

# SMOKING INTERVENTION: Opportunities for Office Nurses

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*This article provides practical information that the office nurse can use in daily activities with smoking patients and their families. It will begin by briefly reviewing the epidemiology and pathophysiology of smoking and then outline seven basic steps that an office nurse can use when intervening with smoking patients. The article will also suggest a variety of clinical opportunities in which smoking intervention can take place, followed by some useful information on nicotine addiction and relapse prevention. Practical information reviewing the office nurse's role will be included as well.*

**A**s an important member of the health care team, office nurses are in a strong position to encourage their patients to quit smoking. Since approximately 75% of the U. S. smoking population see a physician at least once a year, office nurses will encounter many smokers who could benefit from smoking cessation messages.<sup>1</sup> Studies have shown that health professionals can make a significant impact on the number of patients who quit. Giving simple advice, offering literature, and promising to follow up at a later date can directly motivate smokers to quit.<sup>2</sup> Smoking intervention by the office nurse need not be time-consuming. Providing a simple, yet concrete smoking cessation message can require as little as 5 minutes of the nurse's and the patient's time.

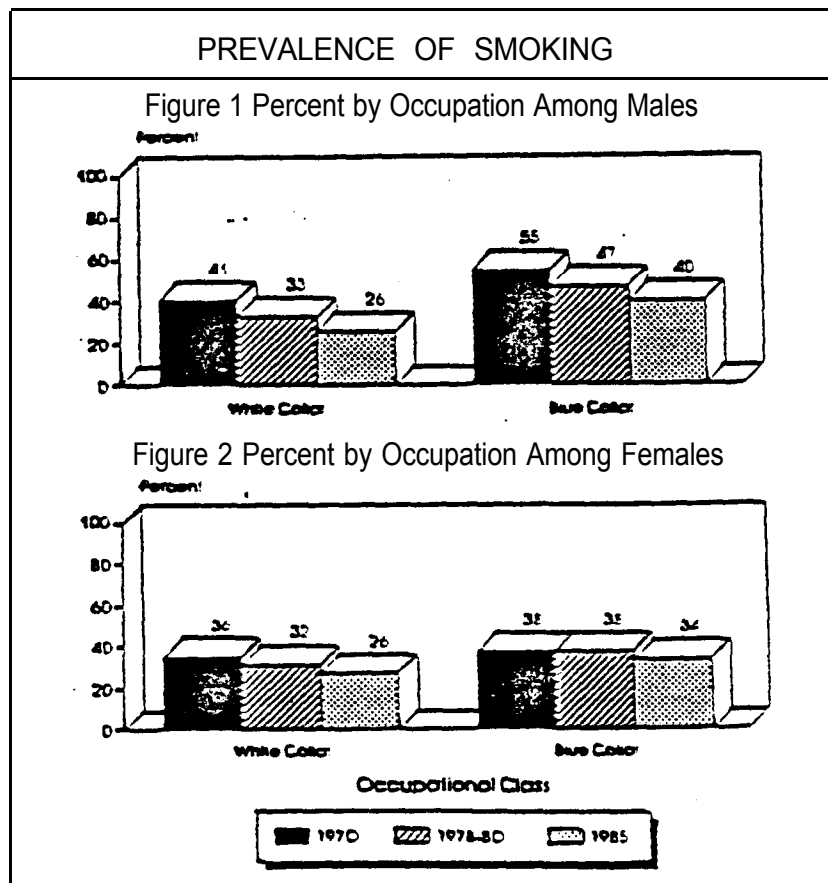
## Epidemiology

Despite the decline in the prevalence of cigarette smoking over the past 25 years, today 51 million Americans continue to smoke. In 1987, 33% of men and 28% of women were current smokers as compared to 5% of men and 34% of women in 1965.<sup>3</sup> Smoking surveys have indicated that even though smoking rates are declining in the general population, the rate of decline is slower among cer-

tain group, such as the less educated (high school graduate or less), blue collar professions, and women.<sup>4</sup>

