

NHS Standard Treatment Plan for Inpatient Tobacco Dependence

A guide to support delivery of the Inpatient
Tobacco Dependence Treatment Care Bundle



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1.0 Introduction

1.1 Admission to hospital: the importance of treating tobacco dependence

For the majority of hospitalised patients that smoke, stopping smoking is the **single most important thing they can do to improve their recovery, health and quality of life**. There is strong evidence that treating tobacco dependence **reduces complications and readmissions to hospital**, and significantly improves both **short and long-term risk and management of smoking-related illness and death**.^{1–5}

Admission to hospital is a **‘teachable moment’** in which most patients may be more likely to accept treatment and support for tobacco dependence or are at least willing to attempt temporary abstinence during the hospital admission, which may itself lead to a future goal of long-term abstinence.

For these reasons, treating tobacco dependence in patients admitted to hospital **is now a standard of care in NHS acute trusts**. The NHS Long Term Plan has committed to **delivering tobacco dependence treatment to all people admitted to hospital who smoke**.

This includes:

- **Identifying the smoking status** for every patient admitted to acute inpatient settings;
- early access to appropriate **nicotine replacement therapy (NRT)** and/or **pharmacotherapy**;
- **opt-out referral to** an appropriately trained in-house **Tobacco Dependence Advisor (TDA)**, and
- **a personalised plan** to support them to quit smoking tobacco whilst in contact with NHS services and referral to specialist stop smoking support following discharge.

1.2 The clinical case for treating tobacco dependence in hospitalised patients

A summary of the clinical case for delivering tobacco dependence treatment to hospitalised patients that smoke can be found in the [NCSCT Secondary Care Factsheets](#). Links to these can be found in the Resources section.

Continued smoking increases risks for:

- suppressed immune response
- infection
- reduced wound healing
- connective tissue graft failure, fracture union failures
- cardiovascular events and death for those with cardiovascular disease
- decreased effectiveness of pulmonary, cardiovascular and cancer treatments
- reduced survival time for cardiovascular, stroke, pulmonary and cancer patients
- Poor mental health
- as well as many other risks

Treating tobacco dependence in patients admitted to hospital leads to substantial, immediate and long-term benefits for both the individual and the healthcare system.¹⁻⁵

Having a strong working understanding of the benefits of smoking abstinence for different patient groups is a vital addition for clinicians to improve the care they deliver and the outcomes for the patient. **Appendix 1** provides an overview of the clinical effects of smoking and benefits of stopping smoking by reason for admission. The appendix offers facts on stopping smoking from a clinical point of view. It also offers lay scripts that can be used when conveying this information to patients when formulating the treatment plan.

1.3 The NHS Inpatient Tobacco Dependence Treatment Care Bundle

Table 1 provides an overview of the NHS Acute Inpatient Tobacco Dependence Treatment Delivery Model and its three care bundles. The three bundles are:

- **Admission Care Bundle:** Providing immediate brief advice, acute management of tobacco withdrawal and opt-out referral to a specialist Tobacco Dependence Team at the point of admission.
- **Inpatient Care Bundle:** Providing personalised bedside tobacco dependence support from a specialist tobacco dependence advisor, including assessment of response to treatment and development of treatment plan.
- **Post-Discharge Care Bundle:** The offer of a post-discharge treatment and support package as part of care, including stop smoking aids and referral to specialist support.

Table 1: Overview of the NHS Inpatient Tobacco Dependency Treatment Delivery Care Bundles

Bundle	Most Responsible	Care Bundle Details
Admission Care Bundle	Admitting Team (Target for completion: Within two hours of admission)	<p>Brief advice and acute management of tobacco withdrawal</p> <p>SCREEN – Screen for tobacco use. Any patient that actively smokes or has stopped within the last two weeks should be identified as meeting criteria for treatment.</p> <p>ADVISE – Provide brief advice on importance of smokefree admission, role of NRT, and available treatment and support.</p> <p>TREAT – Initiate combination NRT using rapid NRT prescribing protocol. Consider use of a nicotine vape or nicotine analogue medications where appropriate.</p> <p>REFER – Complete opt-out referral to onsite Tobacco Dependence Team for assessment and further support/treatment.</p> <p>RECORD – Tobacco dependence is recorded in EMR, ideally in the admission diagnosis list and disease management plan.</p>
Inpatient Care Bundle	Tobacco Dependence Team (TDT) (Target for completion: Within 24 hours of admission)	<p>Initial assessment and treatment plan</p> <ul style="list-style-type: none"> ■ Titrate/tailor or change medications as needed ■ Provide personalised behavioural support ■ Complete assessment
	Tobacco Dependence Team (TDT) (Based on patient need and length of stay)	<p>Ongoing support during inpatient admission</p> <ul style="list-style-type: none"> ■ Titration of medications ■ Provide behavioural support
	Tobacco Dependence Team (TDT) (Prior to discharge and based on length of stay)	<p>Discharge plan and referral to community support</p> <ul style="list-style-type: none"> ■ Provide referral for ongoing support and to continue 12 week course of medication ■ Provide supply of combination NRT or nicotine vape ■ Ensure tobacco treatment plan included on discharge summary to include: behavioural support provided, in medication provided, referral to community stop smoking support.
Post-Discharge Care Bundle	Tobacco Dependence Team (TDT) (Target for completion: four weeks, post-discharge)	<p>7–14-day follow-up call</p> <ul style="list-style-type: none"> ■ Check smoking status, medication, check uptake of community support, offer referral to community support if appropriate. <p>28-day follow-up appointment:</p> <ul style="list-style-type: none"> ■ Check smoking status, medication, check uptake of community support, offer referral to community support if appropriate. ■ CO-verification

1.4 The tobacco dependence treatment plan

Patients seen in hospital will receive individualised treatment. Tobacco Dependence Advisors (TDAs) should expect to see patients with a variety of presentations. This will include patients who are coping well and those that may be struggling with staying smokefree. While some patients will be interested in stopping smoking, others will be ambivalent or have no interest in stopping. Assessing the individual patient's needs and tailoring your support accordingly will be important.

Referrals to the Tobacco Dependence Team (TDT) will include patients who are:

- committed to a **smokefree admission** and a **goal of long-term abstinence**
- focusing on **temporary abstinence** and a **smokefree admission** only
- **reluctant** to pursue a **smokefree hospital admission**
- **ambivalent** about stopping smoking
- smokefree on admission but have **recently quit** and at risk of relapse

However, consideration should be given to movement between these groups, as patients can feel differently throughout the admission.

The nature of the tobacco dependence treatment provided to patients will differ based on the patient's current smokefree goals.

- For patients who are ambivalent to commit to a goal of long-term abstinence, support will be focused on **temporary abstinence and a smokefree hospital admission** by managing withdrawal symptoms and urges to smoke, providing NRT and support to remain smokefree while in hospital, and encouragement to use hospitalisation as an opportunity to set a goal of long-term abstinence.
- For patients who are **ready to commit to a long-term goal of abstinence**, support will be focused on support with this while in hospital and continuing that goal once they are discharged.

1.5 About this Document

This **NHS Standard Treatment Plan (STP) for Inpatient Tobacco Dependence Treatment** provides guidance on delivering tobacco dependence treatment to patients that smoke that are admitted to NHS trusts. The STP is designed to ensure patients receive consistent intervention based on evidence-based behaviour change techniques (BCTs) as part of specialist tobacco dependence support. The STP provides a guide on how these BCTs can be included in interactions with patients to ensure that they have the best possible chance of having a smokefree hospital admission and a goal of long-term abstinence.

The STP is structured around the following framework:

■ Admission Care Bundle

■ Inpatient Care Bundle

- **Initial specialist assessment** (within 24 hours of admission)
- **Follow-up specialist assessment** (based on length of stay)
- **Discharge plan** (prior to discharge, based on length of stay)

■ Post-Discharge Care Bundle

- **Post-discharge follow-up contact dependent upon agreed discharge pathway**
- **Four-week outcome data following discharge date for all patients**

Each section of the STP begins with a clinical checklist outlining what should be included at each contact. This is followed by guidance on conducting an assessment and delivering specialist tobacco dependence support.

NHS Maternity Care Pathway

This STP addresses tobacco dependence treatment in the inpatient setting. The NHS maternity care tobacco dependence pathway has some difference to general acute and MH pathway. It is acknowledged that there is potential crossover for pregnant women admitted to a medical or MH inpatient setting. As pregnant women may already be receiving support through a maternity TDA a review of local pathways to ensure consistent advice and any variations to the STP in discharge planning is recommended.

2.0 The Essentials

2.1 Tobacco dependence

A shared promise: We will never again refer to smoking as a 'lifestyle choice', or 'bad habit'. Tobacco dependence is a powerful addiction and chronic relapsing clinical condition.

Most patients want to stop smoking. In fact, half will set a goal to stop smoking at least once a year and most will do so without support. About 95% of smokers who stop smoking unaided will relapse.⁶ Many people who smoke report low confidence in their ability to quit successfully and this is a key factor which prevents them setting a goal to quit.

