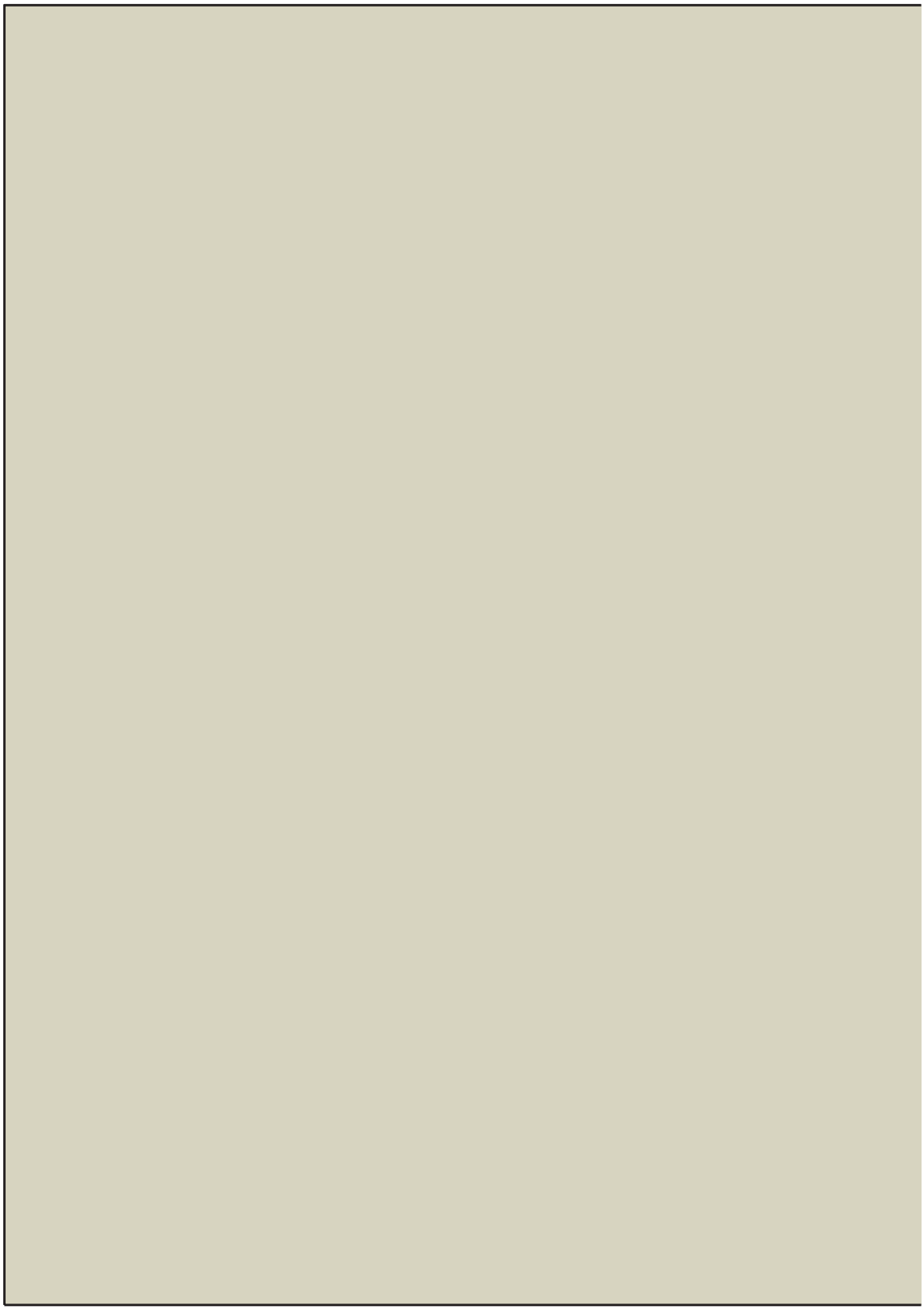
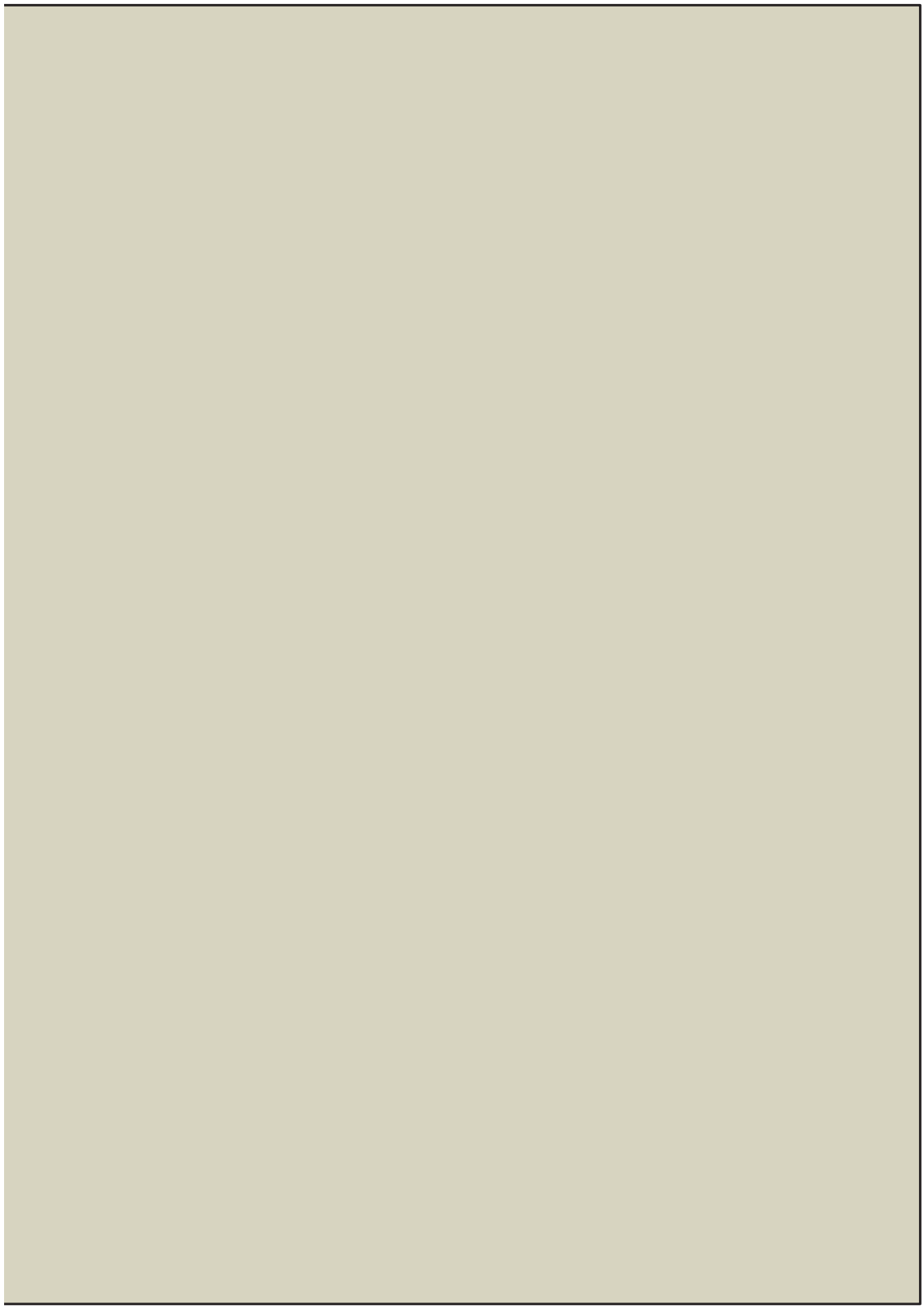
اللجنة الوطنية لمكافحة التبغ
National Committee for Tobacco Control

Saudi Guideline For Tobacco

1439 - 2018





Statement of the Secretary General

Tobacco Control, reduction of smoking prevalence and smoking cessation are one of the most important health programs. Due to the high risk of smoking on the individual and the community, tobacco control has been considered as one of the priorities of the Ministry of Health regarding the preventive and therapeutic measurements. The MOH represented by the National Committee for Tobacco Control has developed this version of the Saudi Guideline to improve the smoking cessation services. It was built on updated evidence based guidelines and reviewed by a scientific committee of different specialists of multiple medical fields from inside and outside MOH.

The upgrading of the Saudi Guidelines for Tobacco Cessation Services is matched with principles of the agreement of WHO Frame Work Convention of Tobacco Control (FCTC) which has been signed by Saudi Arabia on 2/3/1425 H. This agreement is insisting for offering a demand reduction measures concerning tobacco dependence and cessation (Article 14). It is crucial to mention that MOH has established 262 specialized clinics since 1432 H up until now to offer smoking cessation services in parallel with the training of many medical staff from different areas of Saudi Arabia for introducing treatment program with its behavioral and therapeutic components.

Lastly, I hope this Guideline will be a helpful reference for medical staff working at quit clinics for continuous improvement aiming to offer the best available medical care for the citizens of this country.

Secretary General of the National
Committee for Tobacco Control
Ali Mohammed Alwadey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Introduction

Tobacco use is one of the main preventable risk factor to human health and also a main cause of premature death worldwide. Around 7 million people annually die from tobacco use and exposure to tobacco smoke. It is the second leading cause of death. Approximately 63% of all deaths are caused by non-communicable diseases for which tobacco use is one of the greatest risk factors.

The prevalence of tobacco smoking among male persons aged 15 years and older is 27.9% has been recorded in WHO international prevalence charts.
(http://gamapserver.who.int/gho/interactive_charts/tobacco/use/atlas.html)

The last Saudi Arabian GYTS addressed on 2010 has revealed that 14.9% of students currently use various forms of tobacco; 8.9% currently smoke cigarettes; 9.5% currently smoke shisha; 11.0% currently use some other forms of tobacco.

Tobacco use presents a rare confluence of circumstance:

(1) A highly significant health threat
(2) The lack of consistent intervention by clinicians
(3) The presence of effective interventions.

Tobacco use intervention, if delivered in a timely and effective manner, can rapidly reduce the risk of suffering from smoking-related disease. Indeed, it is difficult to identify any other condition that presents such a mix of lethality, prevalence, and neglect, despite effective and readily available interventions.

Significant barriers interfere with clinicians' assessment and treatment of smokers. Many clinicians lack knowledge about how to identify smokers quickly and easily, which treatments are effective,

how such treatments can be delivered, and the relative effectiveness of different treatments.

Additionally, physicians may fail to intervene because of inadequate clinic or institutional support for routine assessment and treatment of tobacco use and for other reasons such as time constraints, limited training in tobacco cessation interventions and the lack of insurance coverage for tobacco use treatment. The most effective way to move clinicians to intervene is to provide them with information regarding multiple effective treatment options and to ensure that they have ample institutional support to use these options.

All tobacco products - not just cigarettes - exact devastating costs on the Nation's health and welfare; for most users, tobacco use results in true drug dependence; both chronic tobacco use and dependence warrant clinical intervention and, as with other chronic disorders, these interventions may need to be repeated over time.

Most tobacco users in Saudi Arabia are cigarette smokers. As a result, the majority of clinician attention has focused on the treatment and assessment of smoking. Clinicians, however, should intervene with all tobacco users, not just with those who smoke cigarettes. Every effort has been made to describe interventions so that they are relevant to all forms of tobacco us

Finally, there is an increasing evidence that the success of any tobacco dependence treatment strategy can't be divorced from the health care system in which it is embedded. Health care policy significantly affects the likelihood that the smokers will receive effective tobacco dependence treatment and successfully stop tobacco use. For instance, making tobacco dependence treatment a covered benefit of insurance plans increases the likelihood that a tobacco user will receive treatment and quit successfully.

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Ten Keys Guideline Recommendations

The general goal of these recommendations is that physicians strongly recommend the use of effective tobacco dependence counseling and medication treatments to their patients who use tobacco, and those health systems, insurers help clinicians in making such effective treatments available.

1. Tobacco dependence is a chronic disease that require repeated interventions and many tries to quit.

2. It is mandatory that physicians and health care providers invariably identify and document tobacco use status and provide treatment for every tobacco user seen in a health care setting.

3. Tobacco dependence treatments are effective. Physicians should motivate every patient who is willing to quit to apply the counseling treatments and medications recommended in this Guideline.

4. Transient tobacco dependence treatment is effective. Physicians have to offer every tobacco user at least the transient treatments proven to be effective in this Guideline.

5. Single (Individual), group, and telephone counseling are effective, and their successfulness rises with treatment potency. Two components of counseling are especially effective, and physicians have to use these when counseling tobacco users making a quit attempt:

- Practical counseling (problem solving/skills training)
- Social support delivered as part of treatment

6. A lot of effective medications are available for tobacco dependence, and physicians have to encourage their use for those who are attempting to quit smoking—except if they are contraindicated or with

specific populations if there is no evidence of effective use. (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents).

- There are seven first-line medications (5 Nicotinic and 2 Non-Nicotinic) reliably induce long-term smoking abstinence rates:

- Bupropion SR*
- Nicotine gum
- Nicotine inhaler
- Nicotine lozenge*
- Varenicline*
- Nicotine nasal spray
- Nicotine patch*

- Physicians also have to consider the use of some combinations therapy shown as effective in this Guideline.

7. Counseling and medication are enough when used alone each for treating tobacco dependence. The combination of counseling and medication together, however, has far better results. Thus, physicians should advise all users who attempt quitting to use both counseling and medication.

8. Telephone quit-line counseling is also effective with broad populations. Therefore, both physician and health care systems have to ensure the user access to a quit-line and support its use.

9. If a tobacco patient currently is unwilling to make a quit attempt, clinicians should use the motivational tools shown in this Guideline to be effective in increasing future quit attempts.

10. Tobacco dependence treatments are both clinically effective and cost-effective in relation to other interventions for other disorders. Delivering coverage for these treatments raises quit rates. Insurance must confirm that all plans include the counseling and medication indicated as effective in this Guideline as covered benefits.

*Medications which are available in KSA

Summary of strength of evidence for recommendations

Strength-of-evidence classification	Criteria
Strength of Evidence = A	Multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielded a consistent pattern of findings (The recommendation is supported by good [strong] evidence).
Strength of Evidence = B	Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal. For instance, few randomized trials existed, the trials that did exist were somewhat inconsistent, or the trials were not directly relevant to the recommendation (the recommendation is supported by fair [reasonable] evidence but there may be minimal inconsistency or uncertainty).
Strength of Evidence = C	Reserved for important clinical situations in which the Panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials (The recommendation is supported by expert [published] opinion only)

Health Consequences of Smoking

Cancers

- Bladder/Kidney/Ureter
- Blood (Acute Myeloid Leukemia)
- Cervix
- Colon/Rectum
- Esophagus/Stomach
- Liver
- Lung
- Oropharynx/Larynx
- Pancreatic

Pulmonary Diseases

- Asthma
- COPD
- Pneumonia/Tuberculosis
- Chronic Respiratory Symptoms

Cardiovascular Diseases

- Aortic Aneurysm
- Coronary Heart Disease
- Cerebrovascular Disease
- Peripheral Vascular Disease

Reproductive Effects

- Reduced fertility in women
- Poor pregnancy outcomes (e.g., congenital defects, low birth weight, preterm delivery)
- Infant mortality

Other: Cataract, Diabetes (type 2), Erectile Dysfunction, Impaired immune function, Osteoporosis, Periodontitis, Postoperative complications, Rheumatoid Arthritis

Clinical Intervention for Tobacco Use and Dependence

Tobacco Dependence as a Chronic Disease

Tabacco dependence shows a lot of features of a chronic disease. A chronic disease model identifies the long-term nature of the disorder along with the prediction that patients may also have periods of relapse and remission (relapsing nature) and the need for continuous, rather than just acute care (Repeated intervention ,and frequent attempts).