Groups with the highest smoking rates include Black males (38%) and men and women in blue collar profes-

sions, 40% and 34% respectively (1985). (See Figures 1 and 2) Smoking among teenagers continues to decline. In 1985 16.7% of high school seniors report smoking daily, whereas in 1977 this figure was 28.8%.<sup>5</sup> Although smoking rates have declined significantly since 1965, a



greater proportion of those who do smoke are heavy smokers (smoke 25 or more cigarettes per day). Males are more apt to be heavy smokers than females and whites smoke more heavily than Blacks.<sup>6</sup>

### Pathophysiology

Cigarettes are primarily harmful because of the multiple compounds that constitute tobacco smoke.<sup>7</sup> These include nicotine, carbon monoxide, carcinogens, irritant substances, and traces of other gases whose effects are still unknown. Nicotine is the physically addictive substance that makes it difficult for many people to quit. It acts on the central and autonomic nervous system by stimulating the brain's nicotine receptors and causes changes in mood, learning, concentration, alertness, and performance. It also trig-

gers the release of chemicals that increase heart rate, blood pressure, vasoconstriction, blood clotting, and oxygen consumption.

Carbon monoxide attaches readily to the blood's hemoglobin and prevents it from carrying the maximum amount of oxygen to the body's tissues. Individuals who have cardiac disorders or asthma, or who are pregnant, are even more compromised by the presence of carbon monoxide in their blood. Carcinogens found mainly in the tar or smoke condensate in the lungs may contribute to the development of lung cancer in humans as it has in animals. Irritants found in the tar narrow the bronchioles and promote ciliostasis, thereby leading to increased cough and sputum production in the smoker.

Smoking also promotes

atherogenesis by decreasing high density lipoprotein (HDL) cholesterol (the "good" cholesterol) and increasing the low density lipoprotein (LDL) cholesterol (the "bad" cholesterol). Total serum cholesterol and plasma free fatty acids are also increased with smoking. As a result of preventing the blood from carrying the maximum amount of oxygen, carbon monoxide may produce intimal hypoxia and increase endothelial permeability in the arterial wall. As this process is increased, lipid deposition is promoted and blockages in circulation may occur.<sup>8</sup>

As the body undergoes the pathophysiologic changes described above, it becomes extremely susceptible to a variety of disease processes. Several of these diseases are listed in Table 1. As noted there, smoking is a major cause of coronary heart disease in men and women and accounts for 80-90% of chronic obstructive pulmonary disease. Roughly 30% of all cancer deaths in the United States are associated with smoking. These include lung, laryngeal, oral, and esophageal cancers.<sup>10</sup> In 1986, the lung cancer death rate in women became equal to the breast cancer death rate.<sup>11</sup> Lung cancer is now the leading cause of death due to cancer in American women.

Understanding the health consequences of smoking and which patients are more likely to smoke is important for the office nurse. This knowledge enhances the effectiveness of any no-smoking message given, helps the office nurse understand the importance of smoking cessation, and provides a strong rationale for incorporating smoking intervention as a part of routine office nursing practice.

### Smoking Intervention Steps

As mentioned previously, smoking intervention on the part of every office nurse need not take more than 2-5 minutes per patient. Of course, further smoking-related discussions and education can take place if time and scheduling allows but

**TABLE 1**  
**Risks of Smoking**

#### *Pulmonary Disease*

- Smoking is a major cause of chronic bronchitis and emphysema, and accounts for 80-90 percent of Chronic Obstructive Pulmonary Disease (COPD).
- Smoking is associated with more frequent and severe asthma episodes, recurrent respiratory infections, decreased lung function correlating directly with the number of cigarettes smoked, and increased respiratory tract infections in infants whose mother smoke.

#### *Cardiovascular Disease*

- Smoking is a major cause of coronary heart disease in both men and women.
- Smoking is associated with 30 percent of chronic heart disease deaths, 21 percent of deaths from other cardiovascular diseases, and increased risk of sudden death.
- Smoking is associated with increased risk of thrombotic and hemorrhagic stroke and subarachnoid hemorrhage; the risk is compounded by oral contraceptive use.
- Smoking is cited as a cause and as the most important risk factor for peripheral vascular disease; smoking cessation is the most powerful intervention in the management of this problem.
- Diabetic men and women who smoke greatly increase their risk of cardiovascular and peripheral vascular disease.