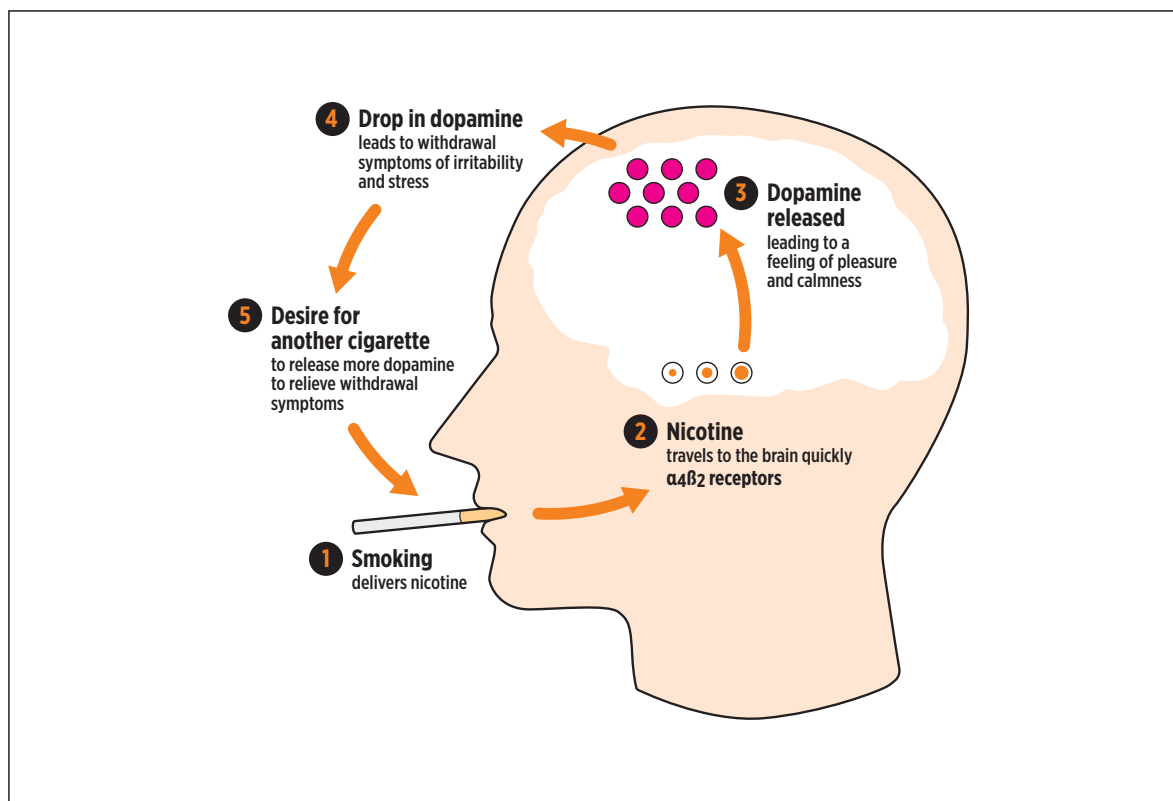
Why is it so difficult to quit smoking? The majority of people who smoke are dependent on tobacco. Understanding tobacco dependence is helpful when treating a patient. This dependence to tobacco can make achieving abstinence difficult.

Most patients are aware of the addictive nature of nicotine, but many are not aware that nicotine is NOT a hazardous chemical. The negative health effects of smoking come from the chemicals that are produced during combustion of tobacco, including tar, carbon monoxide and carcinogens. There are over 5000 hazardous chemicals and carcinogens in cigarette smoke that, when inhaled, lead to the diseases of smoking.

When a person inhales smoke from a cigarette, nicotine is rapidly delivered to the addiction centres of the brain. Nicotine creates positive feelings in the brain but results in a very severe dependence in which the absence of nicotine can lead to unpleasant withdrawal symptoms and urges to smoke (See Figure 1). An individual must smoke again to relieve these withdrawal symptoms.

Nicotine delivered by cigarettes is particularly addictive because nicotine is inhaled and delivered quickly to the brain. The speed of nicotine delivery is one of the key factors that leads to tobacco dependence.

Figure 1: Tobacco dependence cycle



Smoking routines and triggers

In addition to addiction, tobacco use becomes integral to individuals' daily routines, and this further reinforces tobacco dependence. Smoking can often be used as a method of coping with stress, when socialising, and in the management of some underlying mental health disorders. In addition to addressing the tobacco dependence, support is necessary to change routines and behaviours to support a smokefree lifestyle.

Withdrawal symptoms and urges to smoke

When someone stops smoking, they are likely to experience withdrawal symptoms and urges to smoke. These are the primary reasons individuals find it difficult to stop smoking in the early period after quitting. The severity of withdrawal symptoms and urges to smoke differ from person to person and from moment to moment, but they are known to be more severe in more dependent smokers and people with certain types of severe mental illness. They are at their most severe in the first few weeks of abstinence and most will typically resolve themselves within four weeks of the quit date.

Withdrawal symptoms can have a rapid onset and many patients seen in hospital may already be experiencing the effects of tobacco withdrawal. The speed of onset can vary from person to person but they typically begin to occur between 20 minutes to a few hours after the last cigarette.

Table 2 summarises the most common nicotine withdrawal symptoms. **Duration** is the average time people typically experience this side effect after they quit smoking. **Prevalence** indicates the percentage of people who quit who experience this symptom. See **Appendix 2** for further information.

Table 2: Nicotine withdrawal symptoms

Nicotine withdrawal symptoms	Duration	Prevalence
Urges to smoke	> 2 weeks	70%
Increased appetite	> 10 weeks	70%
Depression	< 4 weeks	60%
Restlessness	< 4 weeks	60%
Poor concentration	< 2 weeks	60%
Irritability/aggression	< 4 weeks	50%
Mouth ulcers	> 4 weeks	40%
Night-time awakenings	< 1 week	25%
Constipation	> 4 weeks	17%
Light-headedness	< 48 hours	10%

Effective management of withdrawal symptoms in the inpatient setting

Recognising and managing nicotine withdrawal among hospitalised patients who smoke should be a priority in all inpatient settings. Screening for tobacco dependence at the point of admission for all patients, followed by immediate management of acute tobacco withdrawal and urges to smoke, is essential.

To effectively treat withdrawal, combination NRT should be initiated as soon as possible following admission, ideally within two hours. The NHS national best practice is the administration of NRT within 2 hours in acute general trusts and within 30 minutes in acute mental health settings.

Early and effective management of tobacco withdrawal and urges to smoke will increase patient's confidence in their ability to stop smoking/abstain from smoking.

Withdrawal symptoms, including irritability and agitation, can affect the care of the patient and are commonly not understood as being associated with tobacco withdrawal.

Patients will feel much less agitated and irritable if tobacco withdrawal is addressed and managed quickly, thus enabling effective treatment of tobacco dependence and improved clinical care.

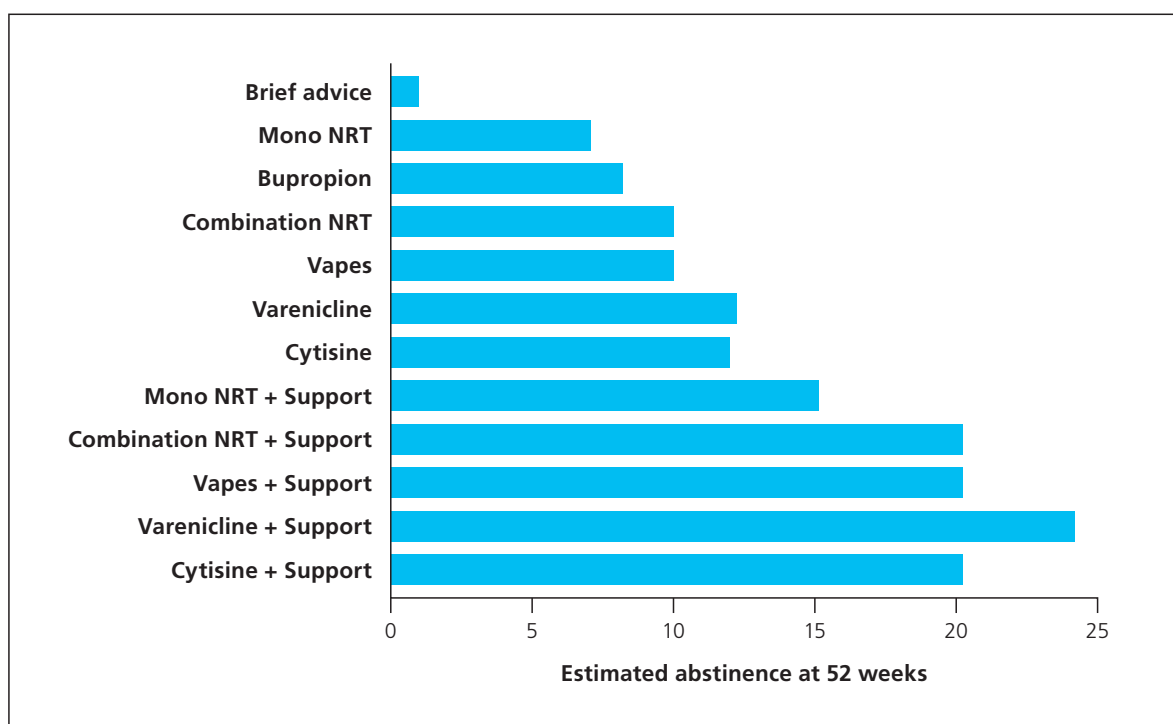
2.2 Tobacco dependence treatment

The most effective method of treating tobacco dependence is with combination NRT, nicotine vapes or nicotine analogue medication, alongside behavioural support delivered by a trained advisor at the point of admission.

