Smoking cessation aids

Komal Roopchandani, Indrajeet Singhvi1, Mousumi Kar2
Department of Pharmacy, Bundelkhand University, Jhansi, India, 1Pacific College of Pharmacy, Udaipur, India, 2Department of Pharmaceutical Sciences, ML Sukhadia University, Udaipur (Raj), India

Smoking is a practice where a substance, most commonly tobacco as dried or curled leaves is burned and the smoke is tasted or inhaled. This is primarily done as a recreational activity. But, owing to the chemicals present in tobacco, it slowly becomes addictive in nature. Few smokers use effective smoking cessation aids when trying to stop smoking. Smoking is the most important single cause of morbidity and mortality in under developed, developing and developed countries. Because smoking prevention will not affect tobacco-related mortality, quitting by current smokers is the main way to achieve positive effects on mortality. Many smokers are interested in quitting. Most of the smokers try to quit smoking at least once in their lifetime. To support smokers in their quit attempts, a wide range of smoking cessation aids is available. These comprise methods and products to assist smokers in quitting through coping with psychological or physical aspects of nicotine dependence. Meta-analyses have shown that smoking cessation courses, nicotine replacement therapy, and bupropion can significantly increase success rates in quitting. Even minimal interventions such as self-help materials have a small effect when compared with no intervention.

Keywords: Smoking, tobacco, nicotine withdrawal, cessation, aids

The very best smoking cessation aid on the planet is a persons own will and determination to quit smoking. If the person isn't motivated and committed to kicking the habit, there isn't a quit aid available that can help. If he is, then he has the potential to work beautifully. There are varieties of products available on the market today designed to help people quit smoking in a gradual, more comfortable way. Choosing one that is right is essentially a matter of preference, barring any medical concerns. The process of successful quitting is largely based on the simultaneous management of physical and psychological addiction to nicotine. Nicotine Replacement Therapy deals with the physical aspects of addiction while the other aspects can be managed by measures like meditation and acupuncture. After quitting the ex-smokers enjoy a better quality of life.

Health concerns usually top the list of reasons people give for quitting smoking. The list of diseases caused by tobacco includes cancers of the kidneys, stomach, cervix, and pancreas as well as leukemia, cataracts, pneumonia, and gum disease. These illnesses are in addition to diseases previously known to be caused by smoking — bladder, esophageal, laryngeal, lung, oral and throat cancers, chronic lung diseases, coronary heart and cardiovascular diseases, and sudden infant death syndrome.

Smoking also reduces overall health, contributing to conditions such as hip fractures, complications from diabetes, increased wound infections following surgery, and various reproductive problems. “There is no safe cigarette, whether it is called ‘light,’ ‘ultra–light,’ or any other name,” US Surgeon General Dr. Richard Carmona commented. “The science is clear: the only way to avoid the health hazards of smoking is to quit completely or to never start smoking” (Health and Human Services, Press Release).

By current estimates, tobacco use causes 440,000 deaths per year and costs about $157 billion in health-related losses. An estimated 46,000 adults smoked in the year 2001. On average, men who smoke cut their lives short by 13.2 years, and female smokers lose 14.5 years. “Since the 1964 surgeon general’s report, more than 12 million people have died from smoking-related illness,” Dr. Carmona said. “These include 4.1 million deaths from cancer, 5.5 million deaths from cardiovascular diseases, 2.1 million deaths from respiratory diseases, and 94,000 perinatal deaths...

Quitting smoking has immediate as well as long-term benefits, according to the surgeon general’s report. The heart rate drops towards normal and circulation improves. The risk of having a heart attack or stroke or of developing lung cancer diminishes. Even seniors who quit after many years can experience positive effects. A
The chemicals present in tobacco involve:

1. Benzene 27. Cadmium
2. 2-Naphthylamine 28. Hexamine
3. 4-Aminobiphenyl 29. Ammonia
5. Polonium 210 (radioactive) 31. Pyridine
6. Nitrogen oxides 32. 3-Methylpyridine
7. N-Nitrosodimethylamine 33. 3-Vinylpyridine
8. N-Nitrosodiethylamine 34. Hydrogen cyanide
10. 1,3-Butadiene 36. Dimethylamine
11. Aniline 37. Nicotine
12. Formaldehyde 38. Anatabine
15. Cadmium 41. Hydroquinone
16. Benz[a]pyrene 42. Cholesterol
17. Benz[a]anthracene 43. Quinoline
18. Y-Butyrolactone 44. Harman
19. Particulate matter 45. Zinc
20. N-Nitrosornicotine 46. Benzoic acid
21. Carbon monoxide 47. Glycolic acid
22. Carbon dioxide 48. Succinic acid
23. Carbon sulfide 49. PCDDs and PCDFs
24. Toluene (Dioxins)
25. Quinoline 50. Formic acid
26. Methyl chloride 51. Acetic acid