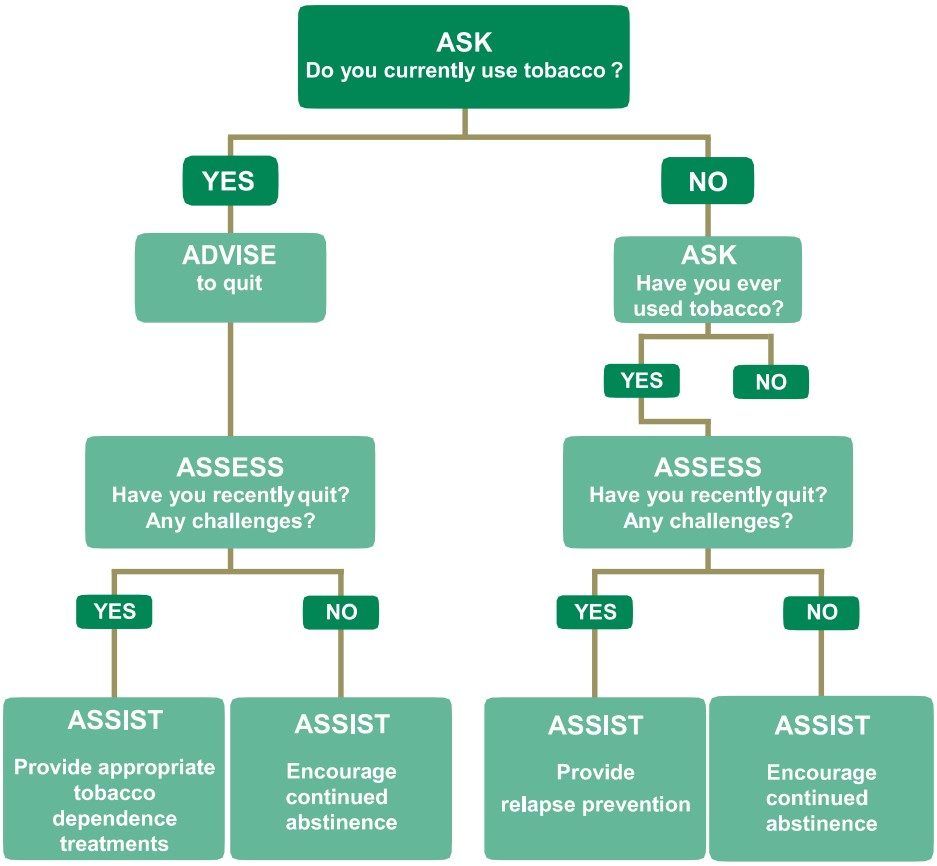
Screening for a current or past tobacco use will cause 4 possible reactions (Figure 1):

(A) Current tobacco users who are willing to try a quit now.
(B) Current tobacco users who are not willing to make a quit attempt at this time (strategy B1 and B2); and
(C) Former tobacco users who have recently quit (strategy C1 and C2).
(D) Patients who didn't use tobacco or who have been abstinent for a long period have to be praised about their status and supported to keep the tobacco-free lifestyle.

The five major parts (the "5 A's") of a brief intervention (≤ 3 minutes) in the primary health care setting are listed in Table 1. It is very important for a physician to Ask the patient if he\she uses tobacco (Strategy A1), Advise him\her to quit (Strategy A2), and Assess willingness to try a quit attempt (Strategy A3). Strategies A1 to A3 have to be applied to each tobacco patient, regardless of his\her desire to quit.

If the tobacco user is willing to quit, the physician have to Assist him\her in making a quit decision by offering medication and providing or referring for counseling or extra treatment (Strategy A4), and Arrange for follow-up contacts for relapse prevention. (Strategy A5).

Figure 1. The "5 A's": Treating Tobacco Dependence as a Chronic Disease



ARRANGE FOLLOWUP

Table 1 the “5 A’s” model for treating tobacco use and dependence

Ask about tobacco use.	Identify and document tobacco use status for every patient at every visit. (Strategy A1)
Advise to quit.	In a clear, strong, and personalized manner, urge every tobacco user to quit. (Strategy A2)
Assess willingness to make a quit attempt.	Is the tobacco user willing to make a quit attempt at this time? (Strategy A3)
Assist in quit attempt.	For the patient willing to make a quit attempt, offer medication and provide or refer for counseling or additional treatment to help the patient quit. (Strategy A4) For patients unwilling to quit at the time, provide interventions designed to increase future quit attempts. (Strategies B1 and B2)
Arrange follow-up.	For the patient willing to make a quit attempt, arrange for follow-up contacts, beginning within the first week after the quit date. (Strategy A5) For patients unwilling to make a quit attempt at the time, address tobacco dependence and willingness to quit at next clinic visit.

For the Patient Willing To Quit

Strategy A1. Ask—systematically identify all tobacco users at every visit

Action	Strategies for implementation
Implement an office-wide system that ensures that, for every patient at every clinic visit, tobacco use status is queried and documented.	Expand the vital signs to include tobacco use, or use an alternative universal identification system. **VITAL SIGNS** Blood Pressure:..... Pulse: ..... Weight:..... Temperature:..... Respiratory Rate: ..... **Tobacco Use (circle one):** Current Former (ex-smoker)

- Current smoker : complete 5A's
- Ex-smoker :

- Declare decision to quit and record smoking status (ex-smoker)
- Give the patient a relapse prevention advice if he quit <1 year ago.
- Ongoing support at least up 5 years quitting.

- Never smoke again: Affirm choice not to smoke and write down a smoking status .

Recommendation: Patients have to be asked if they use tobacco and also have their tobacco use condition documented regularly. Evidence has shown that clinic screening systems, such as expanding the vital signs to include tobacco use status or the use of other reminder systems such as chart stickers or computer prompts, significantly increase rates of clinician intervention. (Strength of Evidence = A)

Strategy A2. Advise—strongly urge all tobacco users to quit

Action	Strategies for implementation
In a clear, strong, and personalized manner, urge every tobacco user to quit.	Advice should be: •Clear—"It is important that you quit smoking (or using chewing tobacco) now, and I can help you." "Cutting down while you are ill is not enough." "Occasional or light smoking is still dangerous." •Strong—"As your clinician, I need you to know that quitting smoking is the most important thing you can do to protect your health now and in the future. The clinic staff and I will help you." •Personalized—Tie tobacco use to current symptoms and health concerns, and/or its social and economic costs, and/ or the impact of tobacco use on children and others in the household. "Continuing to smoke makes your asthma worse, and quitting may dramatically improve your health." "Quitting smoking may reduce the number of ear infections your child has."

Recommendation: All doctors have to advise each patient who smokes to stop smoking because evidence shows that the physician advice to quit enhances abstinence rates. (Strength of Evidence = A)

- Advice should be given to all smokers' respects if whether they want to stop smoking or not.
- Brief advice would work by triggering a quit trial rather than by raising the chances of success of a quit attempt. It also seems to have its best effect on less dependent smokers. For more dependent smokers, it is critical that brief advice is combined with an offer to use medications and referral to a smoking cessation service.
- There is no evidence that adding self-help written materials to brief advice gives any additional benefits, but providing written materials to support the advice that is given may strengthen the importance of quitting and give information about cessation support.
- The evidence for the efficacy of brief advice provided by health care employees other than doctors is less clear. However, clear advice from nurses, dentist, dental hygienists, pharmacists and all health care workers is likely beneficial.

Strategy A3. Assess—Determine willingness to make a quit

Action	Strategies for implementation
Assess every tobacco user's willingness to make a quit attempt at the time	Assess patient's willingness to quit: "Are you willing to give quitting a try?" •If the patient is willing to make a quit attempt at the time, provide assistance. -If the patient will participate in an intensive treatment, deliver such a treatment or link/refer to an intensive intervention. -If the patient is a member of a special population (e.g., adolescent, pregnant smoker, racial/ethnic minority), consider providing additional information. •If the patient clearly states that he or she is unwilling to make a quit attempt at the time, provide an intervention shown to increase future quit attempts (Motivational interviewing).

Specialized Assessment

It may be done to make information available for tailoring treatment and predict a quitting success. It refers to the use of formal instruments (e.g., questionnaires, clinical interviews, or physiologic indices such as carbon monoxide, serum nicotine/cotinine levels) that may be corresponding with cessation result. Some of the variables targeted by specialized assessments that predict quitting success are listed in Table 2.

Variables associated with higher abstinence rates	
Variable	**Examples**
High motivation	Tobacco user reports a strong motivation to quit.
Ready to change	Tobacco user is ready to quit within a 1-month period.
Moderate to high self-efficacy	Tobacco user is confident in his or her ability to quit.
Supportive social network	A smoke-free workplace and home; friends who do not smoke in the quitter's presence.

Variables associated with lower abstinence rates	
Variable	**Examples**
High nicotine dependence.	Tobacco user smokes heavily (≥20 cigarettes /day), and/or has first cigarette of the day within 30 minutes after waking in the morning
Psychiatric comorbidity and substance use	Tobacco user currently has elevated depressive symptoms, active alcohol abuse, or schizophrenia.
High stress level	Stressful life circumstances and/or recent or anticipated major life changes (e.g., divorce, job change).
Exposure to other smokers	Other smokers in the household.

Evidence suggests that treatment can be great even if the of risk factors for relapse are present (e.g., high nicotine dependence, other smokers in the home), but abstinence rates in tobacco users with these features tend to be lower than rates in those without them.

Assessment of readiness to quit

Smokers go through multiple of stages from pre-contemplation to maintenance (see the diagram).

- Pre-contemplation: not thinking about quitting in next six months.
- Contemplation: thinking about quitting in next six months.
- Preparation: preparing to quit in next month and have tried to quit in the past year.
- Action: successfully quit for up to six-month period.
- Maintenance: continue to remain smoke free for more than six months.

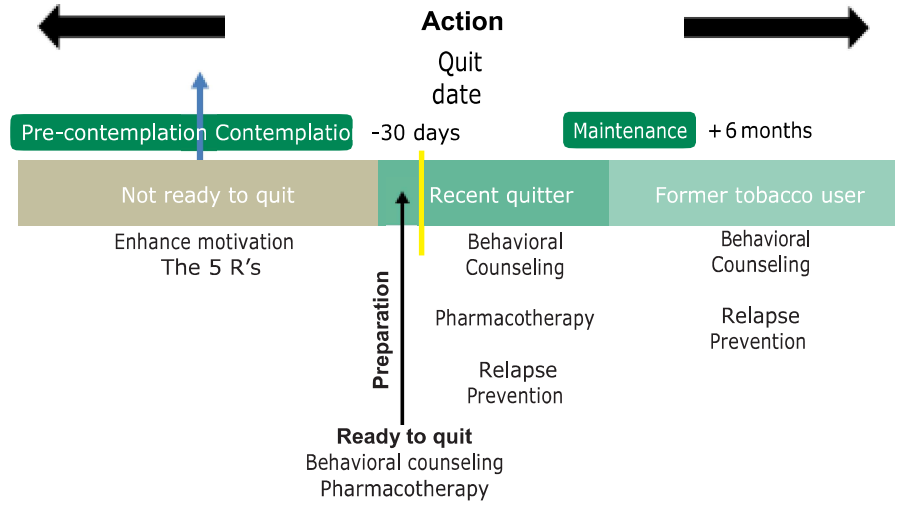
-Stage specific advice increases short-term movement through the stages of change.

-Most smokers are probably not in the action stage. It is estimated that :

- 50%-60% are in the pre-contemplation stage.
- 30%-40% are in the contemplation stage.
- 10%-15% are in the preparation stage.

-Smokers have an average of 3 to 4 quit attempts over 7 to 10 years before they achieve long-term maintenance.

Readiness to Quit: A review



The 5 A’s

Assessment of nicotine dependence

DSM5 diagnostic criteria of Nicotine dependence

- Nicotine is a high addictive and psychoactive substance that has a strong reinforcing effects, demonstrates the development of short and long-term tolerance, and is associated with with drawal symptoms upon sudden reduction or discontinuation of use.

- Nicotine Dependence is a collection of cognitive, behavioral and physiological symptoms showing that the individual continues use of the substance in spite of substance-related problems.

2 or more of the following in a 12-month period

- Tobacco is mostly taken in larger amounts or over a longer period than was intended.

- Persistent desire or unsuccessful efforts to cut down or control tobacco use.

- Excessive time spent obtaining and use.

- Craving or strong desire to use tobacco.

- Its use is resulting in failure to fulfill major role obligations at work, school or home.

- Continuous use in spite of persistent or recurrent social or interpersonal problems caused by or exacerbated by tobacco use.

- Important social, occupational, or recreational activities are given up reduced of tobacco use.

- Recurrent tobacco use in situations where it is physically dangerous

- Continued use despite persistent, related psychological or physical problems.

- Tolerance.

- Withdrawal manifestations.

Diagnostic criteria

Coding based on severity

- Mild : 2-3 symptoms
- Moderate, 4-5 symptoms.
- Sever, 6+ symptoms.

-Most tobacco users are nicotine-dependent.

-Dependence can happen quickly and, in some cases, even after a few cigarettes. As nicotine addiction is under-recognized by physicians, routine assessment of nicotine dependence can help predict the severity of withdrawal symptoms that they may experience and can indicate the most appropriate type of medication and level of behavioral support required.

Nicotine withdrawal symptoms are abrupt cessation of tobacco use, or reduction in the amount of tobacco used, followed within 24 hours by

- Irritability, frustration, anger.
- Anxiety
- Difficulty in concentration
- Increased appetite / weight gain
- Restlessness / impatience
- Depressed mood / depression
- Insomnia
- Impaired performance

Most symptoms manifest within the first 1-2 days, peak within the first week, and subside within 2-4 weeks

Assessing a user's dependence on nicotine could help predict whether a he is likely to experience nicotine withdrawal upon quitting, and the inten-

sity and type of support that may be required to assist quitting.

A. Quantitative approach

Cigarette smoking alone is not a valid indicator of dependence, as it does not take into account the different ways in which and the intensity with people smoke their cigarettes. For example, smokers who cut down the number they smoke often continue to get the same amount of nicotine by taking deeper and multiple puffs, smoking more of each cigarette or blocking the vent holes. This is often referred to as compensatory smoking. The Fagerstraom test for cigarette dependence (FTCD) provides a quantitative measure and is the most widely used. It consists of six questions. Scores of each answer are in brackets, and the higher the score the more nicotine dependent clients are.

The Fagerström test for cigarette dependence

1. How soon after you wake up do you smoke your first cigarette?
   - After 60 minutes. (0)
   - 31 to 60 minutes. (1)
   - 6 to 30 minutes. (2)
   - Within 5 minutes. (3)
2. How many cigarettes per day do you smoke?
   - 10 or less. (0)
   - 11 to 20. (1)
   - 21 to 30 (2)
   - 31 or more (3)
3. Do you find it difficult to refrain from smoking in places where it is forbidden?
   - No. (0)
   - Yes. (1)
4. Which cigarette would you hate most to give up?
   - The first in the morning. (0)
   - Any other. (1)
5. Do you smoke more frequently during the first hours after awakening than during the rest of the day?
   - No. (0)
   - Yes. (1)
6. Do you smoke even if you are so ill that you are in bed most of the day?
   - No. (0)
   - Yes. (1)

Heaviness of smoking index

The two most important indicators of dependence, however, are considered to be: 'How soon after you wake do you smoke your first cigarette?' and 'How many cigarettes per day do you smoke?' It is therefore accept-

able to use just these two questions alone as a shortened version of the FTCD, called the Heaviness of Smoking Index. As with the full FTCD, the higher the score the greater the level of nicotine dependency.
High Nicotine dependence: means smoking ≥20 cigarettes per day, and or smoking of first cigarette of the day within 30 minutes after waking in the morning.