Patients who stop smoking with support are three to four times more likely to stop successfully compared with those who stop without any form of support. Behavioural support with stop smoking aids are effective when used by themselves for treating tobacco dependence. However, there is strong evidence that the combination of support and stop smoking aids is more effective than either alone (See Figure 2).^{7,8} To give patients who smoke the best chance of achieving a goal of long-term abstinence all individuals should be supported to use both specialist support and a first line stop smoking aid.

Support with temporary abstinence and treatment of acute withdrawal from smoking is recommended for all patients who smoke even if they are not planning to stop smoking long-term.

Figure 2: Rates of smoking abstinence by treatment



2.3 Best practices for treating tobacco dependence in hospital settings

The following list identifies best practices for tobacco dependence treatment in the inpatient setting.

1. Addressing tobacco dependence is a clinical priority for trusts
2. Screen for tobacco dependence
3. Record tobacco dependence in the admission diagnosis list
4. Provide brief advice, including facts about nicotine
5. Initiate nicotine replacement therapy
6. Offer opt-out referral to the specialist tobacco dependence team
7. Provide specialist support during admission
8. Ensure there is an offer of first line tobacco dependence medication and aids
9. Agree a discharge plan with ongoing support and treatment that flexes to the needs of the patient
10. Follow-up support for at least one month post-discharge and longer for those at risk of relapse⁴

2.4 Working with the patient's multi-disciplinary care team

It is critical for there to be a trust-wide commitment to tobacco dependence treatment and a consistent approach among all members of the patient's treating team including nurses, pharmacists, physicians, allied health professionals and TDAs.

Early and effective management of withdrawal symptoms is a best practice and can play a key role in the patient's interest in staying smokefree during their admission.

TDAs have a vital role to play in working with the patient's care team. This includes regular communication about the patient's status and response to treatment. TDAs are also ideally placed to reinforce and expand skills of frontline staff who are responsible for the admission care bundle, gaining confidence in initiating the rapid NRT protocol and initiating referrals to the TDT.

2.5 Behaviour change techniques

Behavioural support is a term used to summarise interventions that focuses on the patients thoughts, feelings, knowledge and actions relating to tobacco dependence. This includes: boosting confidence and motivation to quit, enhancing self-regulation, advising on use of stop smoking aids, and improving the ability to cope with withdrawal symptoms, urges to smoke, and high-risk situations.

Evidence-based behaviour change techniques (BCTs) increase quit rates and should be the focus of support provided.^{9,10,11} The BCTs that have been shown to be the most important are:

- Establishing good rapport
- Increase patient motivation and confidence in their ability to remain smokefree
- Making sure the patient has a realistic expectation of tobacco dependence medication and aids, use these medications properly and that they are aware of any potential side effects
- Making sure the patient knows what to expect in terms of cravings and withdrawal symptoms
- Identifying barriers, smoking cues and triggers and strategies to address these
- Using carbon monoxide (CO) monitoring as a motivational tool
- Stressing the importance of total abstinence
- Prompting commitment from the patient to a treatment plan

Effective communication and rapport building skills are key to forming an effective and successful therapeutic relationship to help treat the patient's tobacco dependence.

2.6 Tobacco dependence aids

Tobacco treatment (or stop smoking) aids are a fundamental element of providing high-quality tobacco dependence treatment and can double or triple the chance of long-term abstinence.^{12–16} Clinicians should encourage all patients, including those not intending to stop smoking long-term, to use effective aids, except where contraindicated, to support a smokefree admission and potentially long-term abstinence.

There are three first-line tobacco dependence aids which have been shown to increase long-term success with smoking abstinence.¹² They are:

- **Combination nicotine replacement therapy (NRT)**
- **Nicotine analogue medications (varenicline, cytisine)**
- **Nicotine vapes**

Combination NRT

NRT reduces withdrawal symptoms and urges to smoke. NRT provides a clean form of nicotine, is very safe and there are only mild to moderate side effects associated with its use (see **Appendix 3**).

Combination NRT (nicotine patch plus a faster-acting NRT product) gives superior relief of withdrawal symptoms and urges to smoke and increases quit rates compared to single NRT.^{12,14} Specifically, the patch provides a steady supply of nicotine throughout the day (helping with withdrawal symptoms and background urges to smoke) and the faster-acting NRT product can be used by patients in high-risk situations or in response to 'breakthrough' urges to smoke.

NRT is typically used for 8 to 12 weeks, when risk of relapse is at its highest. NRT can be gradually reduced (a step-down approach) over the weeks of use or the dose kept the same. Some patients may benefit from use for extended periods of time, most often 3 to 12 months. This is safe practice and recommended if there is a risk of relapse to smoking.¹² See **Appendix 4** for further information on NRT.

Further information on combination NRT can be found here:

www.ncsct.co.uk/publication_combination_nrt_briefing.php



Nicotine analogue medications

Nicotine analogues are medications in tablet form that mimic the effects of nicotine in the brain centres. They do not contain nicotine but assist with reducing withdrawal symptoms and cravings to smoke as well as satisfaction from smoking. There are two nicotine analogues available: varenicline and cytisine.

Varenicline

Varenicline is not currently available in the UK.

Varenicline is a first-line tobacco dependence treatment that is twice as effective as single form NRT, and slightly more effective than combination NRT.¹³ Varenicline is a prescription-only medicine. Varenicline reduces tobacco withdrawal symptoms and urges to smoke and blocks some of the rewarding effects of smoking.

Nausea is the most common side effect, occurring in 30% of users, with severe nausea in 3% of users. Vivid dreams are also a common side effect. Both nausea and vivid dreams typically resolve with continued use and small modifications to the way the medication is taken. See **Appendix 3** for a summary of these strategies. Large high-quality studies have found no link between varenicline and suicidal ideation, neuro-“psychological adverse events.”

Varenicline is usually taken for 12 weeks. It has been shown to be safe and effective to extend treatment to 26 or 52 weeks in patients who may benefit. See **Appendix 5** for further information

Cytisine

Cytisine is a natural plant alkaloid that comes in the form of a tablet. Like varenicline, cytisine acts to reduce withdrawal symptoms and cravings by stimulating nicotine receptors. Cytisine is available as a prescription only medication in the UK. It also reduces the reward and satisfaction associated with smoking. A course of cytisine treatment is 25 days.

While there are a relatively small number of studies evaluating cytisine as a stop smoking aid, results have been promising and demonstrate effectiveness as increasing rates of smoking abstinence.¹³ Cytisine has been shown to be significantly more effective than both placebo and single-form NRT in supporting quitting at six months.¹³ The data comparing cytisine to varenicline suggests that it may not work quite as well as varenicline.¹³ See **Appendix 5** for further information

Nicotine vapes (electronic cigarettes)

Vapes (also known as electronic cigarettes or e-cigarettes) deliver an inhalable aerosol vapour to the user via a mouthpiece. There is no combustion involved in vaping and as such the vapour does not contain carbon monoxide and other dangerous chemical associated with tobacco combustion.¹⁷

Nicotine vapes are recommended as **a first-line stop smoking aid**.^{18,15} Nicotine vapes assist with managing withdrawal and urges to smoke by providing doses of nicotine. High-quality randomised controlled trials have found nicotine vapes to be an effective aid to quit smoking.¹⁸ Newer vapes can deliver nicotine more rapidly than faster-acting NRT products. Both the use of nicotine-containing e-liquids and the frequent use of nicotine vapes has been shown to be associated with greater success with stopping smoking. The initial nicotine dose should be selected based on the patient's level of tobacco dependence, in the same way we would with NRT. There are a variety of nicotine vapes on the market. See **Appendix 6** for further information.

While vaping is not risk-free, the latest review of evidence concludes that vaping is significantly less harmful than smoking, posing a small fraction of the risks of smoking.¹⁵

In the UK, vapes are regulated under the Tobacco Products Directive. Importantly, UK regulations have, since 2016, prohibited the use of ingredients in nicotine-containing e-liquid that poses a risk to human health in heated or unheated form.

People who smoke cigarettes and vape (known as dual users) should be advised to switch completely to vaping.¹⁵ People who have never smoked should not start vaping.

Did you know?

