How to help people with diabetes stop smoking

by Pam Brown, GP, Swansea

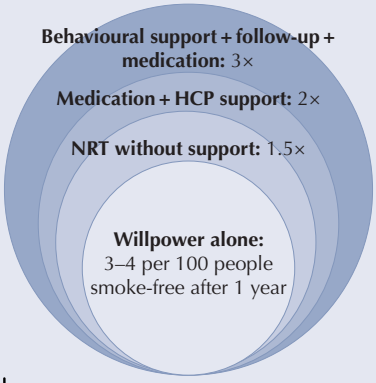
Risks from smoking

- Smokers with diabetes have increased cardiovascular disease, premature death, microvascular complications and worse glycaemic control than non-smokers with diabetes.
- Type 2 diabetes is more common amongst smokers.
- Adult smoking rates are declining: <15% of those over 18 years in England in 2017.
- 20% 25–34-year-olds smoke, 8% aged ≥65 years.
- 16% of UK deaths (78 000 annually) attributable to smoking.
- Increased mortality from lung cancer, COPD and cardiovascular disease.
- Half of smokers die prematurely from smoking-related causes, losing an average 10 years of life.
- Increased blood pressure; heart rate; stroke; osteoporosis; mouth, throat and stomach cancers; stomach ulcers; skin ageing; and male and female fertility problems.
- Harm is from toxicants/carcinogens, not nicotine.

Post-quitting benefits: timeline

Time	Benefit
20 minutes	Heart rate and BP return to normal
24 hours	Carbon monoxide gone from body
48 hours	Taste and smell improved
1 week	Cravings settling; 9× more likely to quit
2 months	Myocardial infarction (MI) risk decreased; lung function improved 30%
6 months	Lung damage improving
1 year	50% decreased risk MI/stroke
5–10 years	MI/stroke risk same as non-smoker
10 years	Lung cancer death risk 50% of smoker

Quit rate success relative to willpower alone:



Remind people that most smokers try to quit several times before they succeed.

Very brief advice (VBA)

This can be delivered in 30 seconds and should be undertaken at every relevant contact.

ASK Establish and record smoking status. Is the client a smoker, ex-smoker or non-smoker?

ADVISE The best method for stopping is with NHS Stop Smoking Service

ACT Refer all smokers, with verbal consent, to local NHS Stop Smoking Service

The National Centre for Smoking Cessation and Training provides concise guidance on using the VBA model for smoking cessation and for secondhand smoke exposure. It also has more detailed resources and training for healthcare professionals. www.ncsct.co.uk/index.php

5Rs brief motivational intervention[1]

If more time and uncertain about quit attempt, discuss:

- **Relevance**: How is it relevant to you?
- **Risks**: What are risks of continuing to smoke?
- **Rewards**: What are rewards of stopping?
- **Roadblocks**: What difficulties do you foresee?
- **Repetition**: Ask again if ready to quit.

Outcomes

- Motivated to contact stop-smoking services → Self refer
- Motivated to quit, but not to access stop-smoking services → Consider delivering care in practice
- Motivated to quit, but not in single step → Harm reduction approach
- Not right time to quit → Encourage to return when time is right

Reiterate benefits of stop-smoking services

ASSESS + ASSIST

Delivering smoking cessation advice

Initial consultation

- Identify motivation to quit; record previous quit attempts and treatments used, number of cigarettes smoked/day, time to first cigarette (TTFC ≤30 or >30 minutes), depression
- Discuss treatment options and support decision-making; prescribe combination NRT, if agreed and appropriate
- Assist to agree quit date and when to start medication
  - Oral 1–2 weeks or NRT 1 day before
- Prescribe/arrange medication until next consultation

Follow-up consultation

2 weeks if NRT, 2–4 weeks if varenicline

- Ask about:
  - quit attempt and whether abstinent
  - withdrawal symptoms
  - side effects from medication, especially new or worsening depression or seizures
- Reiterate value of smoking cessation services in increasing quit rates
- Signpost additional resources
- Check carbon monoxide level at 4 weeks, if felt would be motivational