B- Objective approach

1. Carbon monoxide.

It's unreliable to take into account a self-reported smoking status, therefore CO-verification rate is a very important marker of quality these days. CO testing have to be done on all adult smokers to provide, as a minimum, both a baseline (per-quit) level and a four-week validation (post-quit) level. CO testing is fast to carry out, non-invasive and cost-effective. It validates the smoking status of significant number of patients.

-A CO reading of or below 10 ppm is counted as that of a non-smoker (For pregnant women it should be 6 ppm).

-CO monitoring can be used for behavioral support technique, it is evidence-based and can be highly motivating for patients. To achieve an accurate reading, patients are asked to hold their breath for 15 seconds (10 seconds minimum) before blowing into the CO monitor.

2. Cotinine

Cotinine is a metabolite of nicotine produced when nicotine is broken down inside the body and it can be found in blood, urine or saliva. Whilst CO monitoring is currently the most cost-effective method of confirming four-week quits, but specific projects or groups may need more specific monitoring by using either urinary or salivary cotinine samples. However, unfortunately cotinine testing does not allow instant feedback for patient cause the samples need to be tested at labs, so it cannot be used as a motivational (persuading) tool. Furthermore, the test cannot differentiate between nicotine from tobacco and nicotine from NRT and can therefore be unreliable as a marker of smoker-free status where NRT is being used.

Recommendation:

1. The physician should assess the patient's willingness after a tobacco user is identified and advised to quit, (as a part of specialized assessments) to quit at this time. (Strength of Evidence = C)

-If the tobacco user is willing to quit at this time, interventions identified as effective in this Guideline should be provided (Behavioral support/ counselling and mediation)
-If the tobacco user is unwilling to quit at this time, an intervention designed to raise future quit attempts should be elaborated. (Motivational Interviewing)

2. Tobacco dependence treatment is effective and should be delivered re gardless the specialized assessments are not used or available. (Strength of Evidence = A)

Strategy A4. Assist—Aid the patient in quitting (provide counseling and medication)

Action	Strategies for implementation
Help the patient with a quit plan **(STAR)**	A patient's preparations for quitting: • **S**et a quit date. Ideally, the quit date should be within 2 weeks. • **T**ell family, friends, and coworkers about quitting, and request understanding and support. • **A**nticipate challenges to the upcoming quit attempt, particularly during the critical first few weeks. These include nicotine withdrawal symptoms. • **R**emove tobacco products from your environment. Prior to quitting, avoid smoking in places where you spend a lot of time (e.g., work, home, car). Make your home smoke-free.
Recommend the use of approved medication, except when contraindicated or with specific populations for which there is insufficient Evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents).	Recommend the use of medications found to be effective in this Guideline. Explain how these medications increase quitting success and reduce withdrawal symptoms. The first-line medications include: bupropion SR, nicotine gum, nicotine inhaler, nicotine lozenge, nicotine nasal spray, nicotine patch, and varenicline; second-line medications include: clonidine and nortriptyline. . There is insufficient evidence to recommend medications for certain populations (e.g., pregnant women, smokeless tobacco users, light smokers, adolescents).

Action	Strategies for implementation
Provide intra-treatment social support	Provide a supportive clinical environment while encouraging the patient in his or her quit attempt. "My office staff and I are available to assist you." "I'm recommending treatment that can provide ongoing support." For further description of intra-treatment social support, see Table 4
Provide supplementary materials, including information on quitline.	Provide self-help interventions (e.g. pamphlets / booklets / manuals, videotapes and audiotapes / computer programs / internet). These self-help materials appear to increase abstinence rates relative to no intervention However, the effect of self-help is weak.
For the smoker unwilling to quit at the time	Promoting the motivation to quit (Motivational Interviewing).

Table 3: Common elements of practical counseling (problem-solving/skills training)

Practical counseling (problem-solving/ skills training) treatment component	Example
Recognize danger situations – Identify events, internal states, or activities that increase the risk of smoking or relapse.	•Negative affect and stress •Being around other tobacco users •Experiencing urges •Smoking cues and availability of cigarettes
Develop coping skills – Identify and practice coping or problem-solving skills. Typically, these skills are intended to cope with danger situations.	•Learning to anticipate and avoid temptation and trigger situations •Learning cognitive strategies that will reduce negative moods •Accomplishing lifestyle changes that reduce stress, improve quality of life, and reduce exposure to smoking cues •Learning cognitive and behavioral activities to cope with smoking urges (e.g., distracting attention; changing routines)

Provide basic information – Provide basic information about smoking and successful quitting.	• The fact that any smoking (even a single puff) increases the likelihood of a full relapse • Withdrawal symptoms typically peak within 1–2 weeks after quitting but may persist for months. These symptoms include negative mood, urges to smoke, and difficulty concentrating. • The addictive nature of smoking

Table 4: Common elements of intra-treatment supportive interventions

Supportive treatment component	Example
Encourage the patient in the quit attempt.	-Note that effective tobacco dependence treatments are now available. -Note that one-half of all people who have ever smoked have now quit. -Communicate belief in patient's ability to quit.
Communicate caring and concern.	-Ask how patient feels about quitting. -Directly express concern and willingness to help as often as needed. -Ask about the patient's fears and ambivalence regarding quitting.
Encourage the patient to talk about the quitting process.	Ask about: -Reasons the patient wants to quit. -Concerns or worries about quitting. -Success the patient has achieved. -Difficulties encountered while quitting

Recommendation: See Behavioral Support

Strategy A5. Arrange—Ensure follow-up contact

Action	Strategies for implementation
Arrange for follow-up contacts, either in person or via telephone	Timing: Follow-up contact should begin soon after the quit date, preferably during the first week. A second follow-up contact is recommended within the first month. Schedule further follow-up contacts as indicated. Actions during follow-up contact: For all patients, identify problems already encountered and anticipate challenges in the immediate future. Assess medication use and problems. Remind patients of quit-line support. Address tobacco use at next clinical visit (treat tobacco use as a chronic disease). For patients who are abstinent, congratulate them on their success. If tobacco use has occurred, review circumstances and elicit recommitment to total abstinence. Consider use of or link to more intensive treatment.
For smokers unwilling to quit at the time	Promoting the motivation to quit (Motivational Interviewing).

Recommendation:
The assessment of abstinence for every patient at the end of treatment should be done. (1) Abstinent patients should have their quitting success praised, and the physician have to assist the patient with problems with his current quitting attempt (see page 33, For the Patient Who Has Recently Quit). (2) In relapsed patients, assessment has to be done to determine if they are willing to quit again.
(Strength of Evidence = C).
If the patient is willing to make another try, offer additional treatment (Behavioral support and medications).

If the patient is not willing to quit at all, deliver an intervention specialized to raise the likelihood of future quit attempts (Motivational Intervention - MI).

B. For the Patient Unwilling To Quit

Promoting the Motivation to Quit (Motivational Interviewing / MI)

Patients unwilling to make a quit attempt during a visit may:

- Lack information about the harmful effects of tobacco use and the benefits of quitting.
- Lack the required financial resources.
- Have fears or concerns about quitting.
- Be depressed because of previous relapses.

Such patients may respond to brief motivational interventions that are based on principles of Motivational Interviewing (MI), a directive, patient-centered counseling intervention. There is evidence that MI is effective in increasing future quit attempts. However, it is unclear that MI is successful in boosting abstinence among individuals motivated to quit smoking.

Motivational interviewing (MI) is a specific counseling strategy that is intended to increase a person's motivation for behavior change. MI comprises a variety of strategies that are designed to help individuals resolve ambivalence about such change. The technique has been used successfully to help individuals attempt and achieve many types of behavior change, including reduced drinking and illicit drug use, and reduction of HIV risk behaviors.

The spirit of MI (a way of being with people) is collaboration not confrontation, Evocation not education / advice and autonomy not authority. Patient's motivations mean importance of change, confidence in one's ability to change and readiness to change.

The techniques (Methods of communication) used in MI are:
- Open-ended questions.
- Affirm.
- Reflective listening.
- Summary.

For those who are less motivated to quit, it's mandatory to explore the issues behind their disinterest or hesitance. Patient-centered counseling can decrease their defensiveness. MI techniques have to focus on exploring a tobacco user's feelings, beliefs, ideas, and values regarding tobacco use in an effort to uncover any hidden agenda about tobacco use. Once the agenda is uncovered, the physician specifically elicits, supports, and enforces the patient's "change talk" (e.g., desire, ability, reasons, needs and commitment) and "commitment language".

The 4 general principles that underlie MI are:

(1) Express empathy.
(2) Develop discrepancy
(3) Roll with resistance
(4) Support self-efficacy.

Specific MI counseling strategies that are based on these principles are listed in Strategy B1.

Strategy B1. Motivational interviewing strategies

Express empathy.	• Use open-ended questions to explore: - The importance of addressing smoking or other tobacco use (e.g., "How important do you think it is for you to quit smoking?" - Concerns and benefits of quitting (e.g., "What might happen if you quit?") • Use reflective listening to seek shared understanding: - Reflect words or meaning (e.g., "So you think smoking helps you to maintain your weight."). - Summarize (e.g., "What I have heard so far is that smoking is something you enjoy. On the other hand, your wife hates your smoking, and you are worried you might develop a serious disease."). • Normalize feelings and concerns (e.g., "Many people worry about managing without cigarettes."). • Support the patient's autonomy and right to choose or reject change (e.g., "I hear you saying you are not ready to quit smoking right now. I'm here to help you when you are ready.").
Develop discrepancy	• Highlight the discrepancy between the patient's present behavior and expressed priorities, values, and goals (e.g., "It sounds like you are very devoted to your family. How do you think your smoking is affecting your children?"). • Reinforce and support "change talk" and "commitment language: - "So, you realize how smoking is affecting your breathing and making it hard to keep up with your kids." - "It's great that you are going to quit when you get through this busy time at work." • Build and deepen commitment to change: - "There are effective treatments that will ease the pain of quitting, including counseling and many medication options." - "We would like to help you avoid a stroke like the one your father had."

Roll with resistance	• Back off and use reflection when the patient expresses resistance: - "Sounds like you are feeling pressured about your smoking." • Express empathy: - "You are worried about how you would manage with drawal symptoms." • Ask permission to provide information: - "Would you like to hear about some strategies that can help you address that concern when you quit?"
Support self-efficacy.	• Help the patient to identify and build on past successes: – "So you were fairly successful the last time you tried to quit." • Offer options for achievable small steps toward change: –Call the quit-line for advice and information. –Read about quitting benefits and strategies. –Change smoking patterns (e.g., no smoking in the home). –Ask the patient to share his or her ideas about quitting strategies.

The content areas that should be addressed in a motivational counseling intervention can be captured by the "5 R's": relevance, risks, rewards, roadblocks, and repetition (Strategy B2). Research suggests that the "5 R's" enhance future quit attempts.

Strategy B2. Enhancing motivation to quit tobacco—the "5 R's"

Relevance	Encourage the patient to indicate why quitting is personally relevant, being as specific as possible. Motivational information has the greatest impact if it is relevant to a patient's disease status or risk, family or social situation (e.g., having children in the home), health concerns, age, gender, and other important patient characteristics (e.g., prior quitting experience, personal barriers to cessation).
Risks	The clinician should ask the patient to identify potential negative consequences of tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. The clinician should emphasize that smoking low-tar/low-nicotine cigarettes or use of other forms of tobacco (e.g., Smokeless tobacco, Hookah, and E-cigarette) will not eliminate these risks. Examples of risks are:

• Acute risks: Shortness of breath, exacerbation of asthma, increased risk of respiratory infections, harm to pregnancy, impotence and infertility.
• Long-term risks: Heart attacks and strokes, lung and other cancers (e.g., larynx, oral cavity, pharynx, esophagus, pancreas, stomach, kidney, bladder, cervix, and acute myelocytic leukemia), chronic obstructive pulmonary diseases (chronic bronchitis and emphysema), osteoporosis, long-term disability, and need for extended care.
• Environmental risks: Increased risk of lung cancer and heart disease in spouses; increased risk for low birth-weight, sudden infant death syndrome (SIDS), asthma, middle ear disease, and respiratory infections in children of smokers.

Rewards	The clinician should ask the patient to identify potential benefits of stopping tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. Examples of rewards follow: • Improved health • Food will taste better • Improved sense of smell • Saving money • Feeling better about oneself • Home, car, clothing, breath will smell better • Setting a good example for children and decreasing the likelihood that they will smoke • Having healthier babies and children • Feeling better physically • Performing better in physical activities • Improved appearance, including reduced wrinkling/aging of skin and whiter teeth
Road-blocks	The clinician should ask the patient to identify barriers or impediments to quitting and provide treatment (problem-solving counseling, medication) that could address barriers. Typical barriers might include: • Withdrawal symptoms • Fear of failure • Weight gain • Lack of support • Depression • Enjoyment of tobacco • Being around other tobacc users • Limited knowledge of effective treatment options
Repetition	The motivational intervention should be repeated every time an unmotivated patient visits the clinic setting. Tobacco users who have failed in previous quit attempts should be told that most people make repeated quit attempts before they are successful.

Recommendation

Motivational intervention techniques have shown to be to be reliable in enhancing a patient's probability of making a future quit attempt. Therefore, physicians have to use motivational methods to encourage smokers who are not willing to quit at this time to consider making a quit attempt later in the future. (Strength of Evidence = B)

C. For the Patient Who Has Recently Quit

Treatments for the Recent Quitter (Relapse prevention Intervention)

Tobacco users who did quit recently face a high risk of relapse. Although most relapse happens early while in the quitting process, some relapses happens months or even years after the quit date. That is why relapse prevention intervention methods have to be added in the initial treatment plan in addition to follow-up sessions.

The best strategy for establishing a high long-term abstinence rates appears to be use of the most effective cessation treatments available; that is, the use of evidence-based cessation medication during the quit attempt and relatively potent cessation counseling (e.g., four or more sessions that are 10 minutes or more in length).

Strategy C1. Intervening with the patient who has recently quit

The former tobacco user have to get acknowledged on any success and encouraged strongly to keep him abstinent.
When encountering a recent quitter, use open-ended questions relevant to the subjects below to uncover if the patient wishes to any discuss problems related to quitting:

- The benefits, including potential health benefits, the patient may derive from cessation.
- Any success the patient had in quitting (duration of abstinence, reduction in withdrawal, etc.).
- The problems encountered or anticipated threats to maintaining abstinence (e.g., depression, weight gain, alcohol, other tobacco users in the household, significant stressors).
- A medication check-in, including effectiveness and side effects if the patient is still taking medication.

