials in every exam room to offer when patients are preparing to quit.

1. Congratulating them if they remain abstinent. Probing for strategies that have led to their success.
2. Exploring medication use and side effects.
3. Problem-solving ways to address any slips or challenges to managing cravings.
4. Asking about use of additional supports and reviewing available resources as needed.
5. Plan to review again at the next clinic visit.

7.9 Motivational Interviewing

Motivational Interviewing (MI) is an evidenced-based interviewing style that seeks to draw out a patient’s own reasons for change. MI is a collaborative approach that recognizes and supports the patient’s struggles, values, beliefs, and desires. Skilled clinicians move the interview towards change while respecting the patient’s autonomy and personal choice.
Table 7.4: Barriers to Quitting, Triggers for Smoking, and Strategies to Overcome Both Barriers and Triggers

<table>
<thead>
<tr>
<th>Barriers</th>
<th>I have not been able to quit in the past.</th>
<th>I do not know what to do without a cigarette.</th>
<th>I am afraid it will make my stress, anxiety, or mood worse.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I live with others who still smoke.</td>
<td>How will I socialize with my friends who still smoke?</td>
<td>I cannot get back to sleep unless I smoke a cigarette.</td>
<td></td>
</tr>
<tr>
<td>I am concerned about weight gain.</td>
<td>I am worried about how I will handle stress.</td>
<td>It is the only vice I have left; I quit everything else.</td>
<td></td>
</tr>
<tr>
<td>I smoke when I am bored.</td>
<td>I always have a cigarette with my coffee/beer.</td>
<td>I do not know how to say “no.”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Triggers</th>
<th>Waking up in the morning</th>
<th>Drinking coffee</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before bedtime</td>
<td>Drinking alcohol</td>
<td>After meals</td>
<td></td>
</tr>
<tr>
<td>Driving</td>
<td>After sex</td>
<td>During breaks</td>
<td></td>
</tr>
<tr>
<td>Working on the computer</td>
<td>Talking on the phone</td>
<td>Waking during the night</td>
<td></td>
</tr>
<tr>
<td>Feeling bored</td>
<td>After completing a task</td>
<td>Having nightmares</td>
<td></td>
</tr>
<tr>
<td>Feeling anxious, angry, impatient</td>
<td>Seeing and/or smelling someone Watching TV else smoke</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioral Strategies</th>
<th>Avoid stressful situations whenever possible.</th>
<th>Remove triggers (e.g., ashtrays, lighters) from home, car, clothing, etc.</th>
<th>Exercise. Go for a walk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill your time with enjoyable hobbies and interests that are not associated with tobacco use.</td>
<td>Stock up on tobacco substitutes (e.g., sugar-free chewing gum and candy, carrot and celery sticks, toothpicks, straws, cinnamon sticks).</td>
<td>Keep track of the number of cigarettes smoked to make the behavior less automatic.</td>
<td></td>
</tr>
<tr>
<td>Practice relaxation techniques (e.g., deep breathing exercises).</td>
<td>Move your tobacco to a different location that is less convenient to access.</td>
<td>Wait to smoke after waking, eating, etc. Slowly increase the amount of time daily - wait 10 minutes today, 20 minutes tomorrow, etc.</td>
<td></td>
</tr>
<tr>
<td>Brush your teeth.</td>
<td>Talk to a friend or family member. Do a crossword puzzle or Sudoku.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.9.1 Clinical Effectiveness of Motivational Interviewing for Treating Tobacco Use Disorder

A randomized, controlled trial conducted in Spain found that three 20-minute physician interventions using MI were five times more effective than three minutes of advice and guidance to quit smoking offered by the same physician (Raimundo, 2006). In a review of four meta-analyses of the clinical effectiveness of MI for tobacco cessation, Lundahl and Burke (2009) found that MI success rates ranged from 5% to 17% above no treatment at all, with mixed findings when MI was compared with other evidence-based treatments. Ideally, MI should be incorporated into a package of treatment approaches that complement one another. This interviewing skill might be most effective in Primary Care or Pulmonary Specialty Care clinics, where patients are most likely to be in the precontemplation or contemplation stages of change. Denial and ambivalence are prominent features of these stages, and MI strategies are well-suited to promoting movement and investment in change.