Table 1: Withdrawal symptoms of smoking

<table>
<thead>
<tr>
<th>Withdrawal symptom</th>
<th>Duration</th>
<th>Proportion of those trying to quit who are affected (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritability/aggression</td>
<td>Less than 4 weeks</td>
<td>50</td>
</tr>
<tr>
<td>Depression</td>
<td>Less than 4 weeks</td>
<td>60</td>
</tr>
<tr>
<td>Restlessness</td>
<td>Less than 4 weeks</td>
<td>60</td>
</tr>
<tr>
<td>Poor concentration</td>
<td>Less than 2 weeks</td>
<td>60</td>
</tr>
<tr>
<td>Increased appetite</td>
<td>Greater than 10 weeks</td>
<td>70</td>
</tr>
<tr>
<td>Light-headedness</td>
<td>Less than 48 hours</td>
<td>10</td>
</tr>
<tr>
<td>Night-time awakenings</td>
<td>Less than 1 week</td>
<td>25</td>
</tr>
<tr>
<td>Craving</td>
<td>Greater than 2 weeks</td>
<td>70</td>
</tr>
</tbody>
</table>

WHY IS IT SO HARD TO QUIT SMOKING?

Mark Twain said, “Quitting smoking is easy. I've done it a thousand times.” Why is quitting and staying quit hard for so many people? The answer is nicotine, which is a drug found naturally in tobacco. It is highly addictive as addictive as heroin or cocaine. Over time, the body becomes both physically and psychologically dependent on nicotine. When smoke is inhaled, nicotine is carried deep into the lungs, where it is absorbed quickly into the blood stream and carried throughout the body. Nicotine affects many parts of the body, including heart and blood vessels, hormonal system, metabolism, and brain. Nicotine can be found in breast milk and even in cervix mucous secretions of smokers. During pregnancy, nicotine freely crosses the placenta and has been found in amniotic fluid and the umbilical cord blood of newborn infants.

Nicotine produces pleasant feelings that make the smoker want to smoke more. It also acts as a kind of depressant by interfering with the flow of information between nerve cells. As the nervous system adapts to nicotine, smokers tend to increase the number of cigarettes they smoke, and therefore the amount of nicotine in their blood. After a while, the smoker develops a tolerance to the drug, which leads to an increase in smoking over time. Over time, the smoker reaches a certain nicotine level and then smokes to maintain this level of nicotine. In fact, nicotine, when inhaled in cigarette smoke, reaches the brain faster than drugs that enter the body intravenously.

NICOTINE WITHDRAWAL

When smokers try to cut back or quit, the absence of nicotine leads to withdrawal symptoms. Withdrawal symptoms are the physical and mental changes that occur following interruption or termination of drug use. They are normally temporary and are a product of the physical or psychological adaptation to long-term drug use, requiring a period of re-adjustment when the drug is no longer ingested. In the case of smoking, some of them are presented in Table 1.
These symptoms can lead the smoker to start smoking cigarettes again to boost blood levels of nicotine back to a level where there are no symptoms.

If a person has smoked regularly for a few weeks or longer and abruptly stops using tobacco or greatly reduces the amount smoked, withdrawal symptoms will occur. Symptoms usually start within a few hours of the last cigarette and peak about 2 to 3 days later. Withdrawal symptoms can last for a few days to several weeks.

**QUIT METHODS AND QUIT AIDS**

**Cold turkey**

People who quit smoking are called as ‘cold turkey’. They choose not to use any quit aid to help them stop smoking. The advantage to this method is that the majority of nicotine is out of the system within a few days. The discomforts can be intense, but physical withdrawal is short. If this quit method is too extreme for the liking, there are plenty of other options available.

**Nicotine replacement therapy**

The nicotine in cigarettes leads to actual physical dependence, which can cause unpleasant symptoms when a person tries to quit. Nicotine replacement therapies (NRT’s) provide a measured dose of nicotine to help ease physical withdrawal symptoms. This allows the subject to concentrate on changing the many mental associations he had with smoking without the sharp discomforts of nicotine withdrawal to contend with. Used according to product directions, one weans off of the NRT of choice over the course of several weeks. By using a nicotine substitute, a smoker’s withdrawal symptoms are reduced.