Strategy C2. Addressing problems encountered by former smokers

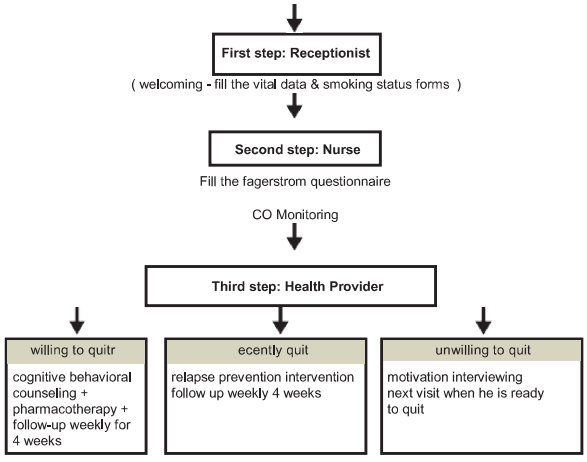
A patient who previously smoked might identify a problem that negatively affects health or quality of life. Specific problems likely to be reported by former smokers and potential responses as follow:

Problems	Responses
Lack of support for cessation	• Schedule follow-up visits or telephone calls with the patient. • Urge the patient to call the quit-line. • Help the patient identify sources of support within his or her environment. • Refer the patient to an appropriate organization that offers counseling or support.
Negative mood or depression	If significant, provide counseling, prescribe appropriate medication, or refer the patient to a specialist.
Strong or prolonged withdrawal symptoms	• If the patient reports prolonged craving or other withdrawal symptoms, consider extending the use of an approved medication or adding/combining medications to reduce strong withdrawal symptoms.

Weight gain	• Recommend starting or increasing physical activity. • Reassure the patient that some weight gain after quitting is common and usually is self-limiting. • Emphasize the health benefits of quitting relative to the health risks of modest weight gain. • Emphasize the importance of a healthy diet and active lifestyle. • Suggest low-calorie substitutes such as sugarless chewing gum, vegetables, or mints. • Maintain the patient on medication known to delay weight gain (e.g., bupropion SR, NRTs—particularly 4-mg nicotine gum—and lozenge. • Refer the patient to a nutritional counselor or program.
Smoking lapses *	• Suggest continued use of medications, which can reduce the likelihood that a lapse will lead to a full relapse. • Encourage another quit attempt or a recommitment to total abstinence. • Reassure that quitting may take multiple attempts, and use the lapse as a learning experience. • Provide or refer for intensive counseling.

* Lapse: means isolated or single use of tobacco, a "slip". (Relapse: means return to regular use of tobacco, after a period of abstinence).

Follow-Chart of a Smoker in a Cessation Clinic



Stop Smoking Interventions

Evidence has proved that a combination of behavioral therapy (counseling) from a trained smoking cessation practitioner and approved pharmacotherapy can greatly enhance a smoker's chances to quit.

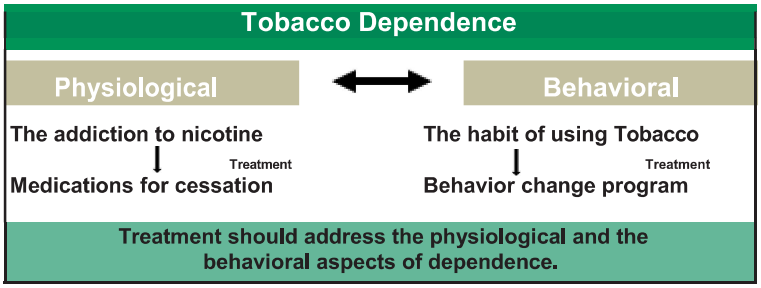
All interventions have in common properties (such as the provision of behavioral support, a structured approach and the offer of licensed pharmacotherapy) and they all contain multiple sessions.

Stop smoking intervention can be provided in a number of ways, and it is important that the range of support options is ready to allow people to pick the type of intervention that is best for them.

More dependent (addicted) smokers will be in the need for higher levels of behavioral support and a extra dose of or extended medication. They may also require to make multiple quit trials.

The best and most consistent evidence for the efficacy and of stop smoking interventions is for those that decided an 'abrupt' quit trial (choosing a quit date and aiming to maintain a complete abstinence after that day by applying the 'not-to-puff' rule).

TOBACCO DEPENDENCE: A 2-PARTs PROBLEM

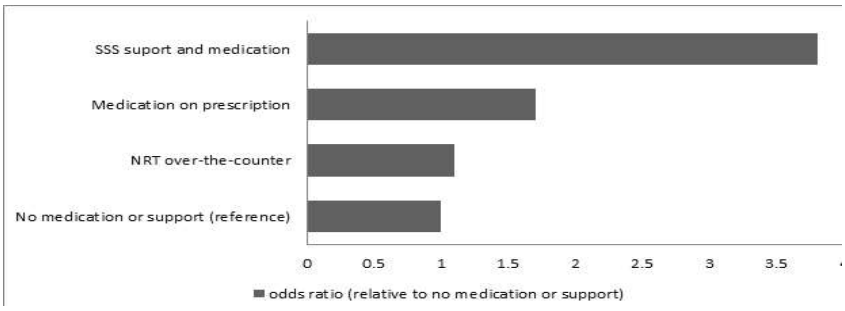


Methods of stopping

When attempting to stop smoking there are a number of methods that smokers commonly use, including

- Unassisted ('cold turkey')
- Using nicotine replacement therapy bought over the counter (OTC).
- Using a stop smoking medicine provided on prescription.
- Using a stop smoking services (behavioral support + Access to stop smoking medicine).

Figure 2: Methods of stopping smoking and their success rates.



This figure shows that OTC medication has no greater effect on smoking cessation rates than quitting unassisted.

Treatment program content

The treatment program should, as minimum, include:

- Building rapport and boosting motivation throughout.
- Assessing and confirming current readiness and ability to quit.
- Informing clients about the treatment program.
- Assessing current smoking behavior.
- Assessing past history of quit attempts.
- Explaining how tobacco dependence develops and assessing level of nicotine dependence (using diagnostic criteria such as the Heaviness of Smoking Index (HSI) or the Fagerstrom Test for Cigarette Dependence (FTCD).
- Measuring carbon monoxide (CO).
- Explaining the importance of abrupt cessation and the 'not-a-puff' rule.
- Discussing withdrawal symptoms and craving / urges to smoke and how to deal with them.
- Discussing stop smoking medications; confirming choice, correct usage and sufficient supply.
- Discussing the client's smoking contacts and how the client can get support to quit.
- Setting quit date.
- Discussing any potential high-risk situations in the coming week.
- Advising on changing routine.
- Prompting commitment from clients (confirm the importance of the 'not-a-puff' rule).
- Discussing future preparations and plans.
- Relapse prevention.
- Providing a summary to the client.

Cost-Effectiveness of Tobacco Dependence Interventions

Recommendation: The tobacco dependence treatments shown to be effective in this Guideline (both counseling and medication) are highly cost-effective relative to other reimbursed treatments and should be provided to all smokers. (Strength of Evidence = A)

Providing Treatment for Tobacco Use and Dependence as a Covered Benefit

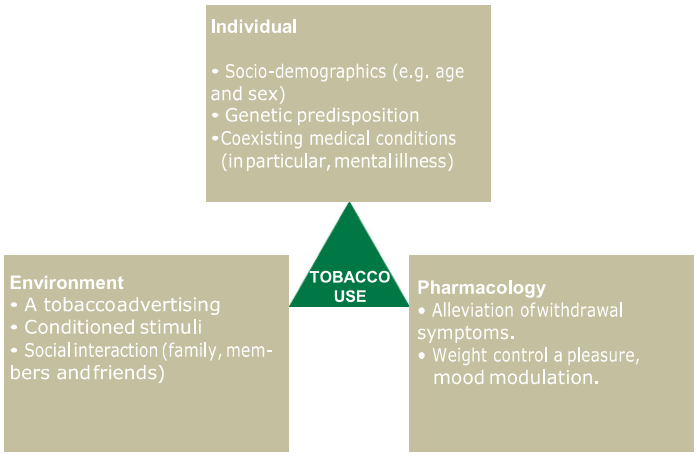
Recommendation: Providing tobacco dependence treatments (both medication and counseling) as a paid or covered benefit by health insurance plans has shown to increase the number of smokers who use cessation treatment, attempt to quit, and successfully quit.
Therefore, treatments shown to be effective in the Guideline should be included as covered services in public and private health benefit plans.
(Strength of Evidence = A)

Behavioral support (counseling)

Behavioral support involves delivering evidence-based behavior change techniques, most commonly provided face to face (individually or groups). It increases quitting success rates by:

- Aiding patient to avoid, escape from or copy with urges to smoke and to manage withdrawal symptoms.
- Maximizing the motivation to remain abstinent and scoring the goal of a life lasting cessation.
- Self-confidence boosting.
- Sharply increasing self-control.
- Optimizing the use of medications.

FACTORS CONTRIBUTING to TOBACCO USE



- Conditioned stimuli: All drug-taking behavior is learnt, a result of conditioning. Drug-taking behavior is strengthened by the consequences of the pharmaco logic effects of the medication. At the same time, smokers begin to relate spe cific moods, situations, or environmental factors with nicotine's reward effects. The relation between them and anticipated drug effects and the resulting urge to use tobacco is another type of conditioning between the use and these other events, many times repeated, causes the environmental situations to become powerful cues for the urge to use.

- Conditioning is a major risk factor that leads to relapse. As such, it must be addressed as an important part of the behavioral therapy for nicotine addiction.

Behavioral support sessions (minimum support for the first six weeks)

- Session 1: pre-quit.
- Session 2: quit date.
- Session 3: 1 week post-quit.
- Session 4: 2 weeks post-quit.
- Session 5: 3 weeks post-quit.
- Session 6: 4 weeks post-quit.

Intensity of Clinical Interventions

Recommendation:

- Minimal interventions of less than 3 minutes enhance overall tobacco abstinence rates. Every tobacco user have to be offered at least a minimal intervention, whether or not he or she is referred to an intensive intervention. (Strength of Evidence = A)

- There is a strong dose-response relation between the session length of person-to-person contact and successful treatment outcomes. Intensive i nterventions are more effective than less intensive interventions and should be used whenever possible. (Strength of Evidence = A)

- Person-to-person treatment delivered for four or more sessions appears especially effective in increasing abstinence rates. Therefore, if feasible, clinicians should strive to meet four or more times with individuals quitting tobacco use. (Strength of Evidence = A)

-Intensity of person-to-person (one to one) clinical contact :

- Minimal counseling brief intervention
  (Longest session ≤ 3 minutes in duration)

- Low intensity counseling
  (Longest session > 3 minutes and ≤ 10 minutes in duration)

- Higher intensity counseling Intensive Intervention
  (Longest session > 10 minutes)
  -closed supportive group therapy:
  It should be at least an hour in length weekly over a 6-weeks treatment period.

Type of Clinician

Recommendation:

- Treatment given by a variety of clinician types, increases abstinence rates. Therefore, all clinicians should provide smoking cessation interventions. (Strength of Evidence = A)

- Treatments delivered by multiple types of clinicians are more effective than interventions delivered by a single type of clinician. Therefore, the delivery of interventions by more than one type of clinician is encouraged. (Strength of Evidence = C)

Formats of Psychosocial Treatments

Recommendation:

- Proactive telephone counseling, group counseling, and individual counseling formats are effective and should be used in smoking cessation interventions.
  (Strength of Evidence = A)

- Smoking cessation interventions that are delivered in multiple formats increase abstinence rates and should be encouraged. (Strength of Evidence = A)

- Tailored materials, both print and Web-based, appear to be effective in helping people quit. Therefore, clinicians may choose to provide tailored self-help materials to their patients who want to quit. (Strength of Evidence = B)

Formats of psychological intervention (Intervention type)

Intervention type	Evidence rating	Definition
One-to-one	A	An intervention between a single stop smoking practitioner and a single smoker, at a specified time and place. It is usually delivered face to face, although advances in communication technology have made remote appointments possible.
Closed-group	A	A face-to-face intervention facilitated by one or more stop smoking practitioners with a number of smokers at a specific time and place. It should be at least an hour in length, therefore offering a minimum total of six hours' contact time with group members over a six-week treatment period. To account for diminishing client returns, a minimum of eight members is recommended to start a closed-group.
Proactive telephone support	A	An intervention delivered by a stop smoking practitioner over the phone that follows the same specification as one-to-one support. There should be local pathway in place to ensure that CO monitoring can still be carried out and access to stop smoking pharmacotherapy on prescription is available throughout the treatment episode.
Text-based telephone support	B	Support provided via text.
Reactive telephone	B	Ongoing behavioral support provided over the phone, either in between treatment sessions or after the behavioral support program has ended, in response to calls from clients. Only trained stop smoking practitioners should deliver this intervention.
Online	B	• Behavioral support provided over the internet. • A new area of intervention is stop smoking applications (apps) available online and via mobile devices.

Telephone support

Telephone support is a great method for encouraging smokers to stop. It can be reactive (where the smoker calls a helpline for information and advice) or proactive (where the smoker receives calls from a telephone counsellor at set times). The strongest evidence for efficacy exists for the proactive form of telephone support. In part because most smokers do not make the call to quit-line after enough to get the full benefit, they ready accept and appreciate proactive calls. Telephone cessation services are cost effective and have a very wide reach (that is, there can be delivered to many people over a large geographical area).

Key Points

Proactive telephone support for smoking cessation enhances long-term abstinence rates.

There is evidence that adding telephone support to medication increases short and long-term abstinence rates more than that of medications alone.
There is no advantage in adding telephone support to face-to-face support. However, when the intensity of face-to-face counselling is low, such as providing a single counselling session for hospital in-patients, additional follow-up with telephone counselling has been shown to have a positive effect.
Also, there is no evidence that telephone follow-up after intensive support reduces relapse rates.

Self-help Materials

Self-help materials, such as in written (leaflets and books and booklets) or electronic (CDs, online), are an inexpensive means of communicating cessation advice to a potentially big number of tobacco users. However, the content of these materials is of variable quality.

Key Points

- Self-help materials have only a small effect on long-term cessation rates in comparison with no intervention (that is, to assist 'cold turkey' quit attempts).

- Approximately 1 out of 100 people who would not otherwise have stopped smoking will do so for at least 6 months after receiving written self-help materials (and no other form of assistance).

- Adding self-help materials to other effective interventions, such as brief advice, face-to-face or telephone support and medications, does not appear to increase the effectiveness of those interventions.

- Self-help materials that are tailored to the individual are likely to be more effective than non-tailored materials.
- There are 15 studies have found evidence of effectiveness of text message mobile phone support programs both in the short and long-term. Combined internet/mobile telephone programs together can be effective for up to 12 months for assisting tobacco users to quit.
- Online smoking cessation interventions are low cost and have the potential to reach a large number of smokers. An important advantage of the internet over printed materials is that of its interactivity and the ability to tailor informa tion to individual needs. Web-based programs are a promising delivery system for assisting tobacco users to quit especially if it is interactive, but further research is needed to identify their most effective use.

Hypnotherapy (without counseling)

Hypnotherapy is widely promoted as an innovative way to stop smoking. It is said to assist smoking cessation by weakling the desire to smoke, or enforcing the will to stop. In spite of being in use for some decades, there are only a few well-designed studies to evaluate its use. A Cochrane meta-analysis was not able to show that hypnotherapy was better than no treatment and there is insuf-ficient evidence to compare hypnotherapy with alternative treatments.

Acupuncture

Sometimes people have acupuncture for tobacco cessation with the aim of decreasing withdrawal symptoms. Related therapies include acupressure, laser therapy and electrical stimulation. At present, there is no consistent evidence that acupuncture, or any related therapy, is better than doing nothing. The acupuncture meta-analysis comparing "active" acupuncture with "control" acupuncture revealed no difference in results between the two types of proce-dures. These outcomes suggest that any effect of acupuncture might be pro-duced by other factors such as positive expectations about the procedure.

