

# Quit smoking

## for patients with hypertension and diabetes

*A noncommunicable disease education manual for primary health care professionals and patients*





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The Noncommunicable Disease Education Manual for Primary Health Care Professionals and Patients results from the contributions and hard work of many people. Its development was led by Dr Hai-Rim Shin, Coordinator, and Dr Warrick Junsuk Kim, Medical Officer, of the Noncommunicable Diseases and Health Promotion unit at the WHO Regional Office for the Western Pacific (WHO/WPRO/NCD) in Manila, Philippines.

WHO graciously acknowledges the intellectual contributions of Dr Jung-jin Cho, Co-director, Community-based Primary Care Project Committee and Professor, Department of Family Medicine, Hallym University Sacred Heart Dongtan Hospital, Republic of Korea; Dr Hyejin Lee, Volunteer, WHO/WPRO/NCD (currently PhD candidate, Department of Family Medicine, Seoul National University, Republic of Korea); Ms Saki Narita, Volunteer, WHO/WPRO/NCD (currently PhD candidate, Department of Global Health Policy, Graduate School of Medicine, University of Tokyo, Japan); and Mr Byung Ki Kwon, Technical Officer, WHO/WPRO/NCD (currently Director, Division of Health Promotion, Ministry of Health and Welfare, Republic of Korea).

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All illustrations were provided by the source publication.

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# Noncommunicable disease education manual for primary health care professionals and patients

## Part 1 **Prevention and management of hypertension**

- Module 1 Diagnosis and management
- Module 2 Healthy lifestyles
- Module 3 Healthy eating habits
- Module 4 Low-salt diet
- Module 5 Physical activity
- Module 6 Medication and management of associated diseases
- Module 7 Complication prevention

## Part 2 **Prevention and management of diabetes**

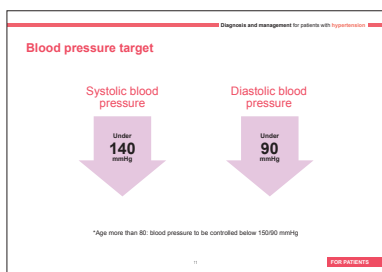
- Module 1 Diagnosis and management
- Module 2 Healthy lifestyles
- Module 3 Healthy eating habits 1
- Module 4 Healthy eating habits 2
- Module 5 Physical activity
- Module 6 Taking care of yourself in daily life
- Module 7 Complication prevention

## Part 3 **Quit smoking** ◀ YOU ARE HERE

# How to use this manual

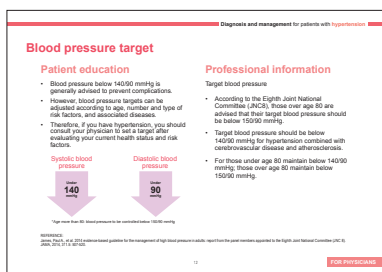
This book is one of fifteen modules of the “Noncommunicable disease education manual for primary health care professionals and patients”. This manual is intended to provide health information on the prevention and control of hypertension and diabetes.

This will be used in the form of a flip chart for health professionals to educate their patients with either hypertension or diabetes.



## FOR PATIENTS

On one side of the flip chart is the ‘**For patients**’ page. This side has simple images and key messages that are easy to understand. However, health professionals may need to provide education for patients to fully understand the content.



## FOR PHYSICIANS

On the other side of the flip chart is the ‘**For physicians**’ page. This side includes information that the health professional can read out to the patient during counselling. Professional information is also provided for further understanding. A small image of the ‘For patients’ side is included so that the health professional is aware of what the patient is looking at.