#### *Cancer*

- Smoking has been called the "...major single cause of cancer mortality". "It is associated with roughly 30 percent of all cancer deaths in this country every year."
- Smoking is associated with gastric and cervical cancer.
- Smoking is a contributing factor in bladder, pancreatic, and renal cancer.
- Smoking is a major cause of lung, laryngeal, oral, and esophageal cancer.
- In 1986, the lung cancer death rate in women became equal to the breast cancer death rate. Lung cancer is the leading cause of death due to cancer in American women.

#### *Pregnancy-Related Complications*

Smoking in pregnant women is associated with:

- Increased risk of miscarriage, stillbirth, and low birth weight infants.
- Retarded physical and mental development.

**TABLE 2**  
**Benefits of Quitting Smoking**

**Cancer**

- Smoking cessation is beneficial in gradually decreasing the risk of lung, bladder, laryngeal, oral, and esophageal cancer when compared with continued smoking, but cessation may not reduced the risk to the same level or one who never smoked at all.

**Cardiovascular Disease**

- Studies have shown a substantial reduction in the coronary heart disease death rate, even among the elderly, after smoking cessation; benefit may occur with 2 years of quitting.
- Smoking cessation has resulted in a significant decrease in stroke risk; 5 years after quitting, the former smoker is no more at risk than the individual who never smoked.

**Peripheral Vascular Disease**

- Smoking cessation can help reduce the prevalence of lower extremity arterial disease when compared to those who continue smoking.

**Infant Birthweight**

- Smoking cessation prior to or during pregnancy can partly reverse the reduction in a child's birthweight.

**Other Benefits\***

- Improved capacity to recover from respiratory disease.
- Fewer respiratory illnesses.
- Longer life.
- Less chest discomfort and coughing.
- Easier breathing.
- More energy.
- Fresher breath.
- Improved ability to taste.
- Increased exercise tolerance.
- More money to spend on other things.
- Increased feeling of control.

\*Source: Peck Gary: "Helping People Escape from Marlboro Country": Part 1, *Section Connection*, American Association of Respiratory Care, pp. 11-13

an effective smoking cessation message can be satisfactorily delivered during a brief patient encounter. It is important for the office nurse to take advantage of every clinical opportunity in which to discuss smoking with her patients.

*Step One: Identify the Patients Who Smoke.* The identification of smokers should become a regular part of the office nurse's daily routine. Such patients can be identified when completing nursing assessments, checking charts and other medical records, or consulting with the physician or other office staff members. Patient smoking is usually part of the medical history and can easily be obtained from the patient's chart.

*Step Two: Explain the Risks of Smoking and the Benefits of Quitting.* Most smokers are well aware that smoking is harmful to their health but they may benefit from a review of how smoking affects their current condition.<sup>12</sup> This reminder helps them personalize the risk

of smoking and may motivate them towards behavior change. Younger patients may not be motivated by reviewing the risk of smoking as they tend to feel "immortal" and have difficulty relating the consequences of their unhealthy lifestyle to a disease state that may not occur for 20 or more years. Table 1 can be used to help personalize the risks of smoking for each individual patient since the effects of smoking can usually 'be linked to the patient's current or potential disease condition.

The benefits of quitting must also be emphasized and should focus on those that are meaningful to that particular patient, for example, the younger patient may be more interested in the fact that smoking cessation will provide more energy, fresher breath, better smelling clothes and hair, and an improved ability to taste. The older patient may appreciate the same immediate benefits, but may also be more interested in the benefits that directly affect his health, such as de-

creases risk of heart disease and stroke within 2-3 years after quitting. The benefits of quitting are summarized on Table 2.

*Step Three: Give Clear, Firm Advice to Quit.* This step has proven successful in several studies focusing on the impact that a simple no-smoking message can make in changing behavior.<sup>13</sup> By avoiding scare tactics and being sensitive to each patient, the office nurse can strongly advise the patient to quit, stressing the risks of continuing smoking as well as the benefits of quitting.