Types of Counseling and Behavioral Therapies

Recommendation: Two types of counseling and behavioral therapies result in higher abstinence rates: (1) providing smokers with practical counseling (prob-lem-solving skills/skills training), and (2) providing support and encouragement as part of treatment. These types of counseling elements should be included in smoking cessation interventions. (Strength of Evidence = B)

Combining Counseling and Medication

Recommendation:

- The combination of counseling and medication is more effective for smok ing cessation than either medication or counseling alone. Therefore, whenever

feasible and appropriate, both counseling and medication should be provided to patients trying to quit smoking. (Strength of Evidence = A)

- There is a strong relation between the number of sessions of counseling, when it is combined with medication, and the likelihood of successful smoking cessation. Therefore, to the extent possible, clinicians should provide multiple counseling sessions, in addition to medication, to their patients who are trying to quit smoking. (Strength of Evidence = A)

Self-Management

- It involves cognitive-behavioral strategies that rearrange environmental cues or triggers
- Trigger — situation, behavior, thought or mood related with smoking or dipping
- Goal of self-management: For patients to train systematically using coping strategies to not smoke or dip in trigger situations.

" A vicious Cycle "

Self-Management Process

1- Think ahead : patients use information from self-monitoring to develop list of triggers / high risk situation
2- Prepare for the urge : how will smokers actually handle the situation
3- Cope with the urge : coping skills are :

- Cognitive coping.
- Behavioral coping When you have an urge to smoke

Cognitive coping skills:

Things you can think about

Psychoeducation:

- Urges are time-limited, not continuous urge
- Urges are stronger and more frequent upon initial quitting, but gradually diminish in intensity

For example:

Tell yourself " smoking isn't an option"
Remind yourself of the reasons (Why?) you wanted to quit
Think of how long you have been tobacco-free
Think of how you got through this situation in the past

Behavioral coping skills:

Actions that you can take

- Patients intervene to break up behavior chain

(Situation → Urge → Smoke) using one (or more) of 3 general strategies:

- Avoid the trigger situation
- Alter or change the trigger situation
- Use an alternative or substitute in place of the cigarette or smokeless tobacco:

  - Drink water.
  - Delay the desire.
  - Deep breathing.
  - Do something else.
  - Make your mouth and hand busy as much as you can.

Stress and smoking

What causes stress?

Major life events and daily hassles can cause stress

Major life events
- Death of family member
- Fired from a job
- Divorce
- Serious illness
- Child leave home
- Move to a new place
- Pregnancy
- Birth of a child
- Marriage
- retirement

Daily hassles
- Minor money problems
- Car trouble
- Rude people
-Fights with partner
- Traffic jams
- Bad weather
- Home repairs
- Arranging child care
- Housework
- Loud children

- Stress is often stated as the main reason for smoking. What types of triggers or situations provoke stress-related tobacco use?

- Smokers occasionally confuse the relief of their nicotine withdrawal with the feeling of relaxation. The main goal is to help patients to realize that tobacco is the problem, not the solution.

In the long run, the daily hassles causes more stress than the major life events do. Possible ways to live with stress and bad mood include:

- Deal with the problem directly (problem solving).
- Do other stress-relieving activities (reading, sports, family gatherings).
- Talk to someone to help solve the problem (support).
- Accept temporary stress (stress management).
- Decision making.
- Assertiveness.

Deep breathing

It is a very great way to deal with a stressful situation. You can breathe deeply while sitting, standing or lying down – even while working, sitting around at a game or waiting for something.

Pharmacotherapy

Nicotine addiction

1. Nicotine is the main substance in tobacco that results in addiction, but it is not responsible for the harmful effects of smoking, which are caused mainly by tar, oxidizing chemicals, carbon monoxide, polycyclic aromatic hydrocarbons and other contents of tobacco smoke.

2. Dependence on nicotine develops fast. Studies have shown that non-daily tobacco use triggers emergent nicotine dependence – in the Second Development and Assessment of Nicotine Dependence in Youth study the source, where subjects had smoked at least one cigarette, 62% smoked at least once per month, 53% experienced withdrawal symptoms and 40% experienced the need for daily smoking.

3. Dependence on smoking is a complex process. It requires a close link in time between the context, in which smoking occurs, its rituals, the sensory stimuli of touch, taste and smell, and the extremely rapid delivery of nicotine to the brain that occurs when smoking a modern cigarette. Evidence suggests that psychosocial, biological and genetic factors all play a role in nicotine addiction.

4. When cigarette smoke is inhaled, the large surface area of the lungs means that nicotine is rapidly absorbed into the pulmonary venous circulation and travels quickly to the brain through the bloodstream. Nicotine in tobacco smoke reaches the brain reward system within seconds of inhalation. This nicotine targets multiple nicotine receptors in the brain including, but not confined to, the $\alpha 4\beta 2$ nicotinic acetylcholine receptor. Activation of this and other receptors triggers the release of dopamine and other neurotransmitters. This reward system is the common pathway for the experience of pleasure from many different social, physical and chemical stimulants.

Recommendation:

Physicians have to advise all patients attempting to quit to use effective medications for tobacco dependence treatment, except where contraindicated or for specific populations for which there is insufficient evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents). (Strength of Evidence = A)

As with other chronic diseases, the most effective treatment of tobacco dependence requires the use of multiple clinical modalities. Medications are a vital element of a multicomponent approach. The clinician should encourage all patients initiating a quit attempt to use one or a combination of effective medications, although medication use may not be appropriate with some patient groups (see the pervious recommendations).

First-line (FDA-approved) medications:

- Nicotine Replacement Therapy (NRT) (nicotine patch*, nicotine lozenge*, nico tine gum, nicotine nasal spray, and nicotine inhaler).
- Bupropion SR ((Zyban / Wellbutrin)
- Varenicline* (Champix)

Second-line (non-FDA-approved):

- Clonidine
- Nortriptyline.

Each has been documented to increase significantly rates of long-term smoking abstinence.

First-Line Medications

First-line medications are safe and effective for tobacco dependence treatment and have been approved by the FDA for this use, except in the presence of contraindications or with specific populations for which there is insufficient evidence of effectiveness. These first-line medications have an established empirical record of successfulness, and physicians have to consider them first in choosing a medication.
Clinical assessment, context and patient preference, the potential for adverse effects, possible drug interactions, experience with pharmacotherapy convenience and cost are important in choosing the medication.

*Medications available in Ksa

1. Nicotine replacement therapy (NRT)

Nicotine replacement therapy has been shown to help people stop smoking. It is extremely safe and highly cost effective. Its main way of action is to decrease the severity of withdrawal symptoms associated with smoking cessation by some of the nicotine that would normally be obtained from cigarettes, without providing the harmful substances of tobacco. Although NRT does not relieve the withdrawal symptoms completely, it makes the experience of stopping way easier.

Evidence has shown that NRT is mainly effective in users who smoke 10 or more cigarettes per day. However, it is the person's anticipated difficulty in stopping smoking based on their degree of nicotine dependence rather than the number of cigarettes they smoke. That should be used to determine whether to offer NRT or not.

Key points

- Smoking cessation using NRT to quit is always safer than continuing to smoke.
- All forms of NRT (at equivalent doses) are similarly effective in aiding long-term cessation.
- All forms of NRT monotherapy can increase the rate of quitting by 50–70%.
- Higher dose forms (Lozenges) of NRT (4 mg) are more effective than lower dose forms (2 mg) for more addicted smokers.
- NRT should be used for 8 to 12 weeks, but a small number of smokers may need to use it for longer (5% may continue to use it for up to a year). There are no safety concerns with long-term NRT use.
- More than one form of NRT can be used concurrently with increased success rates and no safety risks.
- Nicotine patches can be given several weeks prior to smoking cessation to help smokers prepare for quitting. (Pre-loading the 'cut down then quit' approach).
- NRT can be used by people with cardiovascular disease. Caution is advised for people in hospital for acute cardiovascular events, but if the alternative is active smoking, NRT can be used under medical supervision.
- NRT can be used by smokers aged 12–17 years.
- NRT may be appropriate in pregnant smokers if they have been unsuccessful in stopping smoking without NRT.
- Intermittent, short-acting dosage forms (oral) are preferred in pregnancy to long-acting dosage forms (patches).

Extended Use of Medications

Some groups of smokers may benefit from long-term medication use. Although weaning should be encouraged for all patients using medications, continued use of such medication clearly is preferable to a return to smoking with respect to health consequences. This is because, unlike smoking, these medications do not (a) contain non-nicotine toxic substances (e.g., "tar," carbon monoxide, formaldehyde, benzene); (b) produce sharp surges in blood nicotine levels; and/or (c) produce strong dependence. Finally, it has to be noted that the medication treatment that produced the largest effects on abstinence rates, of those analyzed, involved the use of combination long-term nicotine patch therapy + intermittent NRT (e.g. lozenge)

	Clinical use of the nicotine patch (FDA approved
Patient selection	Appropriate as a first-line medication for treating tobacco use
Precautions, warnings, contra-indications, and side effects	- Pregnancy – Pregnant smokers should be encouraged to quit without medication. (The nicotine patch is an FDA pregnancy Class D agent). - Cardiovascular diseases – NRT is not an independent risk factor for acute myocardial events. NRT should be used with caution among particular cardiovascular patient groups: those in the immediate (within 2 weeks) post-myocardial infarction period, those with serious arrhythmias, and those with unstable angina pectoris. - Skin reactions – Up to 50% of patients using the nicotine patch will experience a local skin reaction. Skin reactions usually are mild and self-limiting, but occasionally worsen over the course of therapy. Local treatment with hydrocortisone cream (1%) or triamcinolone cream (0.5%) and rotating patch sites may ameliorate such local reactions. In fewer than 5% of patients, such reactions require the discontinuation of nicotine patch treatment. - Other side effects – insomnia and/or vivid dreams
Dosage	Treatment of 8 weeks or less has been shown to be as efficacious as longer treatment periods. Patches of different doses sometimes are available as well as different recommended dosing regimens. The dose and duration recommendations in this table are examples. Clinicians should consider individualizing treatment based on specific patient characteristics, such as previous experience with the patch, amount smoked, degree of dependence, etc.
Availability Type	OTC or prescription

Type	Duration	Dosage
Step-Down Dosage	4 weeks then 2 weeks then 2 weeks	21 mg/24 hours 14 mg/24 hours 7 mg/24 hours
Prescribing instructions	- Location – At the start of each day, the patient should place a new patch on a relatively hairless location, typically between the neck and waist, rotating the site to reduce local skin irritation. - Activities – No restrictions while using the patch - Dosing information – Patches should be applied as soon as the patient wakes on the quit day. With patients who experience sleep disruption, have the patient remove the 24-hour patch prior to bed-time, or use the 16-hour patch (designed for use while the patient is awake).	
	Clinical use of the nicotine patch (FDA approved	
Patient selection	Appropriate as a first-line medication for treating tobacco use	
Precautions, warnings, contraindications, and side effects	Pregnancy – Pregnant smokers should be encouraged to quit without medi-cation. Cardiovascular diseases – (the same like Nicotine Patches). Side effects – The most common side effects of the nicotine lozenge are nausea, hiccups, and heartburn. Individuals on the 4-mg lozenge also had increased rates of headache and coughing (less than 10% of participants).	
Dosage	Nicotine lozenges are available in 2-mg and 4-mg (per piece) doses. The 2-mg lozenge is recommended for patients who smoke their first cigarette more than 30 minutes after waking, and the 4-mg lozenge is recommended for patients who smoke their first cigarette within 30 minutes of waking. Generally, smokers should use at least nine lozenges per day in the first 6 weeks; the lozenge should be used for up to 12 weeks, with no more than 20 lozenges to be used per day.	
Availability	OTC only	

Prescribing instructions	Lozenge use – The lozenge should be allowed to dissolve in the mouth (move and park) rather than chewing or swallowing it. Absorption – Acidic beverages (e.g., coffee, juices, soft drinks) interfere with the buccal absorption of nicotine, so eating and drinking anything except water should be avoided for 15 minutes before or during use of the nicotine lozenge. Dosing information – Patients often do not use enough intermitted NRT medicines to obtain optimal clinical effects. Generally, patients should use 1 lozenge every 1–2 hours during the first 6 weeks of treatment, using a minimum of 9 lozenges/day, Then decrease lozenge use to 1 lozenge every 2–4 hours during weeks 7–9, and then decrease to 1 lozenge every 4–8 hours during weeks 10–12.

Combination Medications

Recommendation:
Certain combinations of first-line medications have been shown to be effective smoking cessation treatments. Therefore, physicians have to consider using these combinations of medications with their patients who are willing to quit. Effective combination medications are:

- Long-term (> 14 weeks) nicotine patch + other intermitted NRT (gum, lozenge and spray).

The use of combination of NRT products (combination therapy) has shown an advantage over using just one medication alone, enhancing the chances of quitting by up to 34%. It is also considered cost-effective and should be available as a part of standard treatment.

It is recommended that a nicotine patch is used to help with 'background' urges to smoke, combined with a faster-acting product (e.g. the mouth spray, lozenge) to outplay the dose of nicotine and to assist with 'breakthrough' urges to smoke.

- The nicotine patch + bupropion SR (Strength of Evidence = A)

Both patch and bupropion SR can be used at standard duration and doses.

Pre-cessation nicotine patch (preloading NRT)

There is evidence to support use of the nicotine patch prior to smoking cessation. A meta-analysis found that the nicotine patch used prior to quit day increased success rates compared to standard therapy. Using a 21 mg/24 hour patch for 2 weeks before quitting has been approved, then continuing to use nicotine patch in the usual way for the quit trial and adding oral NRT if needed

2. Bupropion SR 150 mgs (Zyban /Wellbutrin)

Originally developed as an antidepressant, bupropion is a non-nicotine oral therapy that decreases the urge to smoke and reduces withdrawal symptoms from nicotine.

Key points:

- It is possible mechanisms of action include blockage of neuronal re-uptake of dopamine and norepinephrine and blockade of nicotine acetylcholinergic receptors.
- It significantly increases cessation rates compared with placebo.
- It has been shown to be effective for smokers with depression, cardiac disease and respiratory diseases, including COPD.
- It has been shown to improve short-term abstinence rates for people with schizophrenia.
- Bupropion has been shown to be less effective than varenicline for smoking cessation.
- Bupropion SR is available exclusively as a prescription medication and can be used in combination with nicotine replacement therapies.

	Clinical use of the nicotine patch (FDA approved
Patient selection	Appropriate as a first-line medication for treating tobacco
Precautions, warnings, contraindications, and side effects (see FDA package insert for complete list)	Pregnancy – Pregnant smokers should be encouraged to quit without medication. Bupropion has not been shown to be effective for tobacco dependence treatment in pregnant smokers. (Bupropion is an FDA pregnancy Class C agent.) Bupropion has not been evaluated in breastfeeding patients. Cardiovascular diseases – Generally well-tolerated; occasional reports of hypertension. Side effects – The most common reported side effects were insomnia (35–40%) and dry mouth (10%). Contraindications – Bupropion SR is contraindicated in individuals who have a history of seizures or eating disorders, who are taking another form of bupropion, or who have used an MAO inhibitor in the past 14 days.
Dosage	Patients should begin bupropion SR treatment 1–2 weeks before they quit smoking. Patients should begin with a dose of 150 mg every morning for 3 days, then increase to 150 mg twice daily. Dosage should not exceed 300 mg per day. Dosing at 150 mg twice daily should continue for 7–12 weeks. For long-term therapy, consider use of bupropion SR 150 mg for up to 6 months post-quit.