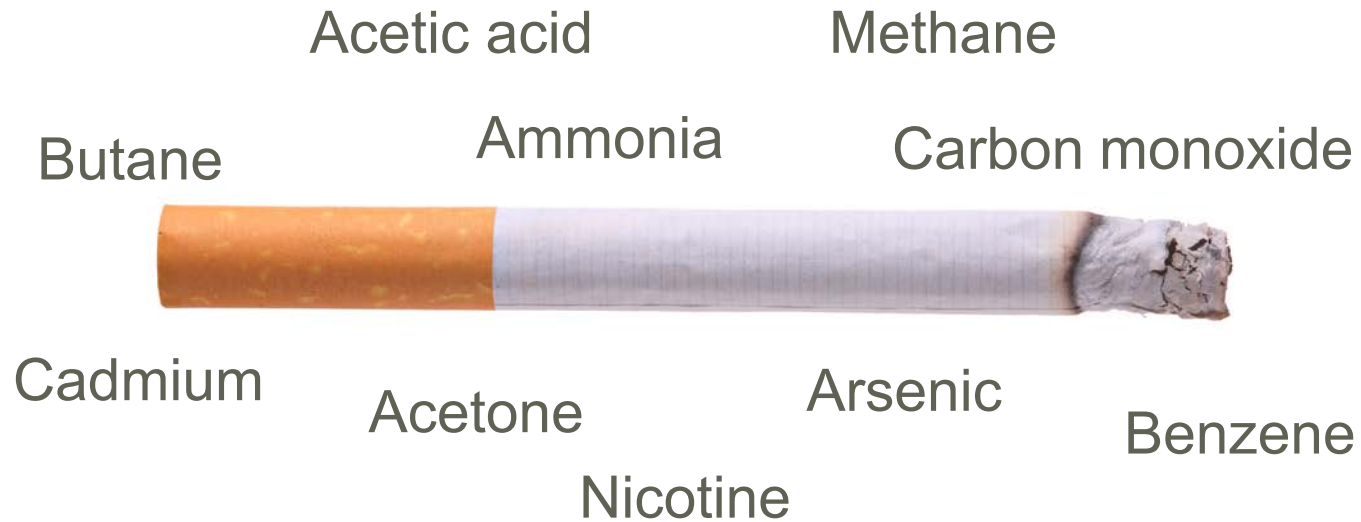
This publication is intended to serve as a template to be adapted to national context. Images and graphs that have been watermarked should be replaced with images or graphs that represent the national situation. If assistance is required, or if you have any questions related to the publication, please contact the Noncommunicable Diseases and Health Promotion unit at WHO Regional Office for the Western Pacific (wproncd@who.int).

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## Toxins and carcinogens in cigarettes





# Toxins and carcinogens in cigarettes

## Patient education

- Cigarettes are harmful because they contain a lot of carcinogens and toxic substances.