The use of vapes as a stop smoking aid has been endorsed by other leading health organisations, including the National Institute for Health and Care Excellence (NICE), NCSCT NHS England (NHSE), the Office for Health Improvement and Disparities (OHID), the Department of Health, the British Medical Association (BMA), the Royal College of General Practitioners (RCGP), the Royal College of Physicians (RCP), the Royal College of Obstetrics and Gynaecology (RCG) and the Royal College of Midwives (RCM).

Higher doses of stop smoking aids

People who smoke who are more dependent generally benefit from higher doses of NRT or nicotine-containing vapes¹⁶ or the use of a nicotine analogue to effectively manage withdrawal symptoms and urges to smoke. Patient treatment response as can be used to guide treatment. Further information on adjusting the doses of stop smoking aids for people who are more dependent is provided in the treatment bundle.

Extended use of stop smoking aids

Some patients may benefit from the use of stop smoking aids for extended periods of time, most often 3 to 12 months. This is safe practice and recommended if there is a risk of relapse to smoking.^{19,20} Extending use of stop smoking aids is recommended by NICE as a relapse prevention strategy.¹² Extended use of pharmacotherapy can be particularly useful in reducing rates of relapse among patients with severe mental health illness.

Combining first-line stop smoking aids

First-line stop smoking aids can be safely combined. Combining drugs with different mechanisms of action, such as varenicline and NRT, has increased quit rates in some studies compared with use of a single product.^{21,22}

Treatment of tobacco dependence in the inpatient setting provides a unique opportunity to use combination treatment. This is because all patients will be offered NRT upon admission with the opportunity for a second treatment (e.g., nicotine analogues or nicotine containing vapes) to be added for patients who would benefit.

The combination of varenicline and NRT has the strongest evidence of increased rates of smoking abstinence and as such may be the first choice for combination therapies.^{22–28} The combination of varenicline and NRT has been used among more dependent people who smoke, particularly those who continue to experience urges to smoke and/or withdrawal symptoms or those who have reduced their cigarette consumption but not quit completely with monotherapy.

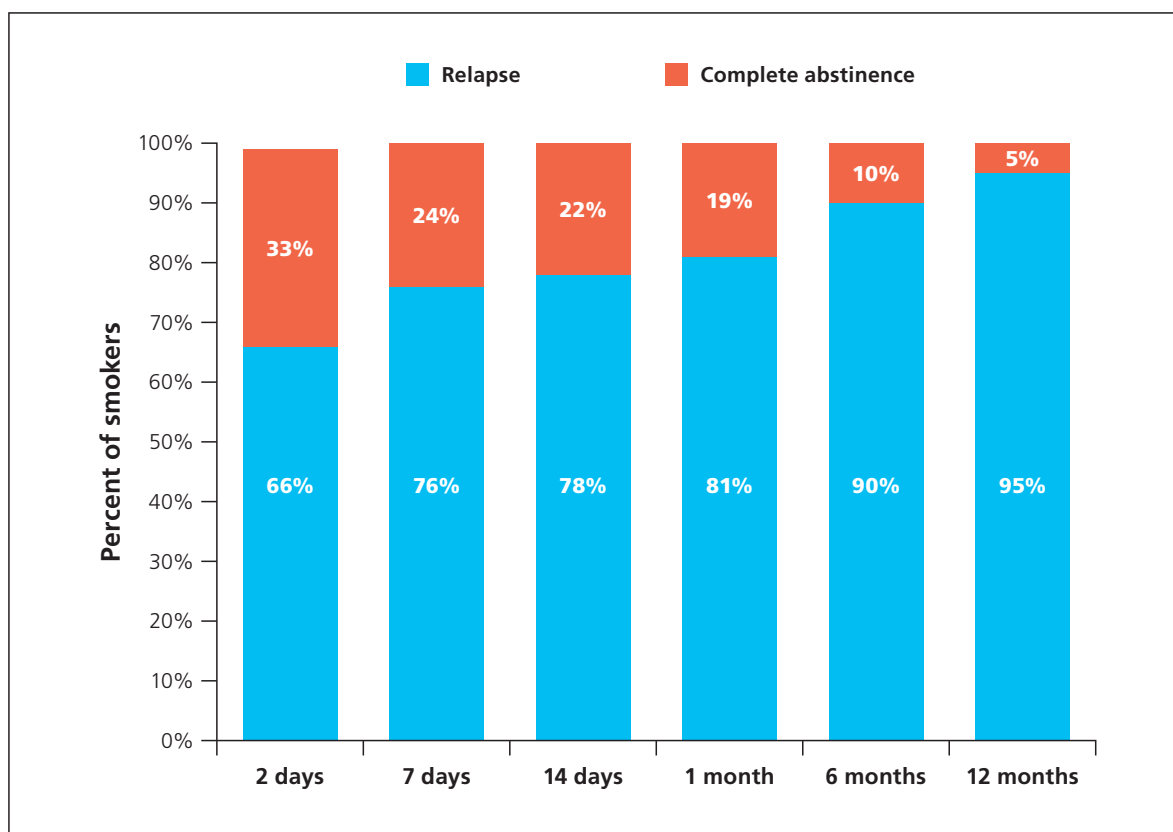
2.7 The importance of support following discharge

Tobacco dependence treatment initiated in hospital will be more successful when follow-up support is provided for a **minimum of one-month post-discharge**.⁴ Some patients will need **more intensive and longer support to remain smokefree**.

The **risk of relapse** to smoking **is greatest in the first month after quitting** when withdrawal symptoms and urges to smoke are at their peak.⁶ **The early period post-discharge, when patients return to their regular routines and environments**, can add a further challenge. Stopping smoking is also more difficult for those who are more dependent on tobacco, and those with mental ill health, co-addictions and other people in the home that smoke.

Everyone that quits remains prone to relapse. **Figure 4** depicts the likelihood of relapse within the first year of quitting. Of those who choose to go smokefree without any treatment or support, 75% will relapse in the first week, making this a critical period.⁶ Once patients are smokefree for two to three months their risk of relapse is much lower – but by no means gone. Patients who stay smokefree for at least 12-months have a 35% lifetime probability of relapse.²⁹

Figure 4: Smoking relapse in first year of going smokefree without treatment or support⁴



Trained community providers will provide follow-up support to patients following discharge from hospital. The follow-up support available differs across the country and it is important for TDAs to be aware of options available locally and have effective referral pathways and strong working relationships with community providers. Figure 5 depicts the transfer of care to post-discharge follow-up support.

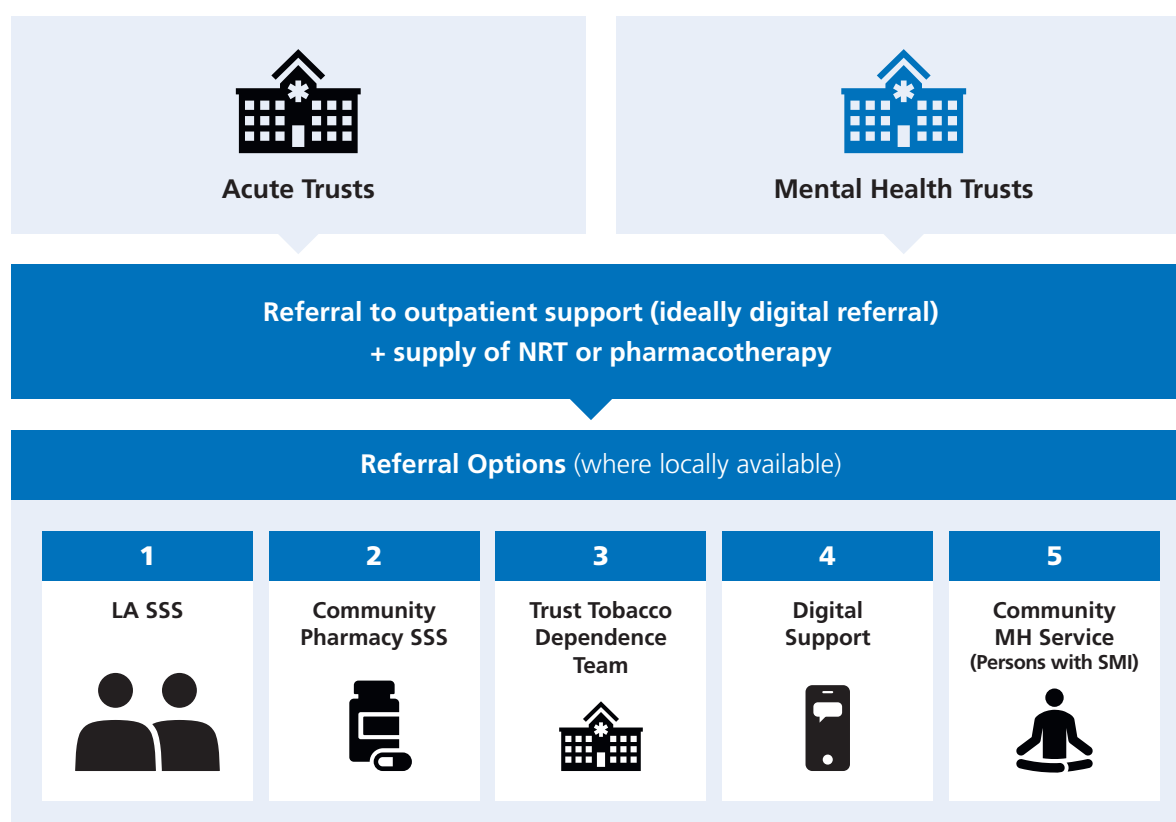
At present there are five options for patients to receive support:

1. **Local Authority Stop Smoking Services (LA SSSs)** – LA SSSs should be prepared to receive referrals and provide ongoing support post discharge from the acute trust.
2. **NHS Community Pharmacy Smoking Cessation Service (SCS)** – The NHS Community Pharmacy SCS has been designed to enable NHS trusts to undertake a transfer of care on patient discharge, referring patients, where they consent, to a participating community pharmacy of their choice.