Nicotine replacement therapy only deals with the physical aspects of addiction. It is not intended to be the only method used to help quit smoking. It should be combined with other smoking cessation methods that address the psychological component of smoking. The most effective time to start NRT is at the beginning of an attempt to quit. One should not try using NRT while still smoking without medical supervision as it may lead to nicotine overload in the body, which can have effects on the cardiovascular system.

**Types of nicotine substitutes**

The US Food and Drug Administration (FDA) have approved five types of nicotine replacement therapy for use [Table 2].

**Nicotine patches (Transdermal nicotine systems)**

Patches provide a measured dose of nicotine through the skin. As the nicotine doses are lowered by switching patches over a course of weeks, the tobacco user is weaned off nicotine. Patches can be purchased both with and without a prescription. Several types and different strengths are available.

- The 16-hour patch works well for light-to-average tobacco users. It is less likely to cause side effects like skin irritation, racing heartbeat, sleep problems, and headache. But it does not deliver nicotine during the night, so it is not helpful for early morning withdrawal symptoms.
- The 24-hour patch provides a steady dose of nicotine, avoiding peaks and troughs. It helps with early morning withdrawal. However, there may be more side effects such as disrupted sleep patterns and skin irritation.

Depending on body size, most tobacco users should start using a full-strength patch (15-22 mg of nicotine) daily for 4 weeks, and then use a weaker patch (5-14 mg of nicotine) for another 4 weeks. The patch should be applied in the morning to a clean, dry area of the skin without much hair. It should be placed below the neck and above the waist - for example, on the arm. The FDA recommends using the patch for a total of 3 to 5 months.

Some possible side effects of the nicotine patch include: Skin irritation – redness and itching, dizziness, racing heartbeat, sleep problems or unusual dreams, headache, nausea, vomiting and muscle aches and stiffness. The side effects can be reduced by:

- Trying a different brand of patch if skin irritation occurs.
- Reducing the amount of nicotine by using a lower dose patch.
- Sleep problems may be temporary and pass within 3 or 4 days. If not (and the person is using a 24-hour patch), try switching to a 16-hour patch.

**Table 2: Nicotine replacement therapy aids as per USFDA**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name</th>
<th>Content</th>
<th>Dosage form</th>
<th>Route of administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nicotine patches</td>
<td>Nicotine</td>
<td>Patches</td>
<td>Transdermal</td>
</tr>
<tr>
<td>2</td>
<td>Nicotine gum</td>
<td>Nicotine</td>
<td>Chewing gum</td>
<td>Oral</td>
</tr>
<tr>
<td>3</td>
<td>Nicotine spray</td>
<td>Nicotine</td>
<td>Spray</td>
<td>Nasal</td>
</tr>
<tr>
<td>4</td>
<td>Nicotine lozenges</td>
<td>Nicotine</td>
<td>Lozenges</td>
<td>Oral</td>
</tr>
<tr>
<td>5</td>
<td>Combination of the patch and other nicotine replacement products</td>
<td>Nicotine</td>
<td>Combination products</td>
<td>Oral and transdermal</td>
</tr>
<tr>
<td>6</td>
<td>Nicotine free quit aids</td>
<td>Drugs as varenicline bupropion</td>
<td>Tablets</td>
<td>Oral</td>
</tr>
</tbody>
</table>
• Stop using the patch and try a different form of nicotine replacement.

**Nicotine gum (nicotine polacrilex)**

Nicotine gum is a fast-acting form of replacement that acts through the mucous membrane of the mouth. It can be bought over-the-counter without a prescription. It comes in 2 mg and 4 mg strengths. The gum is chewed slowly until a peppery taste. Then, it is "parked" against the cheek, chewing it and parking it off and on for about 20 to 30 min. One should avoid acidic foods and drinks such as coffee, juices, and soft drinks for at least 15 min before and during gum use. Nicotine gum is usually recommended for 1 to 3 months, with the maximum being 6 months. Tapering the amount of gum chewed may help person stop using it.

If the person has sensitive skin, person may prefer the gum to the patch. Another advantage of nicotine gum is that it allows person to control the nicotine doses. The gum can be chewed as needed or on a fixed schedule during the day. A schedule of 1 to 2 pieces per hour is common. One can chew more gum during a craving. Some possible side effects of the gum include: bad taste, throat irritation, mouth sores, hiccups, nausea, jaw discomfort, and racing heartbeat. Symptoms related to the stomach and jaws are usually caused by improper use of the gum, such as swallowing nicotine or chewing too rapidly. The gum can also cause damage to dentures and dental prostheses. Long-term dependence is one possible disadvantage of nicotine gum.