Still abstinent

- Answer questions, provide further guidance and support
- Further appointment and script

Smoking, but not complete relapse

- Stay positive and encourage to persevere
- Discuss and reinforce why they want to quit
- Signpost additional support; remind about specialist stop-smoking services
- Encourage behaviour changes (e.g. avoiding places/people who smoke)
- Answer questions
- Make further appointment and issue script

Smoking regularly

- Stay positive and encourage to set another quit date
- Remind that most people have several quit attempts before succeeding
- Explore why relapsed, encourage to seek specialist stop-smoking service support

Harm reduction

Smoking 1 cigarette/day carries 50% excess risk of coronary heart disease/stroke as smoking 20 per day; smoking 5 per day carries 55–65% of the excess risk.[2] Quitting is better than cutting down.

Some people will not be ready to quit smoking, but may be keen to reduce smoking-related harm.

- Ensure people understand health risks of smoking and benefits of stopping, and encourage to return when ready to quit.
- Discuss benefits and harm reduction approaches.
- If harm reduction agreed, explore reasons for smoking, triggers, smoking behaviour, previous quit attempts and treatments used.
- Use shared decision-making to agree on harm reduction approach:
  - **Cut down or reduce smoking**, "cut down to quit", with or without nicotine replacement therapy (NRT), **or**
  - **Temporary abstinence**, with or without NRT (helpful for pregnancy, surgery).
- Provide support, including NRT if appropriate.
- If approach includes nicotine, encourage conventional NRT, not e-cigarettes.
- Follow-up as for smoking cessation attempts.

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Nicotine replacement therapy (NRT)

- Most smokers are addicted to nicotine; quitting causes cravings and other symptoms (see **Withdrawal symptoms**).
- Duration 8–12 weeks. Use for >9 months only under supervision of a healthcare professional.
- Encourage to use sufficient NRT to control cravings – patches + short-acting method.
- Prescribe with caution to people with diabetes, gastrointestinal disease, moderate-to-severe hepatic impairment, severe renal impairment, uncontrolled hyperthyroidism, phaeochromocytoma or, if haemodynamically unstable, after stroke, myocardial infarction or arrhythmias.
- Use inhalators with caution if throat disease or bronchospasm, nasal sprays with caution if asthma, and avoid gum with dentures.
- Common adverse effects include headache, dizziness, nausea, vomiting, rash or urticaria. Patches may cause skin reactions; 24-hour patches can cause vivid dreams or insomnia.

Consult BNF for up-to-date guidance on dosing and safe prescribing of products.

Options[3]

- Transdermal patch – background nicotine levels; peak levels in 8–10 hours; 16- and 24-hour patches. 24 hour better if smoke immediately on waking. Use with short-acting NRT.
- Gum – peak levels 20–30 minutes; one piece lasts 30 minutes. Difficult with dentures.
- Inhalator – delivers 1 mg in 80 puffs or 2 mg with 20 minutes' intensive use. 15 mg cartridge supplies eight 5-minute sessions.
- Lozenge – dissolves completely in 10–15 minutes.
- Nasal and oral sprays – peak levels 10–15 minutes.
- Sublingual tablet.

E-cigarettes/vaping[4]

- E-cigarettes heat a liquid (propylene glycol and glycerol ± flavours) into an aerosol for inhalation; nicotine content >20 mg/mL.
- Those available from UK shops are regulated by *The Tobacco and Related Products Regulations 2016* and the MHRA, but are not licensed.
- Provide nicotine and can help fill a behavioural and sensory need (e.g. what to do with hands, rituals, etc.).
- Less harmful than cigarettes, but not risk free.
- Deaths reported in the US from lung pathology.
- Time needed to get used to e-cigarettes and achieve the right dose – encourage persistence.
- Those containing nicotine around twice as effective as those without. In real-world studies, quit rates at ≥6 months vary widely between 12.5% and 50%.