Availability	Prescription only
Prescribing instructions	Stopping smoking prior to quit date – Recognize that some patients may lose their desire to smoke prior to their quit date or will spontaneously reduce the amount they smoke. Dosing information – If insomnia is marked, taking the PM dose earlier (in the afternoon, at least 8 hours after the first dose) may provide some relief.

3. Varenicline

Varenicline was developed specifically for smoking cessation. It acts at the nicotinic acetylcholine (ACh) receptor in the reward center in the brain. Varenicline binds with high affinity at the α4ß2 nicotinic ACh receptor (and other receptors), where it acts as a partial agonist to reduce symptoms of craving and withdrawal. At the same time, if a cigarette is smoked, the drug prevents inhaled nicotine from activating the α4ß2 receptor sufficiently to cause the pleasure and reward response. This mechanism may explain why quitting can occur later in a course of treatment with varenicline.

Key points

- It can increase the chances of long-term quitting more than double.
- In a network meta-analysis it was found to be more effective than bupropion, more effective than NRT monotherapy and similar in effect to combination NRT.
- Smokers using varenicline should be advised to report unusual mood changes, depression, behavior disturbance and suicidal thoughts and if these occur to stop using the medicine.
- The target quit day is in the second week of treatment. Patients who are not ready to quit at that time should continue to use varenicline for several more weeks as the rate of successful cessation rises during the standard 12-week treatment period.
- Longer term use (a second 12-week course) reduces relapse for up to one year in people who have successfully quit at the end of week 12.

	Clinical use of varenicline (FDA approved)
Patient selection	Appropriate as a first-line medication for treating toba
Precautions, warnings, contraindications, and side effects (see FDA package insert for complete list)	Pregnancy – Pregnant smokers should be encouraged to quit without medication. Varenicline has not been shown to be effective for treating tobacco dependence in pregnant smokers. (Varenicline is an FDA pregnancy Class C agent.) Varenicline has not been evaluated in breastfeeding patients. Cardiovascular diseases – Not contraindicated Precautions – Use with caution in patients with significant kidney disease (creatinine clearance < 30mL/min) or who are on dialysis. Dose should be reduced with these patients. Patients taking varenicline may experience impairment of the ability to drive or operate heavy machinery. **Varenicline (Chantix)** **FDA Boxed Warning** Neuropsychiatric events : Depression, suicidality, Changes in behavior, hostility, agitation. With and without pre-existing psych illness. During Driving or Operating Machinery. Vivid Dreams : During Driving or Operating Machinery. Hypersensitivity reactions : angioedema (can be life threatening) Skin reactions: Stevens-Johnson Syndrome, Erythema Multiform. **September 2014 changes** Data from a meta-analysis of 5 clinical trials show no increased risk in the incidence of suicidal ideation and/or behavior. Caution in patients with a history of seizures or other factors that can lower seizure threshold; particularly in first month after starting Chantix Side effects – Nausea, trouble sleeping, abnormal/vivid/strange dreams
Dosage	Start varenicline 1 week before the quit date at 0.5 mg once daily for 3 days, followed by 0.5 mg twice daily for 4 days, followed by 1 mg twice daily for 3 months. Varenicline is approved for a maintenance indication for up to 6 months. Note: Patient should be instructed to quit smoking on day 8, when dosage is increased to 1 mg twice daily.
Availability	Prescription only

Availability instructions	Stopping smoking prior to quit date - Recognize that some patients may lose their desire to smoke prior to their quit date or will spontaneously reduce the amount they smoke. Dosing information –To reduce nausea, take on a full stomach. To reduce insomnia, take second pill at supper rather than bedtime.

Interactions of First-Line Tobacco Use Medications with Other Drugs

The main goal of treating tobacco use and dependence is abstinence from tobacco products completely. In achieving this goal, the metabolic effects of tobacco abstinence must be understood with respect to potential changes in homeostasis that occur in response to quitting and, eventually, the elimination of nicotine from the body. This is particularly important for smokers who use other medications for chronic disease state management because they essentially are in a homeostatic metabolic condition and the titration of their chronic disease medications may have been influenced by their smoking status.

The polycyclic aromatic hydrocarbons in tobacco smoke are metabolic inducers of some isoforms of the hepatic cytochrome P450. Thus, when smokers quit and the P450 system returns to its basal level of functioning, the concentration of drugs metabolized by these particular CYP isoforms may increase. As a result, smokers who quit can experience side effects from supra-therapeutic drug levels of caffeine, theophylline, fluvoxamine, olanzapine, and clozapine (antipsychotic medications / antidepressant). This can have serious consequences for selective drugs such as clozapine, with its associated Agranulocytosis.

Although nicotine is metabolized by CYP2A6, it does not appear to induce CYP enzymes. So, when a smoker is switched from cigarettes to a nicotine replacement product, changes in drug metabolism are similar to those seen when quitting without NRT.

Nicotine produces sympathetic activation that may decrease the sedative effects of benzodiazepines, and the vasoconstrictive effects of nicotine may decrease subcutaneous absorption of insulin. Nicotine also may decrease the ability of beta-blockers to lower blood pressure and heart rate and may lessen opioid analgesic effect. When nicotine replacement products are stopped, adjustments in these types of medications may be necessary.

Pharmacodynamic Drug Interactions of contraceptive pills with Smoking

Smokers who use combined hormonal contraceptives have an increased risk of serious cardiovascular side effects:

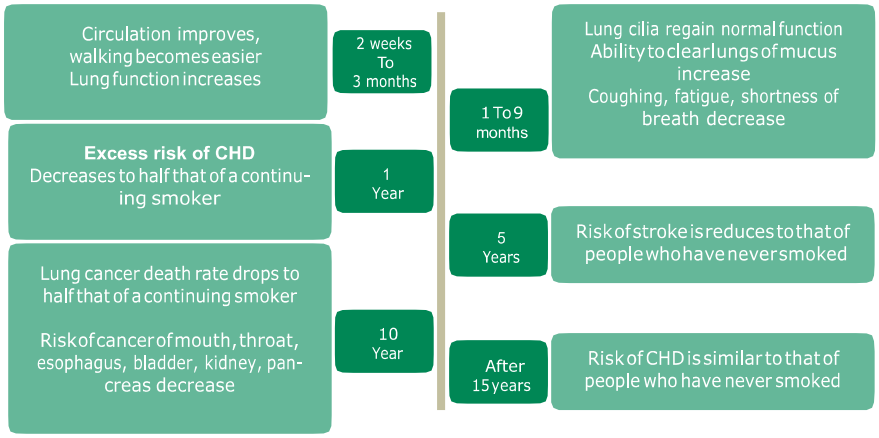
- Stroke.
- Myocardial infarction.
- Thromboembolism

This interaction does not reduce the efficacy of hormonal contraceptive. Women who are 35 years of age or older AND smoke at least 15 cigarettes per day are at significantly higher risk.

- The use of combined hormonal contraceptives must be strongly discouraged in women who smoke regularly. Considerable epidemiologic evidence indicates that cigarette smoking substantially increases the risk of adverse cardiovas cular events (mainly stroke and myocardial infarction [MI]) in women using oral contraceptive pills this risk is age-related.
- Accordingly, experts said that combined hormonal contraceptive use is contra indicated (i.e., method should not be used) in women who are 35 years of age or older AND heavy smokers (at least 15 cigarettes/day).
- Women should be advised to consult with their physician/provider about alternative birth control methods (i.e., non-hormonal method, such as IUD, or progestin-only contraceptive).

Benefits of stopping smoking

QUITTING: HEALTH BENEFITS



Smoking cessation is the ultimate thing that a person can do to improve their current and future health. The earlier the better. However, it is never too late to stop. People who stop smoking have:

- A reduced risk of dying early.
- A reduced risk of developing lung cancer.
- A reduced risk of coronary heart disease and stroke.
- A reduced risk of dying from chronic bronchitis and emphysema.
- Improvement in respiratory symptoms, such as cough and shortness of breath.
- Reduced risks of other cancers related to smoking (for example, upper respiratory tract, esophagus, bladder and pancreas).
- Reduced risks of complications in pregnancy and childbirth (for exam ple, placenta previa and placental abruption).
- Improvement in some mental health symptoms
- Fewer sick days off work.
- Faster improvement in recovery from surgery and reduced perioperative risk.
- A reversal of the risks of smoking if cessation is reached by the age of 35.

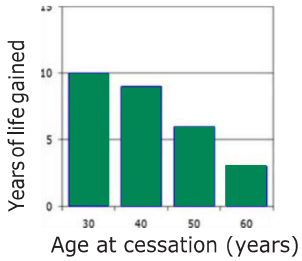
Stopping smoking will also:

- Set a good example for children and young people (children of non-smokers are less likely to become regular smokers).
- Improve the health of young children of parents who have stopped smoking.
- Save a whole lot of money.

SMOKING CESSATION:

REDUCED RISK of DEATH

- Prospective study of 34,439 male British doctors
- Mortality was monitored for 50 years (1951-2001)



On average, cigarette smokers die approximately10 years younger than do nonsmokers

Among those who continue smoking, at least halfwill die due to a tobacco-related disease.

Smoking Reduction (Harm Reduction) Rather Than Smoking Cessation

1- There is also evidence for the use of NRT to help tobacco users who are not willing to quit immediately to decrease their tobacco (patch – gum - inhaler), and then progress to quitting. (Cut down then stop or reduce to quit) approach has been approved for smokers using NRT to reduce the number of cigarettes they smoke before stopping completely within 6 months.

2- A meta-analysis found that reducing cigarettes smoked before quit day versus quitting abruptly, with reduction before, produced comparable quit rates that favors reduction.

3- The user should aim to reduce consumption by at least 50% in the first 6 weeks, and then over the next 18 weeks, this reduction can either be maintained, the person can continue to reduce or they can quit completely. The person should try to stop smoking completely within 6 months. If a reduction of at least 50% is not reached in the first 6 weeks, then this method is futile and he should stop from continuing this treatment strategy.

4- NRT should be used as normal once the quit trial has started.

5- There are no safety concerns when using this strategy in the general population of people who smoke. However, there is no evidence to recommend its use by those with unstable cardiovascular disease or by those who have suffered a recent cardiac event or by pregnant women who smoke.

It should be noted that decreasing smoking and not stopping completely does not reduce the health risks of smoking.

Weight Gain after Stopping Smoking

- Most tobacco users who quit gain weight. The majority will gain between 4 and 5 kg on average in the first year of abstinence.
- Women tend to gain slightly more weight than men do.
- For some smokers, women in particular, fears and concerns about weight gain are motivators to start smoking or continue smoking. That

is why concerns about weight gain can be barriers to quit smoking.

- Post-cessation weight gain is caused both by increased intake and by decreased metabolism.
- The involvement of metabolic mechanisms even if smokers do not increase their caloric intake upon quitting, they will somehow gain some weight.

Recommendations to Clinicians When Addressing Weight Gain

How should the clinician deal with concerns about weight gain? First, the clinician have to be sincere about the likelihood of weight gain and shouldn't minimize its significance to the patient. Rather, the clinician should inform him about it and prepare for its occurrence. The clinician also should counter exaggerated fears about weight gain given the relatively moderate weight gain that typically occurs. Clinicians should tell the patient that smoking presents a much higher health risk than the negligible health risk involved in the modest weight gain that accompany with smoking cessation.

Dieting at the same time as stopping smoking may increase the risk of relapse, therefore people should concentrate on reaching the goal of abstinence and maintain it. And then think about a solution for weight gain. However, people with other conditions such as diabetes and morbid obesity may need special attention regarding weight gain during their quit attempt. Medications such as NRT (In particular nicotine lozenge) and/or bupropion SR, can reduce weight gain, thus allowing people to deal with quitting first. Increasing physical activity is also a helpful way of controlling weight gain.

Second, during the quit attempt, the clinician should offer to help the patient address weight gain (either personally or via referral) once the patient has successfully quit smoking. The patient should be encouraged to maintain or adopt a healthy lifestyle, including engaging in moderate exercise, eating plenty of fruits and vegetables.

Exercise

Available research does not show that interventions to increase exercise reliably boost smoking abstinence rates. One recent study, however, showed that an exercise program occurring in three 45-minute sessions per week increases long-term smoking abstinence in women and delays weight gain when it is combined with a cognitive-behavioral smoking cessation program. As was the case for weight loss interventions, there is no evidence that exercise interventions undermine success in stopping smoking. Some evidence suggests that weight gain is reduced if smoking abstinence is accompanied by a moderate increase in physical activity. Vigorous exercise programs should not be applied without consulting a physician. Although it may be difficult to get smokers to adhere to a vigorous exercise program, smokers should be encouraged to engage in moderate exercise and physical activity as part of a healthy lifestyle.

Other Specific Populations and Topics

Recommendation:
The interventions found to be effective in this Guideline have been shown to be effective in a variety of populations. In addition, many of the studies supporting these interventions comprised diverse samples of tobacco users. Therefore, interventions identified as effective in this Guideline are recommended for all individuals who use tobacco, except when medically contraindicated or with specific populations in which medication has not been shown to be effective (pregnant women, smokeless tobacco users, light smokers, and adolescents). (Strength of Evidence = B)

Children and Adolescents
Recommendation:

- Clinicians should ask pediatric and adolescent patients about tobacco use and provide a strong message regarding the importance of totally abstaining from tobacco use. (Strength of Evidence = C)
- Counseling has been shown to be effective in treatment of adolescent smokers. Therefore, adolescent smokers should be provided with counseling interventions to aid them in quitting smoking. (Strength of Evidence = B).
- Secondhand smoke is harmful to children. Cessation counseling de-

livered in pediatric settings has been shown to be effective in increasing abstinence among parents who smoke. Therefore, to protect children from secondhand smoke, clinicians should ask parents about tobacco use and offer them cessation advice and assistance. (Strength of Evidence = B)

1. It is estimated that more than 80% of smokers become nicotine dependent as teenagers.
2. Young people experiment with or begin regular use of tobacco for a variety of reasons, including social and parental norms, advertising, movies and popular media, peer influence, parental smoking, weight control, and stress curiosity. Because tobacco use often begins during preadolescence, clinicians should routinely assess and intervene with this population.
3. Young people underestimate the addictive potential of nicotine. Adolescent smokers, both occasional and daily smokers, are more likely than nonsmokers to think they can quit at any time. However, only about 4 percent of smokers aged 12 to 19 successfully quit smoking each year, and the rate of failed adolescent quit attempts exceeds that of adult smokers.
4. Adolescents are very interested in quitting; 82 percent of 11- to 19-year-olds who smoke are thinking about quitting, and 77 percent have made a serious quit attempt in the past year. Adolescent quit attempts are rarely planned, and adolescents tend to choose unassisted rather than assisted quit methods, even though young people who enroll in a tobacco cessation program are twice as likely to succeed in their quit attempt.

Tobacco Use Treatments in Children and Adolescents

Counseling:

The use of counseling approximately doubles long-term abstinence rates when compared to usual care or no treatment. In these studies usual care may have included brief advice, self-help pamphlets, reading materials, or a referral. Note that although counseling does boost abstinence rates, absolute abstinence rates were quite low.

One recent meta-analysis found significant effects for studies that employed cognitive behavioral strategies (self-monitoring and coping skills), social influence strategies (addressing social influences that serve to

promote or maintain smoking), and motivational strategies (techniques to clarify desire for change and reduce ambivalence toward change).