The service specification for the Community Pharmacy SCS indicates that patients who relapse between weeks 4–12 will not be eligible to continue in the service and may be referred to a LA SSSs.

3. **Trust Tobacco Dependence Teams** – Some trusts will have capacity to offer patients post-discharge support from the trust Tobacco Dependence Team. Where this capacity exists, trusts may follow patients for 3–12 months following discharge.
4. **Community Mental Health (CMH) Tobacco Dependence Teams** – Some localities will have CMH Tobacco Dependence Teams that have received specialised training and will provide follow-up support to patients with severe mental health illness in the community setting. A national training standard has been developed for CMH Tobacco Dependence Advisors.
5. **Digital support** – Some localities offer digital post-discharge follow-up via one of the available smartphone digital applications.

Figure 5: Inpatient tobacco treatment pathway and referral options (where locally available)



2.8 Common misconceptions

Smoking helps me cope with stress

Many people report that they smoke because it helps them cope with stress. However, we know that after four weeks of stopping people report significantly less stress, anxiety and improved mood and this can be one of the benefits of stopping.^{30,31}

Given coping with stress is a commonly reported barrier to stopping, it can be useful to understand why a person who smokes perceives their smoking to help with stress.

When a person who smokes goes without a cigarette they will begin to experience nicotine withdrawal symptoms such as irritability, restlessness, low mood, poor concentration. When they smoke these withdrawal symptoms are relieved. This relief of withdrawal symptoms is perceived by the smoker as being relaxing or helping to relieve stress. The relief however is temporary and the people who smoke have the need to smoke again to feel good.

In short smoking does not alleviate stress, it alleviates withdrawal symptoms. The only way to break this cycle is to address their dependence on tobacco.

When speaking to a patient you could say:

“Most people who smoke say one of the main reasons they smoke is to help cope with stress, However, we know that people who stop smoking report less stress and improved mood.”

“When you smoke, it tops up the level of nicotine in your body and relieves your withdrawal symptoms, making you feel more relaxed... but it's only temporary. Soon after you've finished smoking, your nicotine levels start to fall... leaving you craving another cigarette. When your nicotine levels are low you get withdrawal symptoms, making you feel tense, irritable, anxious... stressed. This is why you may feel like your cigarettes help relax you or calm your nerves. This will happen to you many times throughout the day and the only way to stop this from happening is to stop smoking. It takes a few weeks, but people who quit smoking report being a lot less stressed.”

Outdated attitudes about stop smoking support

Smoking is not a 'lifestyle choice' or 'bad habit'. It is a powerful addiction and a chronic relapsing clinical condition that mainly starts in childhood. Healthcare professionals and patients benefit from reframing tobacco use as a disease rather than a lifestyle choice.

It is important to treat tobacco dependence as a clinical priority, using the same clinical urgency you would when managing other life-threatening, but treatable disease (e.g., pneumonia, myocardial infarction, pulmonary emboli). This includes diagnosis, initiation of treatment, and behaviour change support, with regular follow-up and adjustment of the treatment plan, until targets are met.

Tobacco dependence medications should be used in the same way for all patients

This is FALSE. Patients experience tobacco withdrawal and urges to smoke in different ways. While we may start all patients on the rapid NRT protocol, it is best practice to assess patient response and titrate the dose, duration and use of a combination of medications in order to manage the patient's response to treatment. Some patients may benefit from use of stop smoking aids for extended periods, most often 3 to 12 months, and this is safe practice and recommended if there is a risk of relapse to smoking.

Patients become addicted to NRT

It is very uncommon for patients to become addicted to NRT. This is because nicotine is more addictive when it is delivered more rapidly to the centres of the brain, as is the case with combustible tobacco. NRT provides a slower delivery of NRT and therefore has a minimal risk of long-term addiction. Some patients use NRT for extended periods and these tend to be individuals who smoked heavily for many years. These individuals are often using a faster-acting NRT product, typically when they have urges to smoke.

It is safe to use NRT for many years as it delivers a clean form of nicotine absent of the 5,000+ harmful chemicals contained within tobacco smoke and so does not cause smoking-related illness. Encouraging patients to use NRT for as long as they need to remain smokefree is best practice. When risk of relapse is small, patients can be supported with discontinuing NRT use. This is generally done slowly (a stepwise reduction) but can also be done in one step if deemed appropriate. Again, NRT can be safely used for extended periods of time, and this is shown to improve long-term success rates.

It is not acceptable to smoke while using first-line tobacco dependence medications and aids

All tobacco dependence medications and aids are safe to use while smoking and there is no contraindication. While smoking is not permitted on the grounds of Smokefree NHS trusts, if a patient reports or is observed smoking, they should continue to use NRT or other stop smoking aids. The fact that a patient is smoking while on medication should provide a signal that titrating the medication or combining therapies is required to support the patient more.

NRT is not safe to use in patients with current or a history of cardiac events

There is an abundance of high-quality data demonstrating that NRT is safe to use in patients with cardiovascular disease.³² Despite this, there has been some confusion among both patients and clinicians, primarily due to product warning labels, which advise patients with cardiovascular disease to speak to their physician before using NRT. Healthcare professionals should feel comfortable prescribing NRT to their patients and confident that it will increase their success with quitting. The subgroup of patients for which there is less evidence in terms of safety is patients with unstable acute coronary syndromes i.e. myocardial infarction or unstable angina. Trials that have examined the use of NRT after acute coronary syndromes revealed no increased risk of adverse cardiovascular events.^{33–36} It is important to recognise that the patient will receive far less nicotine via the method of NRT they choose to use versus continuing to smoke, regardless of the dose. Therefore, treatment is always the better option for someone with a tobacco dependence.

Patients with mental health illness can't quit

We know that individuals with severe mental illness (SMI) can quit or reduce their smoking, but we also know that they experience more challenges to quitting than the general population. We need to be aware of these challenges and how to adapt tobacco dependence treatment to facilitate quitting. These challenges include:

- **Greater tobacco dependence:** people with SMI often smoke significantly more cigarettes per day and are more dependent on tobacco.
- **Boredom:** people with SMI often tend to be socially isolated, potentially unemployed, and experience loneliness.
- **Socialising:** people with SMI often have a large number of peers who smoke within their social network.

Quitting smoking may be too stressful and/or destabilise a patient's mental illness

Quitting smoking does not adversely affect mental health. If patients mental health is stable, tobacco dependence treatment does not worsen their mental state.^{30,31} In the short term after quitting the smoker may experience depressed/low mood and/or MH difficulties, however in the longer-term evidence shows that people who succeed in quitting experience increased confidence, self-esteem, and mood. In fact, going smokefree has been shown to improve mental health, including reduction in anxiety and depressive symptoms, and the size of the effect is the equivalent to taking antidepressants.^{30,31}

3.0 The Admission Care Bundle

Brief advice and acute management of nicotine withdrawal

Timeframe: As soon as possible, within two hours of admission

Responsible persons: Admitting team

Duration: 5–10 minutes

Clinical checklist

Done

1	SCREEN for tobacco use (smoked in last 14 days)	<input type="checkbox"/>
	<ul style="list-style-type: none"> Conduct CO testing (Recommended best clinical practice) 	
2	ADVISE – Provide brief advice on:	<input type="checkbox"/>
	<ul style="list-style-type: none"> Hospital's smokefree policy and importance of smokefree admission Managing withdrawal symptoms and urges to smoke Nicotine not being source of harm from smoking Available treatment and support 	
3	TREAT – Initiate combination nicotine replacement therapy (Recommended clinical practice: As soon as possible, within 2 hours of admission)	<input type="checkbox"/>
	<ul style="list-style-type: none"> Select NRT treatment and arrange for supply (initiate rapid NRT protocol) Provide instructions for use of NRT products As appropriate, consider use of nicotine vapes or nicotine analogue medication 	
4	REFER – Complete opt-out referral to the in-house Tobacco Dependence Team	<input type="checkbox"/>
	<ul style="list-style-type: none"> Inform the patient they will be referred to the specialist tobacco dependence team 	
5	RECORD tobacco use	<input type="checkbox"/>
	<ul style="list-style-type: none"> Record tobacco dependence Ensure tobacco dependence is included in the management plan 	

