

Keys to Success in Helping Smokers Quit,

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- Approximately 90% of smokers are physiologically dependent on tobacco.
- Nicotine withdrawal symptoms (NWS) can cause severe discomfort and serious dysfunction in individuals who stop using tobacco, and, if not dealt with, will lead to relapse.
- The use of medications to suppress and eliminate NWS can double to quadruple the stop smoking success rate.
- Most smokers using nicotine patches to quit smoking will need more than one 21 mg patch at the same time to adequately control NWS.
- Combinations of the medications approved to help people stop smoking are more effective than any single medication.
- The higher the level of an individual's physiologic dependence (addiction) to nicotine, 1) more medications are needed in combination, 2) higher nicotine patch doses are required, and 3) a longer medication course is needed to assure that a permanent non-smoking status will be achieved.

Cigarette smoking continues to be the number one cause of avoidable death in the U.S. and worldwide. Smoking, according to a recent report⁽¹⁾, is likely responsible for 550,000 to 600,000 deaths in the U.S. yearly. Life-long smokers lose about 10 years of life compared to those who never smoke, however, the good news is that stopping smoking can significantly improve the quality and prolong the length of life.⁽²⁾

Strategies to help smokers quit include 1) Behavioral Changes, 2) Use of Medications, 3) Exercise, 4) Nutrition, and 5) Spirituality. Learning to substitute a safe behavior for a cigarette when a trigger occurs is important. Getting on a healthy nutritional program and developing a regular exercise program help to avoid significant weight gain in the person quitting smoking. The person trying to quit should include friends who share similar beliefs, religious and non-religious, in their support group.

About 90% of smokers have a true physiologic dependence on tobacco and will have varying degrees of nicotine withdrawal symptoms (NWS) determined by their level of nicotine dependence. The majority of smokers will be unsuccessful in their attempts to stop smoking unless they use medications to suppress or eliminate NWS, i.e., anxiety and restlessness, anger and irritability, sadness and depression, cognitive dysfunction, headaches, craving cigarettes, trouble sleeping, and increased appetite leading to weight gain.

Medications shown to help smokers quit can be categorized as 1) Controllers, which prevent or minimize nicotine withdrawal symptoms, and 2) Relievers (or Rescue medications) which

quickly reduce NWS once they occur.⁽³⁾ Controllers include the nicotine patch, bupropion, and varenicline. Relievers include nicotine gum, nicotine lozenge, nicotine nasal spray, and nicotine oral inhaler. The Fagerström Score⁽⁴⁾ helps to determine the level of physiologic dependence the smoker has developed to nicotine. The higher the score, 1) the larger the dose of nicotine, 2) the more medications, and 3) the longer the medication use the individual is likely to need to successfully quit smoking.

Studies provide no evidence for adverse consequences to the long-term use (months to years) of nicotine medications.⁽³⁾ There can be serious side-effects to bupropion and varenicline, however, most individuals tolerate them satisfactorily. If one is going to use the nicotine patch, 1) always use one or more Reliever medications along with the nicotine patch to rescue the individual from NWS that occur in spite of the nicotine blood level from the patch, and 2) the majority of smokers will need more than one 21 mg patch in order to achieve optimal comfort from NWS.^(5,6) The use of more than one 21 mg patch at the same time currently would be considered to be off-label use by the FDA, however, there are a number of articles supporting the safety and efficacy of such use.⁽⁵⁻⁸⁾

Bupropion should be considered in any smoker with depression. The other commonly used antidepressants have not been shown to help a smoker quit, so consider adding bupropion even if the patient is on another medication for depression. Bupropion has been shown to help smokers quit even if they are not depressed. It will be more effective if bupropion is combined with nicotine patch use than if used alone.^(9,10)

Varenicline can help people stop smoking. Originally recommended to be used alone, there are now reports of the safety of combining varenicline with nicotine⁽¹¹⁾ and varenicline with bupropion⁽¹²⁾. These combinations need further study to support efficacy. Caution should be taken when prescribing either bupropion or varenicline to a person with a serious psychiatric disorder. Bupropion, varenicline, and nicotine patch therapy can all be safely started 1 to 2 weeks before the individual's quit date, assuring that treatment for NWS is already in place when smoking is stopped.

Utilizing the strategies discussed in this article have been shown to achieve a high success rate, i.e., 57% of smokers were not smoking or using any other tobacco product one year after attending the Smoke-Free Life residential stop smoking program at St. Helena Hospital in the Napa Valley.⁽⁶⁾ Mobile health options have the potential for reaching millions of individuals who want to quit smoking. A recent article said that "mHealth technologies have the potential to change every aspect of the health care environment and to do so while delivering better outcomes and substantially lowering costs."⁽¹³⁾ QUIT RIGHT[©]⁽¹⁴⁾, an app designed by Dr. Hodgkin and colleagues to help smokers quit is currently being evaluated for its usefulness and functionality in Pulmonary Rehabilitation programs affiliated with the California Society for Pulmonary Rehabilitation.

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