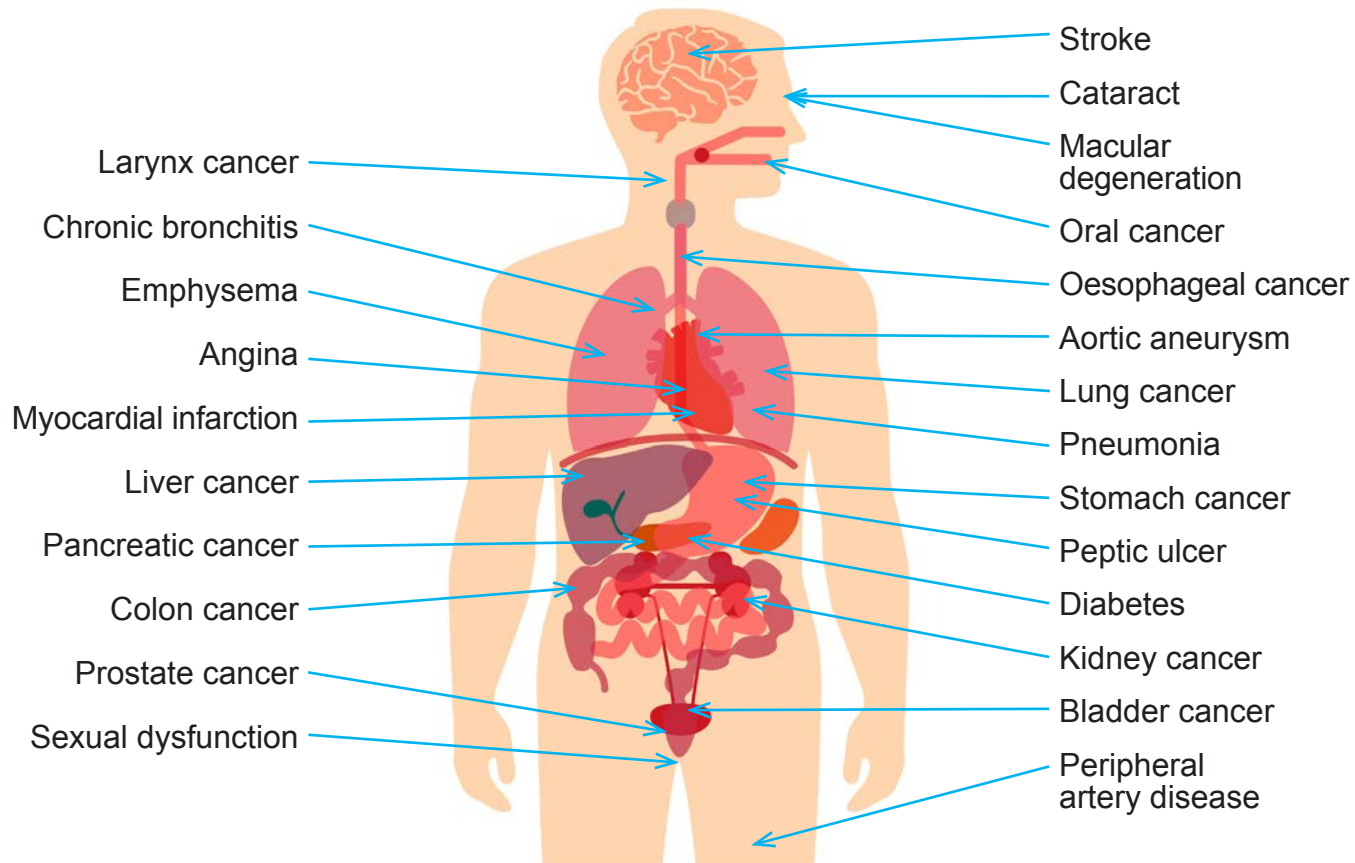
## Professional information

- Cigarette smoke contains 69 types of carcinogens, including benzene, cadmium, arsenic, chrome, polonium and naphthylamine.
- Tar is the sticky brown residue left behind from burning toxins in cigarette smoke and contains many toxins and carcinogens.
- Carbon monoxide prevents haemoglobin from binding to the red blood cells, causing hypoxaemia.
- Fatigue, atherosclerosis, and early ageing can result from hypoxaemia.
- Nicotine is the primary addictive agent in cigarettes.
- Smokers quickly experience withdrawal symptoms due to low concentration of nicotine.

### REFERENCES:

Smith, C. J., and Corvin Hansch. The relative toxicity of compounds in mainstream cigarette smoke condensate. *Food and Chemical Toxicology*, 2000, 38.7: 637-646.  
 US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014, 17.

# Smoking-related diseases



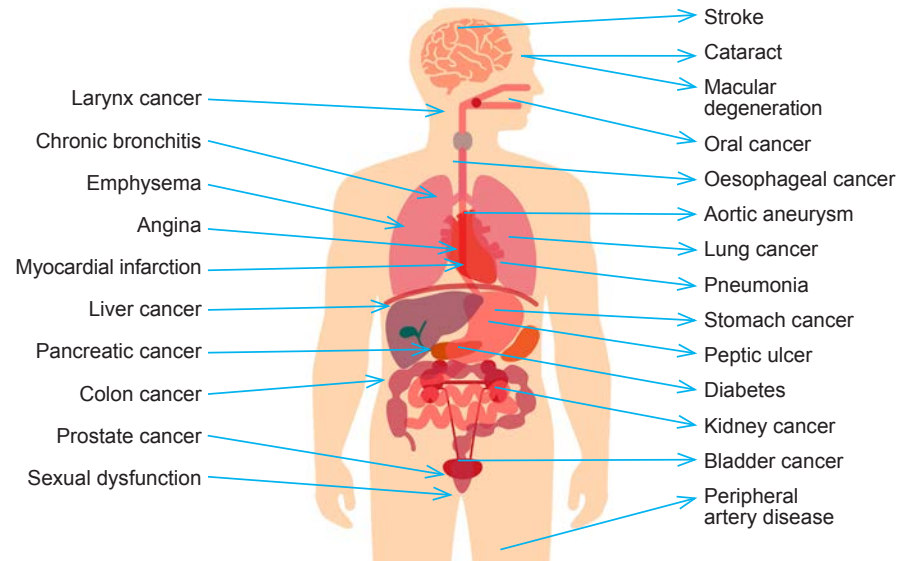
# Smoking-related diseases

## Patient education

- Smoking causes cancers of the lung, mouth, throat, larynx, pancreas and bladder.
- It also increases risk of stroke and cardiovascular disease by causing atherosclerosis.
- Smoking is also the main cause of chronic obstructive pulmonary disease.
- The U.S. Surgeon General's Report 2014 announced that liver and colon cancer are also caused by smoking, and macular degeneration, tuberculosis, rheumatoid arthritis, and even diabetes, are associated with smoking.