7.9.2 Developing Competency in the Use of Motivational Interviewing

There are currently no established standards for developing competency in MI. However, MI experts tend to agree that 14 to 28 hours of training followed by audio-taped practice and supervision are generally needed to achieve proficiency in several critical and quantifiable skill domains. Efraimsson and colleagues (2011) addressed the question of whether four days of MI training impacted nurses’ use of MI communication for smoking cessation with COPD patients. The nurses’ interventions were more instructive (e.g., provided information, closed questions, simple reflections) and rarely expressed empathy using complex reflections, collaborated with patients, or supported the patients’ choices, thereby making them less likely to support motivation for change. This study suggests that follow-up practice and supervision are necessary to gain proficiency in MI. The authors propose that training in MI needs to be integrated into nursing education, at the basic and advanced levels, with audio- or video-taped supervision needed to achieve proficiency. Annual training and proficiency evaluations would ensure competence is maintained. These recommendations would be advisable for all healthcare professions who address health behavior change, such as physicians, nurses, dieticians, clinical pharmacists, social workers, psychologists, physical and occupational therapists, and speech pathologists.

7.10 Interventions

Smoking cessation intervention options that are provided to patients should be numerous and varied. Patients should be encouraged to use multiple strategies rather
than selecting only one at a time. Tobacco treatment options might include group or individual counseling (in outpatient mental health or in specialty medical clinics), nicotine replacement therapy (NRT), medications (e.g., bupropion [Wellbutrin] or varenicline [Chantix®]), telephone quit lines, home telehealth programs, Nicotine Anonymous, mobile apps, websites and text support. Daily support strategies like home telehealth, a daily home monitoring system, or a mobile app with daily log-in, can support the frequency of cravings in the first month of quitting. Telephone quit lines might be especially useful in the maintenance stage, when there is a higher likelihood of emotional stressors that may lead to relapse.

Brief interventions (3–10 minutes) for smoking cessation that occur in the Primary Care setting have been associated with smoking cessation rates of 5–10% (Wilson, 1990). More intense interventions lead to a greater likelihood of success. Interventions can be made more intense by increasing the number of sessions, the length of the sessions, or the follow-up period. Having at least 4 individual brief (10–15 minute) appointments substantially improves abstinence rates (2–3 sessions: 16%; 4–8 sessions: 21%; Clinical Practice Guidelines, 2008). Additionally, a multidisciplinary team approach in a primary care setting might allow for more frequent review of the patient’s efforts to quit.

In general, studies of successful tobacco treatment confirm that a structured counseling program combined with an NRT and/or medication is the most successful (see Table 7.4). This result was replicated in a review of randomized controlled clinical trials of tobacco treatment for COPD patients (Parker, 2012). Table 7.5 identifies success rates by type of intervention.

Table 7.5: Success Rates of Different Smoking Cessation Methods

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling + NRT/medication</td>
<td>22% – 32%*</td>
</tr>
<tr>
<td>Medication alone</td>
<td>24% – 33%*</td>
</tr>
<tr>
<td>NRT’s alone</td>
<td>19% – 27%*</td>
</tr>
<tr>
<td>Counselling alone</td>
<td>12% – 25%*</td>
</tr>
<tr>
<td>Brief interventions in Primary Care</td>
<td>8% – 12%*</td>
</tr>
<tr>
<td>Self-Initiated Strategies</td>
<td>8% – 10%*</td>
</tr>
</tbody>
</table>

* consolidated data from 2008 Clinical Practice Guidelines
7.10.1 Nicotine Replacement Therapies and Medications

As indicated, nicotine replacement therapies and medications – either used individually or in combination with counseling – lead to the highest cessation rates. Nicotine replacement therapies and medications are considered to be critical for any patient who wants to quit smoking and should be offered to everyone engaging in smoking cessation. If a patient is not having success with smoking cessation while using a particular NRT or medication regimen, the provider should adjust the types and/or dosages of NRTs and/or medications, or try a combination of therapies (Ebbert, 2007). Nicotine cravings and unmanageable withdrawal symptoms are common reasons for relapse when NRT’s or medications are not used or used in insufficient dosages. Burke et al. (2008) suggested monotherapy with an NRT for patients who smoke 10 cigarettes per day or less. Relapse after monotherapy usually suggests the need to add additional agents. Patients who smoke more than 10 cigarettes per day are encouraged to try a combination of NRTs; this might include wearing a nicotine patch that provides steady dosing, and choosing nicotine gum, spray, lozenge, or inhaler for breakthrough cravings or withdrawal symptoms. The researchers note that while the FDA has not approved combination therapy, their evidence supports the practice of NRT combination therapy.