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

Following the consultation

Record tobacco dependence in the admission diagnosis list and disease management plan	<input type="checkbox"/>
Ensure electronic systems for recording smoking status are updated	<input type="checkbox"/>
Arrange provision of NRT (as soon as possible, ideally within 2 hours of admission)	<input type="checkbox"/>
Coordinate referral to specialist Tobacco Dependence Team	<input type="checkbox"/>
For patients taking Clozapine or Olanzapine consult on dose adjustment as per local protocol (See Appendix 10)	<input type="checkbox"/>

- Tips

 - Communicating in a non-judgmental, empathetic manner can be important in making patients feel more open and receptive to engage in support
 - The patient may be feeling anxious and reluctant to engage into a conversation about their smoking, so your approach is key to providing reassurance
 - The patient may feel incredibly anxious following the acute admission, especially within the first couple of hours. Early intervention to effectively manage the onset of withdrawal symptoms and minimising urges to smoke is crucial to helping alleviate this anxiety.
 - On admission the patient may be experiencing discomfort, such as uncontrolled pain, which may be causing confusion, agitation and distress and the temptation to delay intervention and treatment may arise. However, prompt treatment to manage nicotine withdrawal and urges to smoke will ensure the patient will be less likely to want to smoke during the admission

Smoking status changes can have an effect on the metabolism of some medications. Most interactions are not clinically significant but there are a few exceptions, including antipsychotic medications in particular Clozapine and Olanzapine. This is irrespective of the tobacco dependence medication or aid used. At time of admission, medication review is recommended. For patients identified as using Clozapine and Olanzapine, support dose adjustment as per the Trust protocol. See **Appendix 10** for more information.

1

Screen for tobacco use

The NHS Long Term Plan has committed to delivering tobacco dependence treatment to all inpatients on admission in an acute setting. To identify those requiring treatment promptly, it is important that all patients are screened on admission to enable treatment to be initiated as soon as possible.

Ask all patients:

“Do you currently smoke or use any other form of tobacco?”

If yes: ***“We will provide you with medication to ensure your withdrawal symptoms from not smoking during your stay are managed.”***

If no, ask: ***“When, if at all, did you last use tobacco?”*** or

“Have you used any form of tobacco in the last two weeks?”

If they report being smokefree in the last 2 weeks, Record in patient record.

If they report smoking in the last 2 weeks, Treat by completing the admission care bundle.

Persons who report current vaping are not reported as currently smoking. However, these patients may require support with supply of vapes and this should be assessed.

Patients reporting they have stopped smoking for more than 7 days:

Treatment with combination NRT is recommended. The assessment below can be used to assess current treatment and assess the value of initiating the rapid NRT protocol.

■ **Assess current use of treatment:**

“Are you using a stop smoking aid such as NRT or a vape?”

If yes: ***“Do you have the medications with you?”***

■ **Assess withdrawal symptoms and risk of relapse:**

“Are you currently experiencing any withdrawal symptoms or urges to smoke?”

If yes: rapid NRT protocol is appropriate.

“How confident, on a scale of 1–10, do you feel that you will be able to remain smokefree during this admission and long-term?”

If their confidence is below 7: rapid NRT protocol is appropriate.

If a patient reports low confidence, withdrawal symptoms or urges to smoke, provide opt-out NRT using the rapid NRT protocol.

All patients who report smoking in the last 14 days should receive an opt-out referral to the TDT. The referral of patients managing well can be triaged to the TDT as non-urgent.

2

Provide brief advice on importance of smokefree admission, role of NRT, and available treatment and support**■ Inform the patient of a smokefree admission and long-term abstinence**

"We are a smokefree hospital to protect all patients and staff."

Provide the patient with information that describes the links that are relevant to their admission and recovery in relation to their current health and outcomes and personalise the treatment plan.

■ Advise on managing withdrawal symptoms and urges to smoke

"Because your body is used to getting regular doses of nicotine from the cigarettes you smoke, it must now learn to adjust to being without it, or having much less of it if you are using NRT or vaping. Within the first few hours of stopping smoking your body will start getting used to not having the regular hits of nicotine that you were getting from your cigarettes. This adjustment can result in unpleasant withdrawal symptoms and urges to smoke."

Common nicotine withdrawal symptoms:

- Urges to smoke (usually reduce over time but can appear for a long time after quitting)
- Increased appetite and weight gain (can persist for three months or longer)
- Depression, restlessness, poor concentration, irritability/aggression (these usually last less than a month)

Less common symptoms:

- Light-headedness (usually lasts less than 48 hours)
- Waking at night (usually lasts for less than a week)
- Mouth ulcers (can last over a month)
- Constipation (can last over a month)
- Inform about nicotine not being the source of harm from smoking and role in treatment
 - Nicotine drives the dependency to tobacco but it is NOT the cause of the harms of smoking
 - The harms of smoking come from thousands of toxic chemicals produced when tobacco is burnt to create smoke
 - Keeping these poisonous chemicals out of the body during this hospital admission will help acutely unwell patients recover more quickly
 - Nicotine withdrawal can be unpleasant and it is important to provide nicotine in safe, alternative ways to help alleviate this
 - Being smoke-free does not have to mean being nicotine-free both during a hospital admission and beyond

“Nicotine is the addictive substance in tobacco products. However, nicotine does NOT cause the negative health effects associated with smoking. It is the tar, carbon monoxide and other chemicals and carcinogens found in tobacco smoke that are responsible for the negative health effects.”

■ Reassure the patient and inform them about available support

“We can provide treatment for your tobacco dependence to help you remain smokefree during your admission.”

Explain to the patient that they can receive treatment during their admission to manage the discomfort they will experience due to tobacco withdrawal. If they appear reluctant to abstain from smoking completely, explain that they will be treated for tobacco dependence during their stay in hospital and will receive specialist support and advice to help them manage this.

If the patient sounds ambivalent or states that they are unable or unwilling to comply to treatment, try exploring their concerns about stopping abruptly.

“It’s not uncommon to feel this way, is there anything that you are particularly worried about that I may be able to reassure you with?”

“By providing effective medication and support during your stay, you should find it much easier not to smoke.”

“Being in hospital can be a worrying time and we appreciate not smoking can sometimes be hard, but we will make sure that you receive the best treatment to ease any discomfort.”

“When you are no longer dependent on tobacco you will feel much better, and your health will benefit significantly.”

“We have a specialist tobacco dependence team who can provide support, including medication and ways to help you self-manage during your admission”

3

Initiate combination nicotine replacement therapy

To effectively treat withdrawal from nicotine, it is of critical importance that combination NRT (the patch plus a faster-acting NRT product) **be initiated as soon as possible following admission, ideally within 2 hours.**

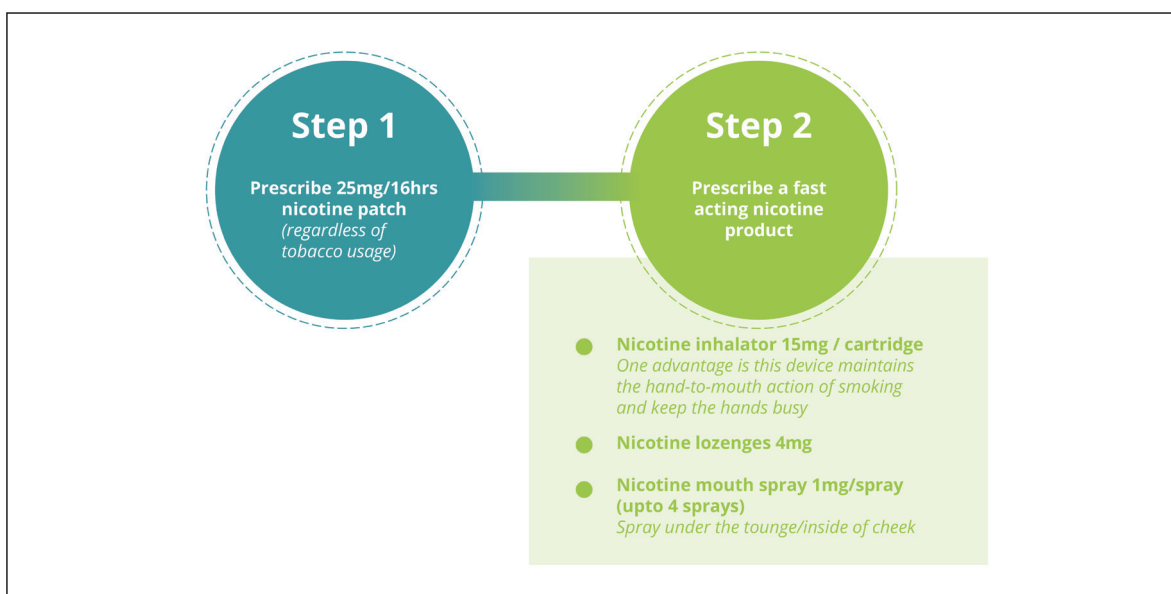
For patients admitted to hospital that smoke, combination NRT is the first treatment that should be initiated to rapidly treat withdrawal and manage urges to smoke. NRT should be readily available 24 hours a day and can be prescribed by all admitting clinicians.