**Nicotine nasal spray**

The nasal spray delivers nicotine quickly to the bloodstream as it is absorbed through the nose. It is available only by prescription. The nasal spray immediately relieves withdrawal symptoms and offers person a sense of control over nicotine cravings. Because it is easy to use, smokers report great satisfaction. However, the FDA cautions that since this product contains nicotine, it can be addictive. It recommends the spray be prescribed for 3-month periods and should not be used for longer than 6 months. The most common side effects last about 1 to 2 weeks and can include: nasal irritation, runny nose, watery eyes, sneezing, throat irritation, and coughing. It is not recommended in case of asthma, allergies, nasal polyops, or sinus problems.

**Nicotine inhalers**

 Introduced in 1998, inhalers are available only by prescription. The nicotine inhaler is a plastic tube with a nicotine cartridge inside. When one puffs on the inhaler, the cartridge provides a nicotine vapor. Unlike other inhalers, which deliver most of the medication to the lungs, the nicotine inhaler delivers most of the nicotine vapor to the mouth. In terms of similar behavior, nicotine inhalers are the closest thing to smoking a cigarette, which some smokers find helpful. The recommended dose is between 6 and 16 cartridges a day, for up to 6 months. The most common side effects, especially when first using the inhaler, include: coughing, throat irritation, and upset stomach. At this time, inhalers are the most expensive of the forms of NRT available.

**Nicotine lozenges**

These are the newest form of NRT on the market. The FDA recently approved the first nicotine-containing lozenge as an over-the-counter aid in smoking cessation. These are available in 2 strengths: 2 mg and 4 mg. Smokers determine which dose is appropriate based on how long after waking up they normally have their first cigarette. The recommended dose is one lozenge every 1-2 h for 6 weeks, then one lozenge every 2-4 h for weeks 7 to 9, and finally, one lozenge every 4-8 h for weeks 10 to 12. Precautions to be followed while using a lozenge are:

- Stop all tobacco use when beginning therapy with the lozenge.
- Do not eat or drink for 15 min before using the lozenge.
- Suck on the lozenge until it dissolves. Do not bite or chew it like a hard candy and do not swallow it.
- Do not use more than 5 lozenges in 6 h, or more than 20 lozenges total per day.
- Stop using the lozenge after 12 weeks.
- Do not use the lozenge if person continue to smoke or are using any other NRT.

Possible side effects of the nicotine lozenge include: trouble sleeping, nausea, hiccups, coughing, heartburn, headache and flatulence.

**WHICH TYPE OF NICOTINE REPLACEMENT MAY BE CORRECT FOR PERSON?**

There’s no evidence that any type of nicotine replacement therapy is significantly better than the other. When choosing which type of nicotine replacement person will use, think about which method will best fit personal lifestyle and pattern of smoking. Do person want/need something to chew or occupy personal hands? Or are person looking for once-a-day convenience?

Some important points to consider:

- Nicotine gums, lozenges, and inhalers are oral substitutes that allow person to control personal dosage to help keep cravings under better control.
- Nicotine nasal spray works very quickly when person need it.
- Nicotine inhalers allow person to mimic the use of cigarettes by puffing and holding the inhaler.
- Nicotine patches are convenient and only have to be applied once a day.
- Both inhalers and nasal sprays require a doctor’s prescription.
Some people may not be able to use patches, inhalers, or nasal sprays due to allergies or other conditions.

**Combination of the patch and other nicotinic replacement products**

Using the nicotine patch along with shorter-acting products such as the gum, lozenge, nasal spray, or inhaler is another method of nicotinic replacement therapy. The idea is to provide a steady dose of nicotine with the patch and to use one of the shorter-acting products when strong cravings arise. The combined use of nicotine replacement products has not yet been approved by the FDA. While using more than one nicotine replacement product, be careful to avoid a nicotine overload on the body, which might adversely affect the cardiovascular system.

**Nicotine free quit aids combination**

Nicotine free quit aids may appeal more to a person if she or he prefers not to use a nicotine-based quit aid. The following therapies are administered under a doctor's care.