## Professional information

- If you show the link between the patient's medical condition and smoking, the patient will be more concerned about smoking, and may show interest in giving up.



### REFERENCES:

Centers for Disease Control and Prevention- Cessation - Smoking & Tobacco Use. 2016. ([http://www.cdc.gov/tobacco/quit\\_smoking/cessation/](http://www.cdc.gov/tobacco/quit_smoking/cessation/), accessed 28 September 2016).  
 Department of Health and Human Services (United States). The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014, 17.

## Lung cancer due to smoking

The risk of dying from lung cancer is 4-24 times higher in smokers.



# Lung cancer due to smoking

## Patient education

- Mortality of all types of cancer is higher in smokers. Smoking is the cause of 30% of cancer deaths among smokers.
- The risk of dying from lung cancer is 4–24 times higher in smokers than nonsmokers.
- The earlier you start smoking, the more you smoke and the longer you smoke, the higher the mortality.

The risk of dying from lung cancer is 4-24 times higher in smokers.



### REFERENCES:

- U.S. Department of Health & Human Services, 2014, The health consequences of smoking - 50 years of progress: a report of the Surgeon General.
- Yun, Young Ho, et al. Cigarette smoking and cancer incidence risk in adult men: National Health Insurance Corporation Study. *Cancer Detection and Prevention*, 2005, 29.1: 15-24.
- Wakai, Kenji, et al. Tobacco smoking and lung cancer risk: an evaluation based on a systematic review of epidemiological evidence among the Japanese population. *Japanese Journal of Clinical Oncology*, 2006, 36.5: 309-324.
- Song, Yun-Mi, Joohon Sung, and Hong-Jun Cho. Reduction and cessation of cigarette smoking and risk of cancer: a cohort study of Korean men. *Journal of Clinical Oncology*, 2008, 26.31: 5101-5106.

# Chronic obstructive pulmonary disease due to smoking

12–14 times  
higher risk of  
chronic obstructive  
pulmonary disease  
(COPD)  
in smokers



# Chronic obstructive pulmonary disease due to smoking

## Patient education

- COPD is a lung disease which usually occurs in long-time smokers.
- The only way to prevent COPD is to quit smoking.
- If you continue smoking, chronic fatigue and hypoxaemia will lead to death.

12–14 times  
higher risk of  
chronic obstructive  
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(COPD)  
in smokers



### REFERENCE:

Department of Health and Human Services (United States). The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014, 17.

## Myocardial infarction due to smoking

2.5 times higher  
chance of dying  
due to myocardial  
infarction in  
smokers





# Myocardial infarction due to smoking

## Patient education

- Smokers are at 2.5 times greater risk of death from coronary artery disease.

2.5 times  
higher chance  
of dying due  
to myocardial  
infarction in  
smokers



## Professional information

- Quitting smoking can prevent 55% of myocardial infarction recurrence.
- Quitting smoking is more effective than medications to prevent recurrent coronary events.
- Smoking also increases death from stroke by 2.5 times.

### REFERENCES:

Department of Health and Human Services (United States). The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014, 17.

Khang, Young-Ho, et al. Explaining age specific inequalities in mortality from all causes, cardiovascular disease and ischaemic heart disease among South Korean male public servants: relative and absolute perspectives. *Heart*, 2007.

# Benefits of giving up smoking

Time elapsed since smoking cessation	Benefits
<b>30 days</b>	Your lung function starts to improve: it's easier to breathe, you cough less, sputum is excreted.
<b>1 year</b>	Your added risk of coronary heart disease is half that of a smoker's.
<b>5 years</b>	Your stroke risk is reduced to that of a nonsmoker's 5–15 years after quitting.
<b>10 years</b>	Your lung cancer death rate is about half that of a smoker's.
<b>More than 15 years</b>	Your risk of coronary heart disease is back to that of a nonsmoker's.