Importantly, patients will feel much less agitated and irritable if tobacco withdrawal is addressed and managed quickly, thus enabling the efficient treatment of tobacco dependence.

■ Initiate NRT using rapid NRT prescribing protocol

All trusts will have a local NRT protocol in place. The BTS has published a new rapid NRT prescribing protocol for use as a simplified protocol for the initial 24–48 hour period of admission to hospital. The BTS Rapid Inpatient NRT protocol includes the 25 mg, 16-hour NRT patch plus a faster acting NRT product (See Figure 6).

Figure 6: Rapid Inpatient NRT Prescribing Protocol



■ Provide instructions for use of NRT products

Regular and correct use of NRT products is very important for effective treatment and also helps avoid the side effects associated with incorrect use.

Review with patients:

- Importance of using NRT to manage withdrawal and cravings to smoke
- Reassure that products are very safe and any side effects are mild to moderate
- Review and demonstrate correct use of products and emphasise importance of using on the hour, every hour (See **Appendix 5** for NRT quick reference sheet)

Communicate to the patient that if their withdrawal symptoms and urges to smoke are not well managed within a few hours they should inform you as the dose may need to be increased.

Examples of how to discuss use of NRT with patients:

- ***“During your stay it is important to us to help you manage the withdrawal symptoms and urges to smoke that you may experience. We can prescribe some medication that will help with this and should make it much easier for you to not smoke.”***

- *"We have some very effective medication that we can provide for you that will reduce the discomfort you may get from staying smokefree during your admission. This medication will work quickly to ease any feelings of discomfort caused by not smoking and aid your recovery from [your condition]."*
- *"We strongly recommend taking two forms of nicotine replacement therapy such as a patch and the inhalator. Alternatively, we have tablets we can prescribe, or you can try using a nicotine vape. We will help guide you in choosing the right one for you."*
- *"NRT works by reducing urges to smoke and other withdrawal symptoms, thereby making stopping smoking a bit easier."*
- *"NRT is very safe and useful for helping you remain comfortable and smokefree while in hospital. There are a few mild side effects that people sometimes experience, such as skin irritation, mouth or throat irritation, but should these occur there are simple ways to address them."*
- *"You will use the NRT patch which provides a steady level of nicotine but usually not enough on its own. We will also provide you with what we call faster-acting NRT, such as an inhalator, lozenge or spray. These faster-acting NRT products can deliver nicotine quickly and help with topping up your nicotine throughout the day."*
- *"The faster-acting NRT product is used on the hour, every hour. In addition, you can use it as needed to manage urges to smoke."*

4

Complete opt-out referral to the in-house Tobacco Dependence Team

Specialist support and treatment from a trained TDA will provide the patient with the best possible opportunity of a smokefree admission and increase the chances of long-term abstinence beyond discharge.

Inform the patient they will be referred to the specialist Tobacco Dependence Team

Advise the patient that they will increase their chances of managing their tobacco dependence by receiving a combination of specialist behavioural support and medication.

The Tobacco Dependence Team will assess response to treatment and adjust as required.

"We have asked the Tobacco Dependence Team to come and see you – they will explain more about how you can be supported to stay smokefree during your admission."

"A member of our Tobacco Dependence Team will come and see you shortly to check how you're doing and provide additional support to you."

As part of the Tobacco Dependence Team referral there will be an initial consultation to conduct an appropriate assessment and establish the patient's treatment plan, with follow-up consultations conducted to monitor and adjust the plan as needed.

The patient will be given the opportunity to opt-out of receiving continued support at this point and only continue to receive treatment to manage their withdrawal symptoms and urges to smoke.

The specialist Tobacco Dependence Team aims to see patients within 24 hours of admission.

In the event the patient's withdrawal symptoms or urges to smoke are not well managed with the Rapid Inpatient NRT Prescribing Protocol.

Some patients will require their dose of NRT to be increased or a nicotine analogue added to their treatment plan in order to effectively manage withdrawal and urges to smoke. Should patients not be managing well, as indicated by smoking, strong withdrawal symptoms and urges to smoke, the dose of NRT can be increased, or a nicotine analogue or nicotine vape added to the treatment plan. Patient response and patient preference can be used to guide treatment.

For NRT: The initial dose can be adjusted **based on number of cigarettes per day**, so that **NRT dose (in mg) is equal to number of cigarettes, or slightly greater.**

**For example: 50 cigarettes per day = 50 mg / day,
or 2 x 25mg patch + faster-acting product**

Communicating with the Tobacco Dependence Team to prioritise the patient's referral is also recommended practice.

5

Record tobacco dependence in the admission diagnosis list and disease management plan

Tobacco dependence is not part of a social history but a diagnosis that should be listed within the admission diagnosis list and its treatment described within the management plan.

The management plan should specifically record the actions that were taken.

For example:

Diagnosis list

1. Pneumonia
2. Acute kidney injury
3. **Tobacco dependence**

Management Plan:

1. IV anti-biotics
2. IV fluids
3. **Combination NRT and referral to Tobacco Dependence Team**

Measure CO levels and explain results (Recommended Best Clinical Practice)

Carbon monoxide (CO) testing is a valuable tool for providing evidence of the risks to health that smoking poses. The test can detect exposure to tobacco smoke within the previous 24–48 hours and therefore helps patients understand the immediate benefits of stopping. The personalised nature of the test can be a great tool for engaging patients in treatment and providing positive reinforcement.

It is a recommended best clinical practice to conduct CO testing as part of Admission Bundle and record in patient record (See **Appendix 8**). CO testing will be repeated as part of Inpatient TDA support and 28-day post-Discharge contacts.

Explain to patients that CO is a toxic gas contained in tobacco smoke and that there is a simple test that can be carried out to determine CO levels:

“Carbon monoxide is a toxic gas inhaled when you smoke a cigarette. This machine measures the amount of carbon monoxide in your lungs.”

Carry out CO test (See **Appendix 8** for instructions).

■ **If reading was below 6 ppm**

“This reading is that of someone that no longer smokes and shows you are already benefiting from not smoking.”

■ **If reading was 6 ppm or above**

“The monitor is showing a reading of _____ per million which is what we expect to see for someone who is still smoking. The normal range for a someone who hasn’t smoked is between one and five parts per million and so you can see that your reading is X

times higher than what we would expect from a non-smoker. The good news is that if you do not smoke at all you can get this down to the levels of someone who has not smoked.”

4.0 The Inpatient Care Bundle

4.1 Initial assessment and treatment plan

Timeframe: Within 24 hours of admission

Responsible persons: Tobacco Dependence Team/Tobacco Dependence Advisor

Duration: 15–45 minutes

Clinical checklist

Done

1	Establish rapport and learn about how the patient is managing their abstinence	<input type="checkbox"/>
2	Provide personalised advice and inform about available support	<input type="checkbox"/>
3	Conduct assessment	
	■ Assess patient's level of tobacco dependence	<input type="checkbox"/>
	■ Assess withdrawal symptoms and urges to smoke	<input type="checkbox"/>
	■ Assess current treatment use (frequency, correct technique)	<input type="checkbox"/>
4	Agree to treatment plan and provide specialist support during hospital stay	
	■ Advise on importance of tobacco dependence aids and instructions for use	<input type="checkbox"/>
	■ Adjust NRT (as needed) and/or consider use of nicotine vapes/analogues	<input type="checkbox"/>
	■ Advise on managing urges to smoke and identify personal coping strategies	<input type="checkbox"/>
	■ Explain and conduct carbon monoxide testing	<input type="checkbox"/>
	■ Discuss patient's smokefree goal/plan during and beyond hospital admission	<input type="checkbox"/>
	■ Provide brief motivational intervention for patients (as appropriate)	<input type="checkbox"/>
5	Provide summary, agree to next follow-up, and prompt commitment	
	■ Address any questions or concerns	<input type="checkbox"/>
	■ Prompt commitment from patient for staying smokefree or harm reduction goals	<input type="checkbox"/>

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

After the assessment

Record assessment and treatment plan, update disease management plan	<input type="checkbox"/>
Arrange continued combination NRT, nicotine analogue or vape supply	<input type="checkbox"/>
Communicate with patient's treating team (as needed)	<input type="checkbox"/>

- Prior to seeing the patient, learn about their reason for admission, any relevant diagnoses, and their physical and mental state
- When approaching the patient, conduct a visual assessment of their current physical and mental state and use this to guide your interaction
- As you engage with the patient, assess their ability to interact with you. Factors such as pain, consciousness and cognitive impairment will all need to be considered
- Patients often fear being judged by health professionals about their smoking and they may feel pressured to stop or lack confidence in their ability to abstain while in hospital. All these feelings may result in the patient being reluctant to engage with the TDT
- Communicating in a non-judgmental, empathetic manner can be important in making patients feel more open to, and receptive of, support
- Patients experiencing extreme tobacco withdrawal are unlikely to be able to discuss stopping smoking long-term with you. The best thing to do is to assist with effectively managing withdrawal symptoms and urges to smoke. Once they are feeling more comfortable you can reassess their interest in a smokefree admission and a long-term goal of quitting. A positive experience with a smokefree admission can serve to boost their motivation and confidence with stopping smoking long-term.
- Be quick to address any issues the patient may be experiencing from the treatment methods being used to manage their withdrawal symptoms. This will help regain their confidence in your ability to treat their tobacco dependence
- Document the outcome of the assessment in the patient's notes

**TDA
Tips**

1

Establish rapport and learn about how the patient is managing their abstinence

Establishing and building rapport is crucial for effective interactions with patients who smoke and has been shown to be directly linked to more successful outcomes. This is the 'art' of tobacco dependence treatment that will allow you to deliver the 'science' – NRT and behavioural support, in combination – that will improve a patient's chances of quitting.