- Physicians have to assess adolescent tobacco use, offer counseling, and follow up with these patients. Asking about tobacco use and ad vising adolescents to quit are the first goal for an effective interventions. Physicians may use motivational interventions which can be adapted for use with adolescents. It is important for clinicians to intervene with adolescents in a manner that respects confidentiality and privacy (e.g., interviewing adolescents without parents present).
- Recent research suggests that tobacco use interventions provided to parents in pediatric clinics or during child hospitalizations increase parents' interest in stopping smoking, parents' quit attempts and parents' quit rates.
- Children and adolescents also benefit if parents are given information on secondhand smoke exposure. The information on the harms of secondhand smoke reduces childhood exposure to such smoke and may decrease parental smoking rates.

Tobacco Use Medications

Although nicotine replacement has been shown to be safe in adolescents, there is little evidence that these medications are effective in promoting long-term smoking abstinence among adolescent smokers. As a result, they are not recommended as a component of pediatric tobacco use interventions.

Recommended smoking cessation treatment

- Counselling is considered to be vital in this age group.
- Health professionals should ask about smoking and provide a strong anti-smoking advices.
- NRT is recommended to adolescents only with precautions. The health professional have to assess the nicotine dependence, motivation to quit and willingness to accept counselling before recommending NRT (NRT is less harmful than smoking).

Bupropion and varenicline are not approved for use by smokers under 18 years of age.

Pregnant and breastfeeding Smokers

Recommendation:

- Because of the serious risks of smoking to the pregnant smoker and the fetus, whenever possible pregnant smokers should be offered person-to-person psychosocial interventions that exceed minimal advice to quit. (Strength of Evidence = A)

- Although abstinence early in pregnancy will produce the greatest benefits to the fetus and expectant mother, quitting at any point in pregnancy can yield benefits. Therefore, clinicians should offer effective tobacco dependence interventions to pregnant smokers at the first prenatal visit as well as throughout the course of pregnancy. (Strength of Evidence = B)
- Although 20–30% of women quit when they become pregnant, about 70% of these women relapse either during pregnancy or after the baby is born. The only safe level of smoking in pregnancy is not smoking at all because:

- Any level of nicotine or tobacco smoke exposure increases the risk of adverse effects.

- The greatest gain in health benefits comes from quitting rather than cutting down.

Smoking in pregnancy have risks to both the woman and the fetus. Cigarette smoking by pregnant cause adverse fetal outcomes, including stillbirths, spontaneous abortions, decreased fetal growth, premature births, low birth-weight, placental abruption, and sudden infant death syndrome (SIDS); and has been linked to cognitive, emotional, and behavioral problems in children. Many women are motivated to quit during pregnancy, and health care professionals can take advantage of this motivation by reinforcing the knowledge that cessation will reduce health risks to the fetus and that there are postpartum benefits for both the mother and child.

Psychosocial intervention

- A "usual care" intervention with pregnant smokers consists of a recommendation to stop smoking, often supplemented by provision of self-help material or referral to a stop-smoking program or brief counseling.
- Person-to-person psychosocial interventions typically involved these treatment components as well as more intensive counseling than just minimal advice.
- Psychosocial interventions are so effective than usual care in getting pregnant women to quit while they are pregnant, and is with a positive effect of counseling on postpartum quitting.

Clinical practice suggestions for assisting a pregnant patient in stopping smoking

Clinical practice	Rationale
Assess pregnant woman's tobacco use status using a multiple-choice question to improve disclosure.	Many pregnant women deny smoking, and the multiple-choice question format improves disclosure. For example: Which of the following statements best describes your cigarette smoking? • I smoke regularly now; about the same as before finding out I was pregnant. • I smoke regularly now, but I've cut down since I found out I was pregnant. • I smoke every once in a while. • I have quit smoking since finding out I was pregnant. • I wasn't smoking around the time I found out I was preg-
Congratulate those smokers who have quit on their own.	To encourage continued abstinence.
Motivate quit attempts by providing educational messages about the impact of smoking on both maternal and fetal health.	These are associated with higher quit rates.
Give clear, strong advice to quit as soon as possible.	Quitting early in pregnancy provides the greatest benefit to the fetus.

Use problem-solving counseling methods and provide social support and pregnancy-specific self-help materials.	Reinforces pregnancy-specific benefits and increases cessation rates.
Arrange for follow-up assessments throughout pregnancy, including further encouragement of cessation.	The woman and her fetus will benefit even when quitting occurs late in pregnancy.
In the early postpartum period, assess for relapse and be prepared to continue or reapply tobacco cessation interventions, recognizing that patients may minimize or deny smoking.	Postpartum relapse rates are high, even if a woman maintains abstinence throughout pregnancy.

- Quitting smoking prior to conception or early in the pregnancy is most beneficial as smoking may decrease fertility and some adverse effects occur early in the pregnancy, but health benefits result from abstinence at any time.
- Even women who have ceased completely from tobacco for 6 or more months during pregnancy have a high rate of relapse in the postpartum period. Postpartum relapse may be decreased by continued emphasis on the relationship between maternal smoking and poor health outcomes in infants and children (e.g., SIDS, respiratory infections, asthma, and middle ear disease).
- Meta-analytic results support the effectiveness of self-help materials compared to either basic information sheets or no intervention in assisting women to quit during pregnancy.

Tobacco use medication and pregnant smokers

Effectiveness

There is limited evidence of the effectiveness of NRT in helping pregnant women stop smoking. The main benefits of using NRT are the removal of the other harmful substances contained in tobacco smoke and the lower dose of nicotine delivered by NRT than tobacco smoke. NRT can be used by pregnant and breastfeeding mothers, but the

risks and benefits should be explained carefully to the woman by a suitably qualified health professional and the clinician supervising the pregnancy have to be consulted.

Safety

Cigarette smoke consists of thousands of chemicals, many of which may contribute to reproductive toxicity. Of particular concern are carbon monoxide, nicotine, and oxidizing chemicals.

- High levels of carbon monoxide exert neuro-teratogenic effects.
- Oxidizing chemicals are likely to result in an increased risk of thrombotic complications and, by reducing nitric oxide availability, contribute to placental vasoconstriction and premature labor.
- Nicotine may contribute to adverse effects of cigarette smoking during pregnancy and result in injury to the fetus. Nicotine has been postulated to cause utero-placental insufficiency via vasoconstriction, to produce fetal neurotoxicity resulting in delayed or impaired brain development, to inhibit the maturation of pulmonary cells and to increase the risk of SIDS. These concerns are based primarily on animal studies.
- Experts have concluded that the various toxins in cigarette smoke (as opposed to the nicotine itself) are most likely to be responsible for the harm associated with smoking in pregnancy. Even if nicotine is associated with harm in pregnancy, there are some differences between NRT and smoking. For example, blood nicotine levels are typically lower when using NRT, and NRT delivers nicotine more slowly compared with smoking. Of course, NRT delivers only nicotine, without the many other harmful substances contained in tobacco smoke. However, women who were treated with NRT had significantly higher quit rates during pregnancy than did women receiving cognitive behavioral treatment (CBT) alone.
- In general, intermittent (oral) NRT have to be used during pregnancy to deliver a lower total daily nicotine dose. However, larger doses or even combination therapy may be required to relieve cravings and withdrawal symptoms in pregnancy due to the faster clearance of nicotine. If patches are used by pregnant women, they should be removed before going to bed or the mother could use a special 16 hours patches designed for this matter to protect the fetus from continuous exposure to nicotine. While nicotine passes from mother to child in breast milk, it is not likely to be dangerous.
- Neither of the two prescription medicines for smoking cessation, vareni-

cline and bupropion, has been shown to be effective or safe for smoking cessation treatment in pregnant and breastfeeding smokers and they are not recommended.

- Safety is not categorical. A designation of "safe" reflects a conclusion that a drug's benefits outweigh its risks. Nicotine most likely does have adverse effects on the fetus during pregnancy. Although the use of NRT exposes pregnant women to nicotine, smoking exposes them to nico tine plus numerous other chemicals that are injurious to the woman and fetus. These concerns must be considered in the context of incon clusive evidence that cessation medications boost abstinence rates in pregnant smokers.
- Regarding breastfeeding and NRT use, nicotine freely passes in and out of breast milk, depending on the concentration of nicotine in the mater nal blood (which is in turn affected by cigarette consumption, frequency of breastfeeding and the time between smoking and breastfeeding). Due to the relatively low oral availability of nicotine. It is unlikely that this very low level of exposure is harmful to the infant. The importance of continuing to breastfeed, regardless of smoking status, should be stressed.

Summary of tobacco use Medications and pregnant and breastfeeding smokers

- The Medicines and Healthcare products Regulatory Agency (MHRA – UK) recommends that pregnant women should try to stop smoking without using NRT. If this is not possible then NRT may be recom mended as the risk to the fetus of continued smoking by the mother far outweighs any potential side effects of NRT.
- Time is of particular importance, so, women should not need to fail to quit before being offered access to stop smoking medications. NRT should be made available in the first instance, and it is advised that the shorter-acting oral products, rather than nicotine patches, are used initially.
- NICE recommended that NRT can be used by pregnant women as long as stop smoking practitioners discuss the risks and benefits of NRT with the client, using their professional judgment when deciding whether to offer prescription to those who express a clear wish to receive NRT.An analysis of the risks and benefits of smoking versus using NRT overwhelmingly supports the use of NRT.

People with Psychiatric/Mental Disorders (MD)

1- Psychiatric disorders are more common among smokers than in the general population. For instance, as many as 30 to 60% of patients seeking tobacco dependence treatment may have a past history of depression (USA).
2- The smoking rate people with a mental health problem are about 32%. In some cases, such as for people with schizophrenia, the rate is up to 66%. (Australia).
3- Those with a mental disorder are responsible for 42% of tobacco consumption in England, with 31% of all tobacco consumption by those with a common mental disorder.
4- There is evidence that people with mental illness are just as motivated to quit as the general population. Tobacco smoking can also interfere with the medications taken for schizophrenia and depression, and the doses of some psychotropic medications may need to be decreased.
5- Smoking is responsible for the largest proportion of the excess mortality of people with a mental disorder. Men and women with schizophrenia in the community have, respectively, a 20 –and 16-year reduced life expectancy with, for example, the death rate from respiratory diseases amongst people with schizophrenia being three times higher than average.
6- Treating tobacco dependence is a worthwhile intervention for people with severe mental illness and may be just as effective as for the general population. However, the clinician may wish to offer the tobacco dependence treatment when psychiatric symptoms are not severe.
7- Smokers currently experiencing a psychiatric disorder are at heightened risk for relapse to smoking after a cessation attempt due to physical, financial and social disorder because of their illness.
8- Although patients in inpatient psychiatric units are able to stop smoking with few adverse effects (e.g., little increase in aggression), stopping smoking or nicotine withdrawal may exacerbate a patient's comorbid condition (depression).
9- In fact, smoking cessation is associated with reduced depression, anxiety and stress together with improved mood.

Mental illness is not a contraindication to stopping smoking but the illness and its treatment need to be monitored carefully during smoking cessation.

Recommended smoking cessation treatment

- Intensive smoking cessation counselling and close follow-up are important in this group.
- NRT is safe and effective for people with a mental illness.
- Consultation with a psychiatrist may be considered for advice on use of medicines for smoking cessation in people with significant mental illness.
- Bupropion may not be suitable for people with a history of seizures, people with a history of anorexia or bulimia and people using other anti depressants. Caution is needed if there is concomitant use of bupro pion with drugs such as tricyclic antidepressants and selective sero tonin reuptake inhibitors. These drugs should be initiated at the lower end of the dosage range while a smoker is taking bupropion. In the more common situation that bupropion is initiated for a person already taking such antidepressants then the dose of tricyclic, or selective serotonin reuptake inhibitor, may need to be decreased. Bupropion should not be used in patients taking monoamine oxidase inhibitors (MAOIs) including moclobemide. A 14-day washout is recommended between completing MAOIs and starting bupropion. Consultation with a psychiatrist may be considered for advice on co-prescribing bupropi on with other antidepressants.
- There is increasing evidence of the safety and efficacy of varenicline in people with significant psychiatric illness. Varenicline helps with with drawal symptoms and takes away the pleasure of smoking. There have been reports of depressed mood, suicidal ideation and changes in emotion and behavior using this product, though a meta-analysis of data from 17 clinical trials found no association. Several randomized trials have shown varenicline to be safe and effective in depression and schizophrenia. Therefore varenicline can be used in this population but prescribers should ask patients to report any mood or behavior chang es. Patients should be advised to stop taking varenicline at the first sign of any of these symptoms.

People with substance use Disorders (SUD)

1- Tobacco smoking is common in people with other drug use such as alcohol, cannabis and opiate dependence. Cannabis and tobacco are often used together as a way of smoking cannabis.

2- Smoking cessation has not been a major part of clinical interventions with these people as the attention is usually focused on the alcohol or illicit drug use. There is good evidence that smoking cessation can

enhance short-term abstinence, rather than compromise the outcome of drug and alcohol treatments.

3- Stopping smoking does not seem to make it more difficult to stop drinking, although the evidence is not consistent and further research is required.

4- People with alcohol dependence typically have lower success rates in smoking cessation compared to the general population. There is also evidence that continued smoking adversely affects treatment for cannabis dependence. Success in smoking cessation for people with opiate dependence is lower than the general population.

5- Recent evidence suggests that some smokers who use illicit drugs are less likely to quit as they perceive that this may have an adverse effect on their drug use, i.e. they think that they will need more of the illicit drugs as a consequence of quitting.

Recommended smoking cessation treatment

- Health professionals should offer encouragement, motivation, advice and counselling to these people.
- NRT is effective for quit attempts.
- Bupropion should be monitored carefully when used concurrently with alcohol use.
- Varenicline can be used. Prescribers should ask patients to report any mood or behavior changes.

Hospitalized Smokers

It is vital that hospitalized patients (included patients in long term care facilities) attempt to quit using tobacco because tobacco use may interfere with their recovery and overall health. Among cardiac patients, second heart attacks are more common in those who continue to smoke. Lung, head, and neck cancer patients who are successfully treated for their cancer but who continue to smoke are at elevated risk for a second cancer. Additionally, smoking negatively affects COPD as well as bone and wound healing.

Pre-operative smoking cessation can significantly reduce the risk of post-operative cardiac and pulmonary complications and the duration of the hospital stay, as well as decrease the risk of wounds infection and delayed wounds healing. In addition, long-term abstinence reduces the risk

of developing new diseases and has been associated with a decreased risk of diseases progression.
Hospitalized patients may be particularly motivated to make a quit attempt for two reasons: First, the illness resulting in hospitalization may have been caused or exacerbated by tobacco use, highlighting the patient's perceived vulnerability to the health risks of smoking and making the hospitalization a "teachable moment." Second, every hospital must now be smoke-free if it is to be accredited. As a result, every hospitalized smoker is temporarily housed in a smoke-free environment. In addition, more hospitals are adopting policies establishing tobacco-free campuses, thus extending smoke-free space from indoor facilities to surrounding outdoor environments. For these reasons, clinicians should use hospitalization as an opportunity to promote smoking cessation. This also is an opportunity for clinicians to prescribe medications to alleviate withdrawal symptoms.

Unlike many other tobacco smoke components, such as carbon monoxide, nicotine is not a significant risk factor for cardiovascular diseases or for acute cardiac events. NRT provides less nicotine less rapidly than cigarette smoking and can be safely used by almost all patients. NRT can be provided to people with cardiovascular disease. However, for those who have suffered a cardiovascular event (for example, a myocardial infarction or a stroke) in the past 2 weeks or who have a poorly controlled disease, treatment should be discussed with a physician.
In these cases, oral NRT products rather than patches are recommended as the preferred option.
A recent Cochrane review reported that delivering stop smoking services to inpatients has a positive impact. Trials found that programs begun during a hospital stay, and which included follow-up support for at least one month after discharge, are effective in helping patients to quit.