# Benefits of giving up smoking

## Patient education

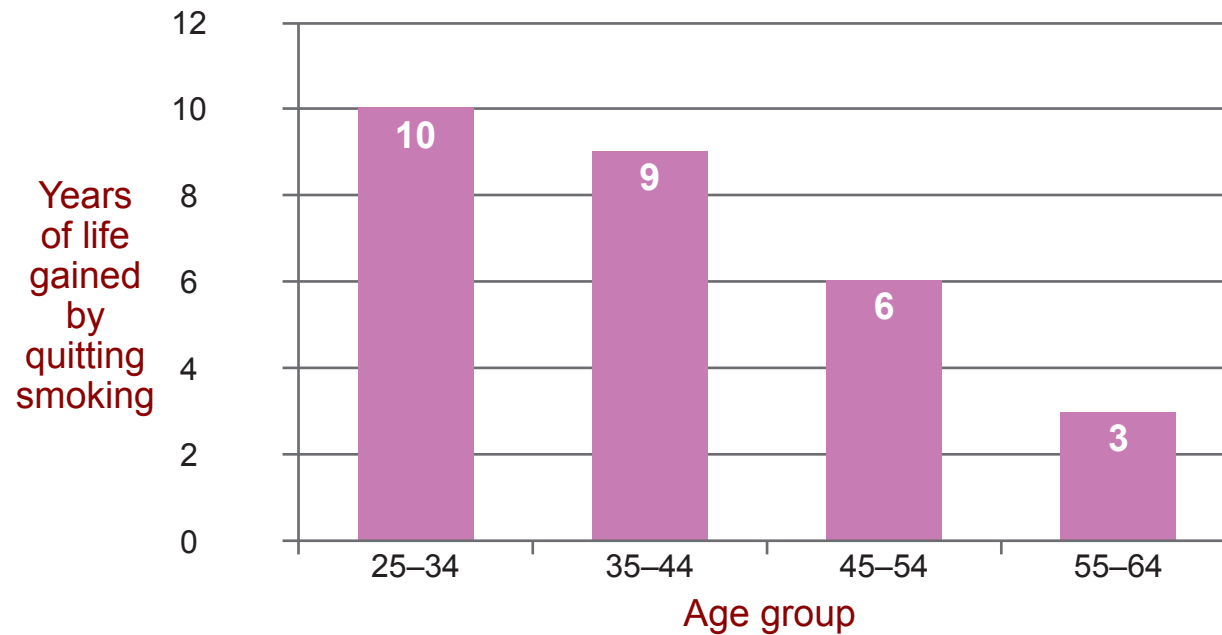
- The immediate benefits of quitting smoking are normalization of blood pressure and improvement of lung function.
- Decrease in risk of stroke, coronary heart disease and cancer are the long-term benefits.
- Moreover, your physiological state will improve, leaving you more energized, healthier and less fatigued.

Time elapsed since smoking cessation	Benefits
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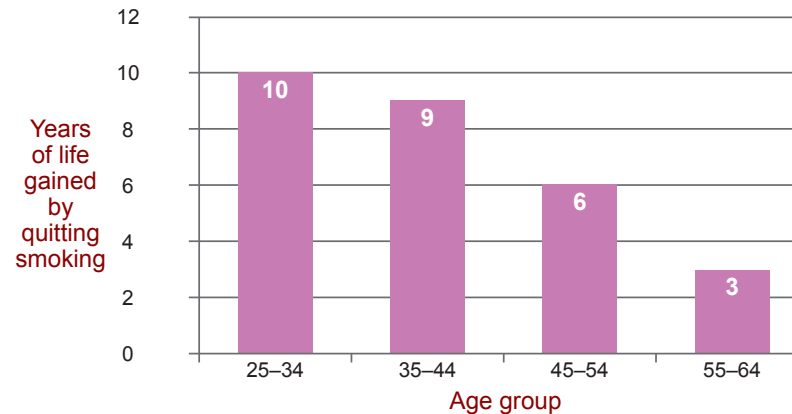
# Quitting smoking increases lifespan



# Quitting smoking increases lifespan

## Patient education

- The earlier you quit smoking, the greater the benefit. If you quit smoking before your mid-30s, you will have on average 10 more years of healthier life.
- But as you can see from the graph, your longevity will improve even if you quit later.



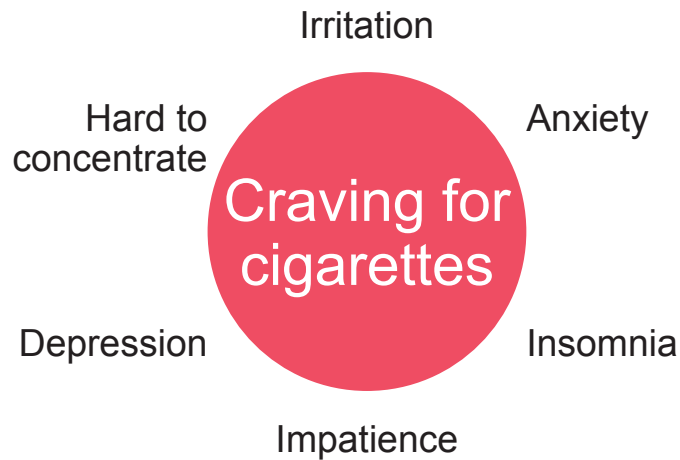
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Doll, Richard, et al. Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ*, 2004, 328.7455: 1519.