**Bupropion**

It is an anti-depressant drug that also works well as a smoking cessation aid. It has been shown to dramatically reduce physical withdrawal symptoms associated with nicotine. This drug affects chemicals in the brain that are related to nicotine craving. It can be used alone or together with NRT. The usual dosage is one or two 150 mg tablets per day. This medication should not be taken if a person has a history of seizures, anorexia, heavy alcohol use, or head trauma. Some doctors may recommend combination drug therapy for heavily addicted smokers, such as using bupropion along with a nicotine replacement patch and/or a short acting from of NRT (such as gum or lozenges).

**Varenicline**

It has the unique ability to partially activate nicotinic receptors in the brain, reducing a person's craving for nicotine when they quit smoking. Additionally, if a person smokes during the course of varenicline treatment, the drug impedes smoking satisfaction by blocking nicotine from binding with these same receptors. This could potentially help people break the cycle of addiction to nicotine. Several studies have shown varenicline can more than double the chances of quitting. Over one of the shorter-acting products when strong cravings arise. The combined use of nicotine replacement products has not yet been approved by the FDA. While using more than one nicotine replacement product, be careful to avoid a nicotine overload on the body, which might adversely affect the cardiovascular system.

**Other quit smoking methods**

Other tools may also help some people; although there is no strong evidence that they can improve personal chances of quitting.

**Atropine and scopolamine combination therapy**

Some smoking cessation clinics offer a program using shots of the anticholinergic drugs, atropine and scopolamine, to help reduce nicotine withdrawal symptoms. The treatment usually involves shots given in the clinic on one day, followed by a few weeks of pills and wearing patches behind the ear. It may include other drugs to help with side effects as well. Possible side effects of this treatment can include dizziness, constipation, dry mouth, an altered sense of taste and smell, problems urinating, and blurry vision. People who are pregnant or have a history of heart problems, glaucoma, or uncontrolled high blood pressure are not allowed to participate in these programs.

**Hypnosis**

Hypnosis puts people into an altered state of mind where they become more susceptible to suggestion. It can be used to quit smoking, and while it seems to work well for some, it is not for everyone.

**Acupuncture**

Acupuncture is an ancient Chinese medical practice, which uses needles placed at specific spots in the skin to treat pain or disease. It has been used for quitting smoking, but there is little evidence to support its effectiveness. Acupuncture, when it is done, is typically done on the ears on particular ear sites. Although there is a very weak suggestion that acupuncture might lower the desire for smoking, there is no solid evidence that it is truly effective as a smoking cessation tool.

Low-level laser therapy, also called cold laser therapy, is a related technique. Cold lasers are sometimes used for acupuncture, with laser beams to stimulate the body's acupoints rather than needles. The treatment is supposed to relax the smoker and release endorphins (naturally-occurring pain relief substances) in the body to simulate the effects of nicotine in the brain, or balance the body's energy to relieve the addiction.

**Visible and immediate rewards of quitting**

Kicking the tobacco habit offers benefits that are noticed immediately and some will develop gradually over time. These rewards can improve one's day-to-day life immensely.

- Food tastes better.
- Personal sense of smell returns to normal
- Ordinary activities no longer leave person out of breath (for example, climbing stairs or light housework)

Regardless of personal age or smoking history, there are advantages to quitting smoking. Benefits apply to people with and without smoking-related disease [Table 3].

**Dealing with withdrawal**

Withdrawal from nicotine has 2 parts - the physical and the psychological. The physical symptoms, while annoying, are not life threatening. Nicotine replacement can help reduce many of these physical symptoms. But most users find that
the bigger challenge is the mental part of quitting. Even if person is using a nicotine replacement, person may still have strong urges to smoke.

- Avoid people and places where person are tempted to smoke.
- Alter personal habits. Switch to juices or water instead of alcohol or coffee.
- Alternatives. Use oral substitutes such as sugarless gum or hard candy, raw vegetables such as carrot sticks, or sunflower seeds.
- Activities. Do something to reduce personal stress. Exercise or do hobbies that keep personal hands busy and help distract person from the urge to smoke. Take a hot bath, exercise, read a book.
- Deep breathing. When people smoke, they breathe deeply as person inhaled the smoke. When the urge strikes now, breathe deeply and picture lungs filling with fresh, clean air. Remember the reasons for quitting and the benefits gain as an ex-smoker.
- Delay. If the person is about to light up, delay. The person must wait at least 10 min. Often this simple trick will allow person to move beyond the strong urge to smoke.

What the person is doing is not easy, so he deserves a reward. Put the money that would have been spent on tobacco in a jar every day and then buy a weekly treat. Buy a magazine, go out to eat, call a friend long-distance. Or save the money for a major purchase. Person can also reward in ways that don't cost money: visit a park or the library, develop a new hobby, or take a yoga class.