*Step Four: Ask the Patient if He or She is Ready to Quit.* This step allows the patient to make a personal decision to quit, respecting whatever decision is made. The patient is much more likely to succeed in attempts to quit if the decision has come from within rather than as a result of extreme pressure from a health professional, family member or friend. According to a 1987 Gallop poll, 77% of smokers would like to quit. However, if a patient is unwilling to quit at this time, the office nurse need not abandon her attempts. She should just make her help available at a time when the patient's readiness to quit is higher. Some patients need to think about quitting for awhile or may have other stressors or lifestyle changes that are being dealt with at the present time.

As the nurse continues to see the patient, she can review the risks and highlight the benefits of smoking, offer sources of support, provide smoking literature, and refer the patient to a smoking cessation program within the community. Just a reminder to think about what the office nurse has said can encourage the patient to continue to consider quitting on his/her own.

*Step Five: If the Patient is Ready to Quit, Help Him Set a Quit Date.* Setting a quit date at some time in the immediate future helps confirm in the patient's mind that he will be quitting and gives the patient time to get ready to quit. Preparing to quit may include obtaining support of others by telling family, friends, and co-

workers that they will be a non smoker on a certain date. The patient may also want to eliminate all cigarettes, ash trays, and lighters, obtain a prescription for nicotine polacrilex medication (see "Pharmacological Support for Smokers" in this issue), and mentally review various coping strategies such as those listed in Table 3.

When helping the patient set a quit date, it is important that they pick one that occurs within a realistic time period, does not coincide with periods of unusual stress, and takes into account their physical condition. If the patient quits "cold turkey" (as most patients do), they may want to gradually cut down on the amount of cigarettes they smoke, especially if they are heavily addicted or smoke two to three packs' per day. The effectiveness of setting a quit date will be enhanced even further if the patient tells a dose family member, friend, or co-worker of their plans to quit on a certain date.

*Step Six: Give the Patient Literature or Refer Them to a Local Smoking Cessation Program.* In a busy office environment, the office nurse will most likely not have time to explain all the techniques associated with successful smoking cessation. Literature may prove very helpful in this instance, especially if the patient wants to think about if, when, and how to quit before actually quitting. Some patients may benefit from a local smoking cessation program in which long term success rates can go as high

as 20-30%. The office nurse should become familiar with the program and resources in the local community and refer to them as needed. The resource section at the end of this article lists potential patient referrals that can be tailored to the patient's own community.

*Step Seven: Tell the Patient You Will Follow-up and Do So When Possible.* This step is extremely important and is especially feasible for nurses in the office setting. Follow-up promotes accountability on the patient's part and promotes feelings that the office nurse genuinely cares about his/her desire to quit smoking and takes the decision seriously. Follow-up can occur at the next office visit if it occurs soon after the quit date.

If the patient is not scheduled for an office visit in the immediate future, a simple phone call to the patient's home or workplace may suffice. The office nurse may wish to confer with the occupational health nurse or other staff at the patient's workplace (with the patient's permission). This type of follow-up allows the nurse to answer any questions and provide additional guidance as the patient continues to remain a non-smoker.

### Clinical Opportunities for Intervention

Clinical opportunities in which the office nurse can deliver a brief no-smoking message are numerous and should be taken advantage of when

reason. Table 4 offer some suggestions. But each opportunity will vary with the patient then condition, the type of office practice, physician preference and support of smoking cessation, and the amount of time the nurse usually spends with a patient during a typical office visit.

The clinical opportunities for intervention may revolve around the patient's diagnosis such as high blood pressure or asthma, or it may be associated with symptoms that are exacerbated by smoking such as shortness of breath or cough. Preoperative patients should be encouraged to quit in order to avoid post-anesthesia complications. Pregnant women and parents should be given a no-smoking message to benefit their developing baby and/or child.

### Nicotine Addiction and Relapse

Nicotine addiction is one of the major reasons why smokers find quitting so difficult and why relapse is so common. In fact, within three months of quitting, about 70% of smokers will have relapsed.<sup>14</sup> According to a recent report by the Surgeon General, cigarette smoking and tobacco use meet the main criteria for drug dependence.<sup>15</sup> These include highly controlled or compulsive use, psychoactive effects, and drug-reinforced behavior.