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Centers for Disease Control and Prevention. Smoking-attributable mortality, years of potential life lost, and productivity losses--United States, 2000-2004. *MMWR. Morbidity and mortality weekly report*, 2008, 57.45: 1226.

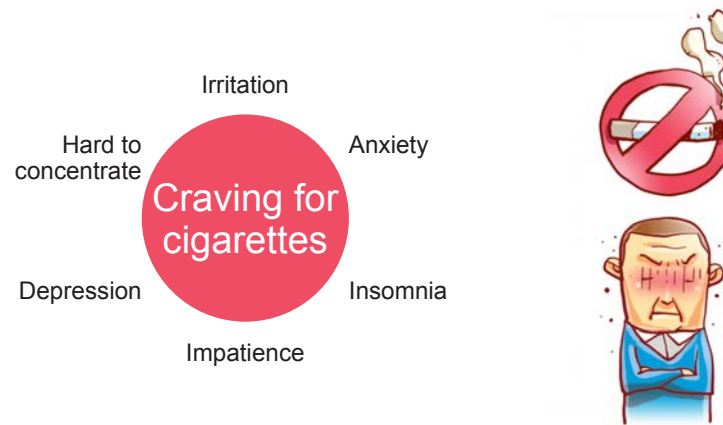
# Nicotine dependence and withdrawal symptoms



# Nicotine dependence and withdrawal symptoms

## Patient education

- Nicotine in cigarettes causes dependence by changing your nervous system.
- When you quit smoking, withdrawal symptoms can bother you a lot. Insomnia, fatigue, irritability, anxiety, headache, coughing and difficulty concentrating are some common withdrawal symptoms.
- Symptoms of nicotine withdrawal generally peak at four days after quitting.
- They gradually decrease from 5–10 days, but can last up to four weeks.



### REFERENCE:

US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014, 17.

# Nicotine dependence test

1. How soon after you wake up do you smoke your first cigarette?



- Within 5 minutes (3 points)
- 5 to 30 minutes (2 points)
- 31 to 60 minutes (1 point)
- After 60 minutes (0 points)

2. How many cigarettes do you smoke each day?



- 31 or more (3 points)
- 21 to 30 (2 points)
- 11 to 20 (1 point)
- 10 or fewer (0 points)



# Nicotine dependence test

## Patient education

- The nicotine dependence test evaluates your physical withdrawal symptoms by asking two questions.

1. How soon after you wake up do you smoke your first cigarette?



- Within 5 minutes (3 points)
- 5 to 30 minutes (2 points)
- 31 to 60 minutes (1 point)
- After 60 minutes (0 points)

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### REFERENCE:

Heatherton, Todd F., et al. The Fagerström test for nicotine dependence: a revision of the Fagerstrom Tolerance Questionnaire. *British Journal of Addiction*, 1991, 86.9:1119-1127.

# Nicotine dependence test score

What is your nicotine dependence score?

Total score of 4 or higher

- high dependence
- consultation for nicotine replacement therapy



# Nicotine dependence test score

## Patient education

- When you score over four points for the two questions (time before first cigarette of the day, number of cigarettes smoked daily), you are highly dependent on nicotine and are likely to need nicotine replacement therapy when quitting smoking.

What is your nicotine dependence score?

Total score of 4 or higher

- high dependence
- consultation for nicotine replacement therapy



REFERENCE:

Heatherton, Todd F., et al. The Fagerström test for nicotine dependence: a revision of the Fagerstrom Tolerance Questionnaire. British Journal of Addiction, 1991, 86.9:1119-1127.