Important

Nicotine withdrawal can trigger depression, occasionally with suicidal ideation. May be worse when taking varenicline. Warn people, discuss at each consultation and withdraw treatment immediately if depression develops.

When people quit smoking there is a reduction in the activity of the CYP1A2 enzyme, so doses of some drugs may need to be changed.

On average, smokers who quit gain 5–9 kg, so weight-management advice is important to prevent detrimental impact on diabetes. Weight gain in the first few years after quitting reduces cardiovascular benefits, but not mortality benefits.

Drugs affected by cessation

- Aminophylline and theophylline
- Chlorpromazine
- Clozapine
- Erlotinib
- Insulin
- Methadone
- Olanzapine
- Riociguat
- Warfarin

	Varenicline (Champix)
Start drug	1–2 weeks before quit date
Initiation	0.5 mg once daily for 3 days 0.5 mg twice daily for 4 days Then 1 mg twice daily
Treatment course	12 weeks If quit at 12 weeks, then consider additional 12 weeks to maintain cessation. If not willing to stop suddenly aim to reduce gradually and quit by 12 weeks then treat for further 12 weeks. If not tolerated use 0.5 mg twice daily temporarily or for course.
Chronic kidney disease	If eGFR <30 mL/min/1.73 m^2, use 1 mg once daily; not recommended in end-stage renal disease (ESRD)
Contraindications and cautions	Contraindicated in ESRD, pregnancy and breastfeeding. Prescribe with caution if previous CVD, psychiatric illness, epilepsy or increased seizure risk or eGFR 30–50 mL/min/1.73 m^2.
Adverse effects: consult SmPC for full list	Depression, agitation and psychiatric symptoms may occur and pre-existing symptoms may worsen; this is more likely if previous psychiatric problems. Warn people and monitor carefully. Seizures have occurred and are more likely in those already prone to seizures. Cardiac – MI, angina, tachycardia Nausea is the commonest side effects and usually settles. Worsening of cardiovascular conditions – warn to seek medical assistance immediately. Hypersensitivity reactions including angioedema. Severe skin reactions such as Stevens–Johnson syndrome and erythema multiforme. Warn people to stop if any skin reaction occurs.

Bupropion (Zyban) must not be used in those with predisposing risk factors for seizure, unless there is a compelling clinical justification. Diabetes treated with hypoglycaemic drugs or insulin are included as seizure predisposing factors in the SmPC, so the drug is not usually used.

Withdrawal symptoms[5]

Symptom	Duration	Affected, %
Irritability/aggression	<4 weeks	50
Depression	<4 weeks	60
Restlessness	<4 weeks	60
Poor concentration	<2 weeks	60
Increased appetite	>10 weeks	70
Light-headedness	<48 weeks	10
Disturbed sleep	<1 week	25
Nicotine cravings	>2 weeks	70
Constipation	>4 weeks	
Mouth ulcers	>4 weeks	

References

[1]WHO (2014) *Toolkit for delivering the 5A's and 5R's brief tobacco interventions in primary care*. WHO, Geneva. bit.ly/2X5KW86

[2]Hackshaw A et al (2018) Low cigarette consumption and risk of coronary heart disease and stroke: meta-analysis of 141 cohort studies in 55 study reports. *BMJ* **360**: j5855. bit.ly/38z0Iif

[3]NICE (2018) *Nicotine replacement therapy (NRT)*. NICE, London. bit.ly/33tOuEM

[4]Hartmann-Boyce J et al (2018) Electronic cigarettes for smoking cessation. *BMJ* **360**: j5543. bit.ly/3buX76z

[5]Action on Smoking and Health (2014) *Stop Smoking: The benefits and aids to quitting*. ASH, London. bit.ly/3mpr2Qf