The pharmacologic and behavioral processes that determine tobacco addiction are very similar to those that determine addiction to drugs such as heroin and cocaine. When comparing tobacco cigarette dependency with other drug dependencies, a study showed that 57% of the participants in a drug treatment program said that cigarettes would be harder to quit than the substance for which they were seeking treatment.<sup>15</sup>

Upon lighting up a cigarette, nicotine is delivered to the brain within a very short time, allowing smokers to feel the affects of nicotine very quickly after puffing.<sup>17</sup> Tolerance to the nicotine develops rapidly, and smokers soon learn how to regulate the number and depth of puffs to

**TABLE 3**  
**Coping Strategies For Smoking Cessation**

- Get rid of all cigarettes, ash trays, and lighters.
- Identify one family member friend, or co-worker as your support person.
- Change routine or situations that are usually associated with smoking.
- Practice slow, deep breathing exercises.
- Exercise regularly.
- Utilize nicotine polacrilex medication.
- Take short walks or climb a flight of stairs.
- Eat sugarless candy, raw vegetables, fruit, or other low calorie foods. when you want something in your mouth.
- Practice positive self talk such as "This too will pass", or "I've made it this far".
- Get plenty of rest.
- Be prepared for withdrawal symptoms.
- If you relapse, don't give up but keep trying to quit.
- Review the benefits of quitting and the risks of starting again.
- Reward yourself for successful smoking cessation.
- Quit one day at a time.

Source: Macmark, Robert M., and James K. Stabler (eds.). *Current Assessment Care*. Philadelphia, PA: B.C. Decker Inc., 1989, p 112.

**TABLE 4**  
**Clinical Opportunities for of**  
**Smoking Cessation Message**  
**by The Office Nurse**

**Symptoms**

- Cough
- Sputum production
- Shortness of breath
- Chest constriction or pain

**Diagnoses of Disease and Risk Factors**

- Coronary heart disease
- Peripheral vascular disease
- Stroke
- Angina pectoris
- Hypertension
- Chronic Obstructive Pulmonary Disease (COPD)
- Pneumonia
- Asthma (in adults or children with smoking parents)
- Recurrent respiratory infections
- Diabetes mellitus
- Hypercholesterolemia
- Peptic ulcer
- Allergy
- During pregnancy and around children

**Office Procedures**

- Nursing assessment: patient history and physical
- Health education/Patient instruction (patient or parents of pediatric patients)
- Collection of vital signs
- Waiting room (provide smoking brochures)
- Pre- and post-operative instruction.

maintain a certain blood level of nicotine, thereby providing the desired mood changes and enhanced performance.<sup>18</sup> Continued smoking throughout the day, starting upon arising maintains the desired level of nicotine throughout the day.

Smoking is pleasurable for many reasons. It is often associated with pleasant events such as eating, socializing, or relaxing, as well as the positive physical effects it offers. It initially produces arousal and then helps the smoker relax, especially during periods of stress.<sup>19</sup> Some smokers believe that it helps them concentrate, improve their memory, and lift their mood.<sup>20</sup> Their metabolism is also accelerated. Upon cessation of smoking, weight gain becomes an important issue since their metabolism slows down as nicotine blood levels decrease.<sup>21</sup> Table 5 shows the many positive reinforcers of

smoking positive reinforcers are behaviors that actually serve to strengthen or sustain smoking.

It is important to note that tobacco and other drug addictions differ from other behaviors such as excessive eating or jogging in that the drug's addiction is primarily determined by the effect it has on the individual's brain.<sup>22</sup> It is for this reason that many smokers can't "just quit" and why about 80% of smokers experience nicotine withdrawal. Their brain has become accustomed to the pleasant effects of nicotine. True *physiological withdrawal* occurs when it is deprived of the drug it has come to depend upon. Physical withdrawal symptoms can occur within 24 hours of smoking cessation and usually last 1-2 weeks but decrease sharply within the first 1-2 days of cessation. They include craving for nicotine, irritability, frustration, anxiety, difficulty concentrating, increased appetite, headaches, and/or sleeping problems.<sup>23</sup>

*Psychological withdrawal* may occur as well and often has the same symptoms of physical withdrawal although they may last longer. This type of withdrawal is brought on as the new ex-smoker adjusts to life without something that has been such an integral part of his/her life. "Pharmacological support for Smokers", in this issue, addresses the important role that nicotine polacrilex gum can have in helping smokers deal with nicotine withdrawal and to move on to successful smoking cessation.