Tobacco treatment literature describes tobacco dependence as a chronic condition, and, as such, the effectiveness and the type and dosage of the NRT and/or medication needs to be regularly evaluated. Recommendations and doses for NRTs and tobacco cessation medications should be adjusted with each quit attempt, much the same way medications and doses are adjusted over time for hypertension or diabetes (Burke, 2008). Table 7.6 offers a summary of NRT’s and medications for tobacco dependence. See medication package inserts for complete information.

Unfortunately, only 22% of smokers who attempt smoking cessation use a nicotine replacement product or medication (Clinical Practice Guideline, 2008). Additionally, many smokers have unrealistic expectations about the quitting process and stop using NRTs or medications prematurely, which leads to relapse. Discussing these misconceptions and sharing information about the most effective smoking cessation strategies might help patients succeed.

7.11 Other Nicotine Sources

Although outside of the scope of this chapter, smokeless tobacco (e.g., chewing tobacco, snuff, and dissolvable tobacco) also has deleterious effects. While smokeless tobacco does not directly cause or contribute to symptoms of COPD, it has been shown to cause a variety of negative health effects, including mouth, tongue, cheek, gum and throat cancer, esophagus cancer, stomach cancer, and pancreatic cancer (American Cancer Society, 2013). Additionally, while smokeless tobacco products are
Table 7.6: Pharmacologic Treatments for Smoking Cessation

<table>
<thead>
<tr>
<th>Medication</th>
<th>Features</th>
<th>Dosing</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicotine Patch</td>
<td>– OTC – 24 hour delivery – Slow to build up – Rotate patch site; anywhere on the upper body</td>
<td>For &lt;10 cigarettes/day – 14 mg for 6 wks – 7 mg for 2 wks For &gt;10 cigarettes/day – 21 mg for 4–6 wks – 14 mg for 2–4 wks – 7 mg for 2–4 wks</td>
<td>– Skin irritation – Sleep disturbance or vivid dreams – Require additional adhesive with sweating</td>
</tr>
<tr>
<td>Nicotine Gum</td>
<td>– OTC – Delivers nicotine through the mouth while gum is parked between cheek and gum – Quick delivery – Avoid eating or drinking 15 min before or during use – Chew 15–30 times then park between cheek and gum until tingle fades</td>
<td>&lt;20 cigarettes/day: – 2 mg gum &gt;20 cigarettes/day: – 4 mg gum Dosing: – 1–2 pieces per 1–2 hrs for 6 wks – 1 piece per 2–4 hrs for 3 wks – 1 piece per 4–8 hrs for 3 weeks</td>
<td>– Improper “chewing” leads to less nicotine absorbed &amp; stomach upset – Mouth soreness</td>
</tr>
<tr>
<td>Nicotine Lozenge</td>
<td>– OTC – Delivers nicotine through the mouth while lozenge dissolves; 25% more nicotine than gum – Quick delivery – Avoid eating or drinking 15 min before or during use – Should not be chewed or swallowed</td>
<td>&lt;20 cigarettes/day: – 2 mg &gt;20 cigarettes/day: – 4 mg Dosing: – 1–2 pieces per 1–2 hrs for 6 wks – 1 piece per 2–4 hrs for 3 wks – 1 piece per 4–8 hrs for 3 weeks</td>
<td>– Throat irritation – Nausea (12–15%) – Hiccups – Heartburn</td>
</tr>
<tr>
<td>Nicotine Nasal Spray</td>
<td>– Prescription only – Delivers nicotine through the oral mucosa but is NOT sniffed – Fastest NRT delivery system</td>
<td>– 1 spray in each nostril 1–2x/hr – Average 14–15 doses/day initially; 40 doses/day max</td>
<td>– Nose and eye irritation in 1st week especially</td>
</tr>
<tr>
<td>Nicotine Inhaler</td>
<td>– Prescription only – Delivers nicotine through the mouth – Quick delivery; need to puff more frequently than a cigarette</td>
<td>– Minimum 6 cartridges/day; Max 16/day – Each cartridge designed for 80 puffs in 20 min.</td>
<td>– Few reported</td>
</tr>
</tbody>
</table>
less lethal than cigarettes, they are not recommended as a cigarette substitute as they have not been proven to help smokers quit.