# Prepare to quit smoking

**Set** a quit date.

**Tell** family, friends and coworkers you plan to quit.

**Anticipate** and plan for the challenges you will face while quitting.

**Remove** cigarettes and other tobacco products from your home, car and workplace.

**Talk** to your doctor about getting help to quit.



# Prepare to quit smoking

## Patient education

- It is important to **set** a convenient quitting date.
- **Tell** your friends and family that you are trying to quit. Their encouragement will make a difference.
- **Anticipate** triggers such as alcohol. Find something else to do when you feel the urge to smoke.
- **Remove** all of your ashtrays and lighters, and clean your house so that there is nothing to remind you of smoking.
- **Talk** if this is not your first time quitting smoking, seek a doctor's advice.



### REFERENCES:

Tobacco and smoking. Aafp.org. 2016. (<http://www.aafp.org/about/policies/all/tobacco-smoking.html>, accessed 28 September 2016).  
Zwar, N., et al. Supporting smoking cessation: a guide for health professionals. Melbourne: The Royal Australian College of General Practitioners, 2011.

# Nicotine replacement therapy

Doubles the chance of quitting successfully



## Patch

- Change the patch daily for continuous effect



## Gum, lozenges

- Fast acting
- Help reduce the urge to smoke

# Nicotine replacement therapy

## Patient education

- Nicotine replacement therapy helps control withdrawal symptoms.
- Start nicotine replacement therapy from the day you quit smoking.
- If you wear a new nicotine patch every day, you will experience the effect continuously.
- Gum and lozenges act for a short time, so they help with sudden urges to smoke.
- If needed, you can use a combination of patch and gum or patch and lozenges.
- Combination therapy is shown to be more effective than monotherapy.

Doubles the chance of quitting successfully



Patch

- Change the patch daily for continuous effect



Gum, lozenges

- Fast acting
- Help reduce the urge to smoke

### REFERENCES:

Stead, Lindsay F., et al. Nicotine replacement therapy for smoking cessation. The Cochrane Library, 2008.

Fiore, Michael C., et al. Treating tobacco use and dependence: 2008 update US Public Health Service Clinical Practice Guideline executive summary. Respiratory Care, 2008, 53.9: 1217-1222.

# Prescription drugs to help you quit smoking

Doubles or triples the chance of quitting with success



## Varenicline

- Works by interfering with nicotine receptors in the brain
- Lessens the pleasure a person gets from smoking
- Reduces the symptoms of nicotine withdrawal

## Bupropion

- Delays weight gain
- Acts on neurotransmitters in the brain and reduces withdrawal symptoms



# Prescription drugs to help you quit smoking

## Patient education

- Bupropion delays weight gain after you quit smoking.
  - This effect lasts for up to a year.
  - There is also a 0.1% chance of having seizures.
- Common side-effects of varenicline are nausea and insomnia.
  - Although it's very rare, thoughts of suicide can increase, especially for individuals with a history of depression or mental disorder.
- You need a doctor's prescription to take this medication.

## Professional information

- Bupropion (Wellbutrin, Nicopion) helps prevent weight gain after the patient quits smoking.
  - This effect lasts for up to a year.
  - The most severe potential side-effect of bupropion is seizure (0.1%).
- Varenicline (Champix) is an oral drug developed recently, and is the most effective.
  - Nausea, insomnia, thoughts of suicide are some of the side-effects and the patient needs to consult a doctor for a prescription.

## Doubles or triples the chance of quitting with success



### Varenicline

- Works by interfering with nicotine receptors in the brain
- Lessens the pleasure a person gets from smoking
- Reduces the symptoms of nicotine withdrawal

### Bupropion

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- Acts on neurotransmitters in the brain and reduces withdrawal symptoms

#### REFERENCE:

Fiore, M. C., W. C. Bailey, and S. J. Cohen. Clinical practice guideline No 18. U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, April, Rockville, Maryland. AHCPR Publication No 96-0692. 1996.

## What to do when you fail to quit smoking?

- Do not think of it as failure.
- Think of it as a mistake and move on.



# What to do when you fail to quit smoking?

## Patient education

- If you give in and smoke a cigarette, quickly forget about it and think of it as a minor mistake.
- Move on with quitting.

- Do not think of it as failure.
- Think of it as a mistake and move on.



### REFERENCES:

NHS, Brief interventions and referral for smoking cessation in primary care and other settings, 2008.  
University of Michigan Health System, Clinical care guidelines. Smoking cessation, 2006.

# Take-home message

## Quit smoking

- As an addiction, smoking is a chronic disease that can be treated.
- Whenever you quit smoking, it will have a health benefit.
- Smoking can be treated by consultation and medication.
- Consult your doctor to quit smoking.