Smoking relapse is common and should be realistically expected by both the patient and the office nurse. Successful cessation is rare with the first attempt at quitting. Most smokers relapse an average of five times before permanently quitting.<sup>25</sup> Most relapses (whether short term or long term) are likely to occur within the first three months and are usually caused by excessive withdrawal symptoms, being near people who smoke, feelings of boredom or stressful events.<sup>26</sup>

Coping strategies as outlined in Table 3 can prove helpful in preventing relapse. The office

nurse can be most helpful by encouraging the patient to continue his attempts at smoking cessation and utilizing whatever coping strategies are most helpful for him. The patient needs help in coping with feelings of defeat and especially needs encouragement when he is preparing to abandon his attempts to quit smoking. It is important to remind him that successful smoking cessation is achieved over a long period of time. With continued attempts and continued support from the office nurse, family and friends, he will succeed.

**The Role of the Office Nurse**

With a general understanding of how smoking affects the health of patients who smoke, the seven basic steps of intervention and the clinical opportunities available, the office nurse is well equipped to make a significant impact on the health of her smoking patients and their families. Coupled with the strong patient interaction skills the office nurse already possesses, and a commitment to health promotion, she can deliver a no-smoking message individualized for each patient and easily reinforce that message with each office visit.

Whatever actions the office nurse may take to promote smoking cessation among her patients, it is important that she remain nonjudgmental and supportive of any attempt the smoker may make in moving towards smoking cessation. Pa-

**TABLE 5**  
**The Positive Reinforcers of Smoking**

- Provides alert relaxation
- Stress management
- Improved concentration
- Improved memory
- Elevated mood
- Increase in metabolism
- Provides a sense of control
- Associated with being sexy, macho, dependent, or successful
- Smoking cues associated with pleasurable events such as eating or socializing.
- Enhances pleasure.
- Helps control anger.
- Helps with pain management.

Source: Ferguson, "Smoking as a Psychoactive Drug," *Journal of Health, Behavior, and Society*, 26: 217-227, 1979.

**TABLE 5**  
**The Role of the Office Nurse**

- become familiar with the health effects of smoking and the benefits of quitting.
- Learn and implement the seven basic intervention steps.
- Understand nicotine addiction and how it affects smoking cessation.
- Be a good role model by not smoking.
- Use a team approach by obtaining the assistance and support of the office physician(s), office staff, and community health care providers.

tients' decisions to remain smokers must be respected with an offer to help them stop smoking at any time in the future. Any success on the patient's part must be rewarded and each failure must be supported fully with the message to continue with attempts to quit smoking.

If at all possible, try to establish a team approach with the office physician and other community health professionals. The physician can have a significant impact on strengthening the no-smoking message if he provides similar smoking messages and validates any no-smoking message or activities the office nurse initiates. Other health professionals both inside and outside the office (e.g., the occupational health nurse) can help reinforce smoking interventions initiated by the office nurse. Many health materials exist specifically designed to help physicians and other health professionals provide smoking intervention activities for their patients. The resource section lists the source of some of these materials.

The office nurse can increase her effectiveness by being a non-smoking role model and by taking steps to make the office smoke-free. She can make appropriate literature available in the waiting room and become keenly aware of community resources available to smoking patients. Important also in the nurse's considerations are the family members of the smoker. Parents of children who smoke should be encouraged to quit

and smoking spouse patients with smoke spouse to made aware of the impact they have in making smoking cessation even more difficult for their husband or wife.

Smoking remains the single most preventable cause of death in the United States today.<sup>27</sup> As a patient advocate, each office nurse should learn how to take advantage of the many clinical opportunities that she will have to provide no-smoking messages. With each message, the office nurse can provide one of the most important health messages the patient may ever hear!