The electronic cigarette (e-cigarette) has become another popular nicotine delivery system. Research about the e-cigarette’s potential negative health effects is still sparse. Questions about the safety of inhaling the substances found in e-cigarettes into the lungs have been raised (The American Cancer Society, 2014). The limited available research indicates that e-cigarettes cause short-term lung changes. The long-term effects are still unclear. Additionally, the ingredients in e-cigarettes are not identified, making the substances and nicotine levels contained within them unclear. As the safety and effectiveness of e-cigarettes is currently unknown, The American Cancer Society indicates that they cannot recommend the e-cigarette as a nicotine replacement therapy. With regard to both smokeless tobacco and the e-cigarette, it is important to discuss the potentially harmful health effects that these tobacco and nicotine products can cause.

### Table 7.6: Pharmacologic Treatments for Smoking Cessation

<table>
<thead>
<tr>
<th>Medication</th>
<th>Features</th>
<th>Dosing</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion SR</td>
<td>Non-nicotine prescription</td>
<td>150 mg 1x/day for 3 days</td>
<td>Increased risk of seizures (1:1000)</td>
</tr>
<tr>
<td>(Wellbutrin®)</td>
<td>May be used in combination with NRT’s</td>
<td>150 mg BID for 4 days before quit date</td>
<td>Insomnia (daytime dosing suggested, 8 hours apart)</td>
</tr>
<tr>
<td></td>
<td>Start 1 week before quit date</td>
<td>Continue 150 mg BID for 8 wks – 6 mo.</td>
<td>Use with caution in patients with liver disease</td>
</tr>
<tr>
<td></td>
<td>Beneficial for smokers with depression</td>
<td></td>
<td>Dry mouth</td>
</tr>
<tr>
<td>Varenicline</td>
<td>Non-nicotine prescription</td>
<td>0.5 mg 1x/day for 3 days</td>
<td>Nausea, take with food</td>
</tr>
<tr>
<td>(Chantix®)</td>
<td>Not recommended with NRT’s</td>
<td>0.5 mg BID for 4 days</td>
<td>Adjust dose if kidney function is impaired</td>
</tr>
<tr>
<td></td>
<td>Start 1 week before quit date</td>
<td>1.0 mg BID for 11 weeks</td>
<td>Monitor for irritability and suicidality</td>
</tr>
<tr>
<td></td>
<td>May stop abruptly without taper</td>
<td>May continue up to 24 weeks total</td>
<td>Avoid use with serious psychiatric illness</td>
</tr>
</tbody>
</table>

* Adapted from Fiore, 2008; vaww.publichealth.va.gov/smoking/index.asp.
7.12 Conclusion

Eighty to 90% percent of patients diagnosed with COPD are current or past smokers. Thus, the single most important approach to treating and preventing COPD is smoking cessation.

More than 70% of the 45 million smokers in the United States report that they would like to quit, and approximately 44% of those people attempt to quit each year. NRT’s and medications – either used individually or in combination with counseling – lead to the highest cessation rates. Unfortunately, only 22% of smokers who attempt smoking cessation use a nicotine replacement product or medication. Smokers should be offered multiple resources to help them quit and be encouraged to use more than one. The role of Primary Care in tobacco treatment is to (1) assess the patient’s readiness for change, (2) match the intervention strategy to the patient’s stage of change, (3) ask open-ended questions that explore the risks, roadblocks, rewards, and relevance of quitting, and (4) use the five A’s process: Ask about smoking status at every visit; Advise smokers to quit; Assess readiness for change; Assist patients with a variety of resources; and Arrange follow-up.

7.13 Summary Points

1. Up to 90% of those diagnosed with COPD are or were smokers; therefore, addressing smoking cessation is important to prevent and treat COPD.
2. Abstinence from tobacco is associated with a variety of health improvements, including decreased mortality and reduced risk of developing lung cancer, myocardial infarction, and stroke.
3. Providers should screen patients for tobacco use at each visit; Providers can use the five A’s process (Ask about smoking status at every visit; Advise smokers to quit; Assess readiness for change; Assist patients with a variety of resources; and Arrange follow-up).
4. Providers can use a variety of data to encourage patients to consider and follow through with smoking cessation, including lung age to explore the patient’s perceived need to quit and statistics about effective treatments to consider methods to assist with quitting.
5. Providers should use Motivational Interviewing (MI) techniques to assess a patient’s stage of change when discussing smoking cessation; Motivational Interviewing questions might also help a patient explore the costs and benefits of smoking cessation.
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Panos, R. (2014). Lung Age Graph. (Unpublished.) Cincinnati Veterans Affairs Medical Center, Cincinnati, OH.
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