### Special concerns

**Weight gain**

Many smokers do gain some weight when they quit. Even without special attempts at diet and exercise, however, the gain is usually less than 10 pounds. Women tend to gain slightly more weight than men. There is some evidence that smokers will gain weight after they quit even if they do not eat more. However, it is much more dangerous to continue smoking than it is to gain a small amount of weight. Stressing about personal weight may make it harder to quit. It is advised to eat plenty of fruits and vegetables and limit the fat, drink plenty of water, and get enough sleep and regular physical activity.

Walking is a great way to be physically active and increase personal chances of staying quit. Walking can help person by:

- Reducing stress
- Burning calories and toning muscles
- Giving person something to do instead of thinking about smoking

---

<table>
<thead>
<tr>
<th>Time since quitting</th>
<th>Beneficial health changes that take place</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 min</td>
<td>Blood pressure and pulse rate return to normal.</td>
</tr>
<tr>
<td>8 h</td>
<td>Nicotine and carbon monoxide levels in blood reduce by half, oxygen levels return to normal.</td>
</tr>
<tr>
<td>24 h</td>
<td>Carbon monoxide will be eliminated from the body. Lungs start to clear out mucus and other smoking debris.</td>
</tr>
<tr>
<td>48 h</td>
<td>There is no nicotine left in the body. Ability to taste and smell is greatly improved.</td>
</tr>
<tr>
<td>72 h</td>
<td>Breathing becomes easier. Bronchial tubes begin to relax and energy levels increase.</td>
</tr>
<tr>
<td>2-12 weeks</td>
<td>Circulation improves.</td>
</tr>
<tr>
<td>3-9 months</td>
<td>Coughs, wheezing, and breathing problems improve as lung function is increased by up to 10%.</td>
</tr>
<tr>
<td>1 year</td>
<td>Risk of a heart attack falls to about half that of a smoker.</td>
</tr>
<tr>
<td>10 years</td>
<td>Risk of lung cancer falls to half that of a smoker.</td>
</tr>
<tr>
<td>15 years</td>
<td>Risk of heart attack falls to the same as someone who has never smoked.</td>
</tr>
</tbody>
</table>

---

Roopchandani, et al.: Smoking cessation aids
Stress
Smokers often mention stress as one of the reasons for going back to smoking. Stress is a part of all of our lives, smokers and nonsmokers alike. When quitting people have to learn new ways of handling stress. Nicotine replacement can help to some extent, but for long-term success, other strategies are needed. Physical activity is a good stress-reducer. It can also help with the temporary sense of depression that some smokers experience when they quit. Spiritual practices such as prayer and meditation can help with stress reduction.

“The achievement of personal goal is assured the moment person commits itself to it.” Mack R. Douglas

NATIONAL ORGANIZATIONS AND WEB SITES

If you want to quit smoking and need help, contact one of the following organizations.

American Cancer Society
Telephone: 1-800-ACS-2345 (1-800-227-2345) Internet address: www.cancer.org

American Heart Association and American Stroke Association
Telephone: 1-800-AHA-USA-1 or 1-800-242-8721 Telephone: 1-888-4-STROKE or 1-888-478-7653 Internet address: www.amhrt.org, Internet address: www.strokeassociation.org

American Lung Association
Telephone: 1-800-LUNG-USA or 1-800-548-8252 Internet address: www.lungusa.org

Centers for Disease Control and Prevention Office on Smoking and Health
Telephone: 1-800-CDC-INFO or 1-800-232-6237 Internet address: www.cdc.gov/tobacco

National Cancer Institute Cancer Information Service
Telephone: 1-800-4-CANCER 1-800-422-6237 Internet address: www.cancer.gov

Nicotine Anonymous
Telephone: 1-415-750-0328 Internet address: www.nicotine-anonymous.org

Smokefree.gov
Telephone: 1-800-QUITNOW or 1-800-784-8669 Internet address: www.smokefree.gov

Smoking Cessation Leadership Center
Telephone: 1-800-QUITNOW or 1-800-784-8669 Internet address: http://smokingcessationleadership.ucsf.edu/

REFERENCES
5. CDC National Center for Chronic Disease Prevention and Health Promotion. Quit to Live: How and Why to Quit Smoking Today.
Roopchandani, et al.: Smoking cessation aids


47. CDC National Center for Chronic Disease Prevention and Health Promotion. Quit to Live: How and Why to Quit Smoking Today.


71. Source of Support: Nil, Conflict of Interest: None declared.