Suggested interventions for hospitalized patients

For every hospitalized patient, the following steps should be taken:

- Ask each patient on admission if he or she uses tobacco and document tobacco use status.
- For current tobacco users, list tobacco use status on the admission problem list and as a discharge diagnosis.
- Use counseling and medications to help all tobacco users maintain abstinence and to treat withdrawal symptoms.
- Provide advice and assistance on how to quit during hospitalization and remain abstinent after discharge.
- Arrange for follow-up regarding smoking status. Supportive contact should be provided for at least a month after discharge.

Light Smokers

Recommendation:
Light smokers should be identified, strongly urged to quit, and provided counseling cessation interventions. (Strength of Evidence = B)

- A light smoker is anyone who smokes fewer than 10 cigarettes per day. This definition includes individuals who may not smoke daily. Light smoking does not refer to smoking low-tar/low-nicotine cigarettes.

- Despite lower consumption levels, light smokers are at risk for developing smoking-related diseases. A large, longitudinal study in Norway (N = 42,722) found an increase in risk of death from ischemic heart disease and other tobacco-related causes for both men and women who smoked one to four cigarettes per day. Similar results were found in a Finnish cohort, in which men who reported being "occasional smokers" demonstrated increased cardiovascular morbidity and mortality.

- Light smoking is becoming more common, perhaps due to smoking restrictions and increases in the price of cigarettes.
- Many light smokers want to quit but have difficulty doing so. This is consistent with evidence that many light smokers are dependent, even though they smoke relatively few cigarettes. Light smokers also are less likely to receive treatment than are heavier smokers.
- Light smokers should be provided counseling treatments identified as effective in this Guideline.

Tobacco Use Medications

One study found that use of the nicotine lozenge significantly increased 12-month abstinence rates among light smokers (≤ 15 cigarettes per day) compared to placebo.

People in prison

- The prevalence of smoking in the prison population is far higher than among the general population, and tobacco use is accepted as the norm in prison life (around 80% of the prison population smoke – UK).
- There is a strong association between smoking tobacco and social disadvantage and those from low socioeconomic groups who are over-represented in the prison system, for example, Indigenous people, drug users, the less educated and those suffering mental illness. Each of these factors predicts higher smoking rates.
- In correctional settings where long intervals may exists between opportunities to smoke, dependent smokers may experience repeated periods of withdrawal. This causes considerable distress and is a strong argument in favor of supported cessation as the optimum means to address nicotine addiction in this setting.
- Motivation to quit smoking is high in the prison population.
- Smoking cessation programs conducted in prisons should address prison-specific difficulties by including items such as a stressor pack to assist prisoners during transfer to other prisons and court appearanc es. Support programs should also discuss how to prevent relapse on release from prison.

Recommended smoking cessation treatment

- Health professionals should take every opportunity to offer advice to quit.
- Provide pharmacotherapy (NRT, bupropion, varenicline).
- Provide proactive telephone counselling.
- Follow-up closely.

Older Smokers

Smokers over the age of 65 can benefit greatly from abstinence. Older smokers who quit can reduce their risk of death from coronary heart disease, COPD, and lung cancer and decrease their risk of osteoporosis. Moreover, abstinence can promote more rapid recovery from illnesses that are exacerbated by smoking and can improve cerebral circulation. In fact, age does not appear to diminish the desire to quit or the benefits of quitting smoking, and treatments shown to be effective in this Guideline have been shown to be effective in older smokers. However, smokers over the age of 65 may be less likely to receive smoking cessation medications identified as effective in this Guideline. Issues particular to this population (e.g., mobility, medications) make the use of proactive telephone counseling appear particularly promising.

Women

Data suggest that women are more likely to seek assistance in their quit attempts than men. It has been suggested that women benefit from the same interventions as do men, although the data are mixed on whether they benefit as much as men. Women may face different stressors and barriers to quitting that may be addressed in treatment. These include greater likelihood of depression, greater weight control concerns, hormonal cycles, greater non-pharmacologic motives for smoking (e.g., for socialization), educational differences, and others.
Women have a faster clearance of nicotine (by 15%), who used contraception (by 40%), and who are pregnant (by 60%). So, larger dose of NRT may be required to relieve craving and withdrawal symptoms.
It is important to impact the gender-specific motivation that may increase quit attempts and success (e.g., quitting to improve fertility and reproductive health, pregnancy outcomes, physical appearance, and osteoporosis).

Medical Comorbid Conditions, Including Cancer, Cardiac Disease, COPD, Diabetes, and Asthma

Smokers with comorbid medical conditions such as cancer, cardiac disease, COPD, diabetes, and asthma are important to target for tobacco use treatments, given the role that smoking plays in exacerbating these conditions. Clinicians treating smokers with these conditions have an ideal "teachable moment" in that they are treating a disease that may have been caused or exacerbated by smoking and that can be ameliorated by quitting but not by cutting down. Using chronic disease management programs to integrate tobacco dependence interventions into treatment may be an effective and efficient way to deliver tobacco use interventions to these populations.

Non-cigarette Tobacco Users (Non-cigarette Tobacco Products)

Recommendation:

- Smokeless tobacco users should be identified, strongly urged to quit, and provided counseling cessation interventions. (Strength of Evidence = A)
- Clinicians delivering dental health services should provide brief counseling interventions to all smokeless tobacco users. (Strength of Evidence = A)
- Users of cigars, pipes, and other non-cigarette forms of smoking tobacco should be identified, strongly urged to quit, and offered the same counseling interventions recommended for cigarette smokers. (Strength of Evidence = C)

Smokeless Tobacco (ST) Products

Smokeless tobacco causes significant health risks and is not a safe alternative to smoking cigarettes. It contains the same addictive chemical (nicotine) that is in cigarette, which can lead to addiction and dependence. The amount of nicotine absorbed from smokeless tobacco is 3 to 4 times the amount delivered by a cigarette.

Key Facts about Smokeless Tobacco use

- Smokeless tobacco contains 28 cancer-causing agents (carcinogens) or known causes of human cancer. It also increases the risk of developing cancer of the oral cavity and pancreas.
- There are two main types of smokeless tobacco, chewing tobacco and snuff. Chewing tobacco comes in loose leaf, plug and twist form. Snuff is finely ground tobacco that can be dry, moist, or in bug-like pouches. Most smokeless tobacco users place the product in the cheek between their gum and cheek, suck on the tobacco and spit out or swallow the juices, which is why smokeless tobacco is often referred as spitted tobacco.
- However, several tobacco companies have started to develop and test market new smokeless tobacco products such as snus, a product that does not require the user to spit and tobacco products that dissolve when put into mouth.
- Health risks from these products include abrasion of teeth, gingival recession, periodontal bone loss, leukoplakia, and oral and pancreatic cancer. Thus, the use of smokeless tobacco is not a safe alternative to smoking, nor is there evidence to suggest that it is effective in helping smokers quit.
- Evidence shows that counseling treatments are effective in treating smokeless tobacco users. Therefore, clinicians should offer quitting advice and assistance to their patients who use tobacco, regardless of the formulation of the tobacco product.
- Some information may be particularly relevant in the treatment of smokeless tobacco use. For instance, a large majority of moist snuff users have identifiable oral lesions, and emphasizing this information during an oral exam may be useful in motivating a quit attempt. A close review of the literature showed that dental health clinicians (e.g., dental hygienists) delivering brief advice to quit using smokeless tobacco, in the context of oral hygiene feedback, can increase abstinence rates.

Recommended smoking cessation treatment for ST

- Daily use of ST Nicotine Patches – Varenicline – Bupropion
- Intermitted use of ST Nicotine Lozenges
- Replacement Products such as mint snuff found to be helpful

Nicotine Patch Dosing Algorithm for ST Users

	Peak serum nicotine concentrations (ng/ml)	Cans or pouches **per week**	**Patch dose**
Low	0-10	< 2	14 mg/d
Intermediate	11-20	2-3	21 mg/d
High	> 20	> 3	42 mg/d

Nicotine Lozenge: Dosing

- Not to be chewed or swallowed whole.
- Avoid eating or drinking food during and 15 minutes prior to use.
- Monotherapy
- 2 mg
- First dip ≥ 30 min
- ≤ 3 cans / week
- 4 mg
- First dip < 30 min
- > 3 cans / week
- Combination may be optimal
- 1-2 lozenges every 1-2 hours.
- Minimum of 9/day
- Taper over 12 weeks

Water-pipe WP (Hookah - Shisha)

- It is the most common form of tobacco use after cigarette among youth and young adult.
- It is typically consumed socially with friends and family. Its smoke has been described as smoother and more flavor.
- It is often misperceived less addictive and healthier alternative due to water filtration, cooler mouth feel, and reduced irritation.

types of water-pipe tobacco (Moist requires charcoal to keep burning):

- Ma'asel: combination of tobacco and molasses, honey or fruit.
- Tumbak (Ajami): dark tobacco paste.
- Jurak: combination of tobacco and fruit, oils, honey or molasses. It might be flavored or flavorless.
- 1- Have session involves 100-200 times volume of smoke from a single cigarette which contains CO, heavy metals and carcinogens.
- The use of shared mouth pipes during smoking sessions can spread

infectious diseases such as tuberculosis, herpes, influenza, and hepatitis.

- Water-pipe vs. cigarette (session of 45 minutes vs. 1 cigarette) :

	WP	1 cigarette
Carbon monoxide (CO)	23.9 ppm	2.7 ppm
Carboxyhemoglobin	3.9 %	1.3 %
COHB		
Puff volume	48.8 L	1.0 L
Peak nicotine level	1.7 times	-
Carcinogens	50 times	-

- As regard nicotine exposure, daily smoking is equivalent to smoking 10 cigarettes while non-daily smoking is equivalent to smoking 2 cigarettes.

Cigar and pipe

Definition of cigar: a roll of tobacco rapped in tobacco leaf or any substance contains tobacco (vs. cigarette: a roll of tobacco rapped in paper or in any substance does not contain tobacco).

Cigar and pipe smokers are at increased risk for coronary heart disease; COPD; periodontitis; and oral, esophageal, laryngeal, lung, and other cancers; with evidence of dose-response effects. Cigar smokers are known to discount the health effects of cigar smoking, believing it to be less detrimental than cigarettes.

Tar of cigar is more carcinogenic than cigarette smoke tar and its morbidity and mortality correlates with ± inhalation and numbers of cigar they smoke.

Cigar smoking has an increased risk for pancreatic cancer compares to cigarette – only smokers.

NCTP Bioavailability of Nicotine	
Type	**Nicotine (mg)**
Cigarette (filter)	1.1
Pipe	5.2
Smokeless tobacco	
Chewing tobacco	4.5
Moist snuff	3.6
Cigar	
Little cigar	3.8
Premium	13.3
4 mg nicotine gum	1.9

Electronic cigarettes (Electronic Nicotine Delivery Systems –ENDS)

1. E-cigarettes are battery-powered devices that delivers nicotine in a vapor without tobacco or smoke. Before these products can be recommended for consumers, further research must be conducted on the safety and efficacy for smoking cessation.

2. Currently there are no licensed E-cigarette and thus these products cannot be prescribed or provided by stop smoking services, nor can they be recommended as a replacement for licensed medications.

3. A new Tobacco Products Directive (TPD) was endorsed by the European Parliament in February 2014 and will be implemented from 2016. This requires E-cigarette containing over 20 mg/ml of nicotine should be licensed as medicines but allows others to continue to be sold as consumer products but with some controls similar to those applied to tobacco products.

4. Low levels of toxicants and carcinogens have been detected in electronic cigarette liquid and vapor although these are much lower than those found in conventional cigarette smoke and are not considered to pose any positive inhalation risk.

5. the NICE tobacco harm reduction guidance makes it clear that the use of nicotine vaporizers is likely to be considerably less hazardous than tobacco smoking

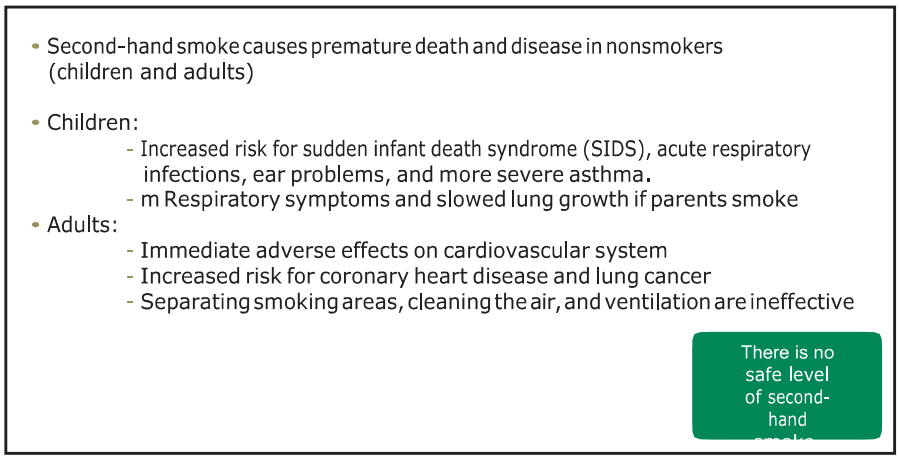
6. Consumers may assume that e-cigarettes are safe and effective for smoking cessation, but neither has been proven.

7. Concerns about e-cigarettes include a lack of evidence for short-term efficacy and short-and long-term safety, particularly in patients with current chronic disease. Rather than cessation, concurrent use with smoking may continue. There are also concerns that e-cigarettes may potentially act as a gateway to smoking. However it is reasonable to conclude that if used as a substitute rather than an addition, e-cigarettes are much less harmful than continuing to smoke.

Secondhand smoke (SHS)

Secondhand smoke, or passive smoking, can affect the health of non-smokers. There is evidence of the harms of exposure to environmental tobacco smoke in pregnancy, to children (higher rates of respiratory and middle ear infections, meningococcal infections and asthma) and adults (increased risk of lung cancer, coronary heart disease and stroke). The evidence for the health effects of secondhand smoking has been summarized by a number of health authorities including the National Health and Medical Research Council. The US Department of Health and Human Services has stated that there is no safe level of exposure to tobacco smoke. Any exposure to tobacco smoke – even an occasional cigarette or exposure to secondhand smoke – is harmful, especially to children.

2006 REPORT of the SURGEON GENERAL:
INVOLUNTARY EXPOSURE to TOBACCO SMOKE



- In the 2014 Surgeon General's Report on the health consequences of smoking, one of the major conclusions was stated as: "Exposure to secondhand tobacco smoke has been causally linked to cancer, respi ratory, and cardiovascular diseases, and to adverse effects on the health of infants and children".

- A comprehensive lite rature review concluded that the cardiovascular effects of second-hand smoke are substantial and rapid.

- The effects of even brief exposure (minutes to hours) to second-hand smoke are often nearly as large (averaging 80–90%) as chronic active smoking.

- People's knowledge that breathing SHS causes cardiovascular diseases is almost low compared to their knowledge that SHS causes lung cancer

There is a lack of evidence on the effectiveness of counselling non-smokers to limit exposure to tobacco smoke. There is evidence that providing information to parents on the harms of exposing children to environmental tobacco smoke can reduce their exposure. Due to the evidence of harms from exposure, nonsmokers, especially parents of babies and young children and pregnant women, should be strongly advised to limit exposure to tobacco smoke. Smoking parents should be encouraged not to smoke in the house or in a confined space such as a motor vehicle at any time.

Reference list:

Most of the information in this guideline was quoted from these references:

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