#### RESOURCES

A smoking intervention guide designed specifically for nurses will be available later this year from the National Heart, Lung, and Blood Institute. Offering a step-by-step approach for smoking intervention, the guide will discuss nicotine addiction's role in smoking cessation and offer the nurse and her patient practical information on how to achieve successful smoking cessation. The following organizations offer additional smoking materials for patients, professionals, and the general public.

- National Heart, Lung, and Blood Institute Information Center  
4733 Bethesda Avenue, Ste. 530  
Bethesda, MD 20814  
(301) 951-3260
- National Cancer Institute Office of Cancer Communications  
Building 31, Rm. 10A24  
Bethesda, MD 20892  
Cancer Information Service:  
1-800-4-CANCER
- Office on Smoking and Health  
Public Health Service  
Rockville, MD 20857  
(301) 443-1690
- American Heart Association (AHA)
- American Lung Association (ALA)
- American Cancer Society (ACS)  
AHA, ALA, and ACS can all be contacted by calling their local/regional office as listed in the telephone book.

#### Reference

1. The Health Consequences of Smoking: COPD — A Report of the Surgeon General. PHS Publication, No. 84-5020. Washington, DC GPO, 1984.
2. Russell, M. A. H., et al. "District Programme to Reduce Smoking: Effect of Clinic Supported brief Intervention by General Practitioners", *British Medical Journal*, 295:1240-1244, November 14, 1987.
3. National Health Interview Survey, 1987.
4. Fiore, Michael, et al., "Trends in Cigarette Smoking in the United States: The Changing Influence of Gender and Race", *JAMA*, January 6, 1989, pp 49-55.
5. National Institute on Drug Abuse High School Seniors Surveys, 1975-1986.
6. National Health Interview Survey, 1987.
7. "The Facts About Smoking: What Every Nurse Should Know", London, England: The Health Education Council.
8. *Clinical Opportunities for Smoking Intervention: A Guide for the Busy Physician*, DHHS (PHS) NIH-86-2176, August 1986.
9. *Reducing the Health Consequences of Smoking: Twenty-Five Years of Progress — A Report of the Surgeon General*, DHHS (CDC) 89-8411, 1989.
- 10-11. *Ibid.*, p 41 and p 46 resp.
12. National Health Interview Survey, Health Promotion Disease Prevention Supplement, 1985.
13. Russell, M. A. H., et al., "Effect of General Practitioners' Advice Against Smoking", *British Medical Journal*, July 1979, pp 231-235.
14. Benowitz, Neal L., "Pharmacologic Aspects of Cigarette Smoking and Nicotine Addiction", *New England Journal of Medicine*, November 17, 1988, pp 1316-1330.
15. *The Health Consequences of Smoking: Nicotine Addiction — A Report of the Surgeon General*, DHHS (CDC) 88-8406, 1986.
16. Kozlowski, Lynn T., et al., "Comparing Tobacco Dependence With Other Drug Dependencies", *JAMA*, February 10, 1989, pp 898-901.
17. Benowitz, Neal L., "Pharmacologic Aspects of Cigarette Smoking and Nicotine Addiction", *New England Journal of Medicine*, November 17, 1988, pp 1316-1330.
18. West, R. J., and M. A. H. Russell, "Cardiovascular and Subjective Effects of Smoking Before and After Twenty-four Hours of Abstinence From Cigarettes", *Psychopharmacology*, (Berlin) 92:118-121, 1987.
19. Benowitz, Neal L., "Pharmacologic Aspects of Cigarette Smoking and Nicotine Addiction", *New England Journal of Medicine*, November 17, 1988, pp 1316-1330.
- 20-24. *Ibid.*
25. "Preparing for Your Stay in A Smoke-Free Hospital", Kaiser Foundation Health Plan of the Northwest/Kaiser Permanente, 1987.
26. "Proceedings of the National Working Conference on Smoking Relapse", (Sponsored by NIH and supported by a grant from Merrell Dow Pharm., Inc.) in Shumaker, Sally A. and Neil E. Grunberg (eds.) *Health Psychology*, 5 (Supplement), 1986.
27. *Reducing the Health Consequences of Smoking: Twenty-Five Years of Progress — A Report of the Surgeon General*, DHHS (CDC) 89-8411, 1989.



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