Spend the first few minutes of this visit to assess the patient's ability to speak with you and establish rapport.

Ensure that you are using their preferred name and remember to take a few minutes to learn about their experience in hospital and how they are feeling. This is a good way to start and can increase the likelihood of them remaining engaged with the consultation.

Use communication and motivational techniques to engage patients in discussion about their tobacco use and their interest in stopping smoking.

Your approach should be non-judgmental, unbiased, informative, personalised, and supportive.

Introduce yourself to the patient:

"Hello, my name is ____ from the Tobacco Dependence Team here at the hospital/trust."

"How are you feeling today?"

Explain your role and the role of the Tobacco Dependence Team:

"My job is to meet with all patients who smoke to ensure you are comfortable during your stay."

Ask about how they have been doing with staying smokefree during their admission and discuss the response:

"How are you getting on, have you managed to stay smokefree since your admission to hospital?"

or

"How have you been getting on with not smoking since being admitted to hospital?"

or

"When did you use any form of tobacco?"

If the patient has remained abstinent:

- Congratulate and provide praise

If the patient reports smoking since admission:

- It will not be uncommon for patients to have found a way to smoke during their stay. It can be helpful to understand the challenges of the smokefree environment and provide non-judgmental support and encouragement.
- You can acknowledge any effort made or small successes achieved, especially for those more dependent on smoking:

“We understand how hard it may be for you to stay smokefree right now and you’ve already done so well in doing your best to do this, many other patients find it difficult too.”

- You can explain that some people who smoke regularly find it hard to be smokefree during their admission to hospital and that you are there to make sure they have the support they need.
- Reinforce the rationale of complete abstinence, as having the occasional cigarette makes withdrawal worse and reduces the likelihood of quitting:

“We know that it can be difficult to be completely smokefree and that you may still feel the urge to smoke, but having just one or two cigarettes can worsen your withdrawal symptoms and make it much harder to stay smokefree.”

- Learn more about when, where and why they are smoking as this information can help inform the patient’s tobacco treatment plan.
- Communicate your confidence that, with support, it will be possible to make it easier to stay smokefree and that part of today’s assessment will look at how you can best support them with staying smokefree while in hospital. Inform them that if they want to use this as an opportunity to aim for long-term abstinence, support is available to do so:

“Our tobacco dependence team will provide support with not smoking whilst you are here in hospital. We can also ensure you receive support following your discharge from hospital.”

- For patients who say they intend to smoke during their admission, treatment should still be provided and stop smoking aids be prescribed, with advice provided for replacing some cigarettes as part of a harm reduction approach.

2

Provide personalised advice and discuss available support

Provide personalised advice about the importance of being smokefree:

“Staying smokefree is so important for your recovery and keeping you healthy. We know stopping smoking isn’t easy and we are here to help. Given your [condition: e.g., diabetes, recent heart attack, recent heart procedure, cancer treatment, recent surgery], it’s really important for your recovery that you stay smokefree.”

Explain that treating tobacco dependence is a standard of care at the trust and inform about available support:

“We treat all patients with tobacco dependence with medications to make them more comfortable during their stay in hospital. As the Tobacco Dependence Advisor at our hospital I can support with staying smokefree. We will also offer you support when you go home.”

or

“At our trust we consider tobacco dependence an illness and provide treatment and support just like we would for any other illnesses, like diabetes or high blood pressure.”

Explain how tobacco dependence develops

Explain how tobacco dependence develops, and how assessing tobacco dependence can assist with the choice of stop smoking medication, can provide the patient with an understanding of what they need to overcome.

You could say:

“Most people who smoke are addicted. This means that your brain has become used to getting regular doses or hit of nicotine. When you don’t get that regular hit, you get unpleasant feelings. These are temporary withdrawal symptoms and these can make it difficult to manage.”

Reassure the patient that, with the use of proven medications and effective support, they will have a good chance of overcoming this.

3

Conduct Assessment

Assess patient's level of tobacco dependence

To quickly assess tobacco dependence, ask the patient how many cigarettes per day they smoked, and how soon after waking they had their first cigarette of the day, prior to feeling unwell and being admitted to hospital. This is known as the Heaviness of Smoking Index (HSI). Alternatively, conduct the Fagerström Test for Nicotine Dependence (FTND).

Many patients will have made changes to their smoking routine in the immediate period prior to admission due to feeling unwell. Aim to learn about their typical smoking patterns before any period of acute illness.

Heaviness of Smoking Index (HSI)

[adapted for inpatient setting]

1. Before you felt unwell and were admitted to hospital, how soon after you woke up did you have your first cigarette?

- | | |
|------------------------------------------------------|------------------------------------------------------|
| <input type="checkbox"/> Within 5 minutes (3 points) | <input type="checkbox"/> 6–30 minutes (2 points) |
| <input type="checkbox"/> 31–60 minutes (1 point) | <input type="checkbox"/> After 60 minutes (0 points) |

2. Before you felt unwell and were admitted to hospital, how many cigarettes would you typically smoke per day?

- | | |
|-------------------------------------------------|------------------------------------------------|
| <input type="checkbox"/> 10 or fewer (0 points) | <input type="checkbox"/> 11–20 (1 point) |
| <input type="checkbox"/> 21–30 (2 points) | <input type="checkbox"/> 31 or more (3 points) |

Explain to the patient their level of tobacco dependence and what it means in terms of their treatment plan.

Patients with greater dependence will often benefit from:

- higher doses of NRT or nicotine vapes
- more frequent use of faster-acting NRT
- extended behavioural support post-discharge
- extended use of stop smoking aids
- use of a nicotine analogue medication

If time permits, you may wish to learn more about how smoking fits into the patient's life.

This can be useful in engaging patients in conversation, building rapport and gaining information that can be useful to inform the treatment plan.

You could ask:

“How old were you when you started smoking?”

“How did smoking fit into your life?”

“What did you like most about smoking? What did you like least?”

“Have you quit smoking in the past? How do you feel when you quit?”

“Do you have a spouse or partner? Does your spouse or partner smoke?”

“Do you have children or grandchildren? Do they smoke?”

Use reflective listening and summary statements to show your understanding of what the patient has shared.

Before moving on, verify that tobacco dependence has been recorded in the admission diagnosis list and disease management plan and update as appropriate.

Assess withdrawal symptoms and urges to smoke

Withdrawal symptoms are the body’s response to being without nicotine and are common for patients to experience.

It is important for the patient to understand that these symptoms are normal and can be managed by using the recommended medication, alongside some specific coping strategies.

Withdrawal symptoms can include: urges to smoke, anger, irritability, frustration, anxiety, difficulty concentrating, restlessness, insomnia or awaking at night, and increased appetite (See **Appendix 2**).

- Explain that many people that stop smoking experience a range of symptoms. You could ask the patient to describe symptoms they may have experienced during previous periods of abstinence, including how they managed them and how long they lasted:

“Some people experience urges to smoke, anger, frustration, anxiety, increased appetite, restlessness, difficulty concentrating, headaches, restlessness, insomnia or depressed mood.”

- Ask the patient:

“Have you been experiencing any withdrawal symptoms or urges to smoke?”

As withdrawal symptoms are common in the early period of stopping, it can be useful to ask patients to rate the severity of any withdrawal symptoms or urges to smoke they are experiencing. This can be a valuable tool for identifying patients who may benefit from treatment adjustment.

“On a scale from 0 (none at all) to 4 (being severe), how severe is the _____ you’re experiencing?”

“On a scale of 0 (none at all) to 4 (severe) are the urges to smoke you are experiencing?”

“How frequently are you having urges to smoke?”

For any patient reporting withdrawal symptoms or urges to smoke that are a 3 or 4 in severity, treatment adjustment should be considered or for patients experiencing frequent urges to smoke.

- Reassure the patient that withdrawal symptoms are normal when you first stop smoking.

“Withdrawal symptoms are normal – your body crying out for the nicotine you used to get from your cigarettes. The good news is that this is temporary, and medications will help make withdrawal symptoms more manageable.”

- Reassure the patient that most symptoms last, on average, between two and four weeks, and will become less severe and less frequent the longer they remain smokefree:

“These symptoms usually last between two and four weeks – though they may last longer for some patients – and become less frequent over time. To get you through these first few weeks we will work together to give you strategies for dealing with any withdrawal symptoms or urges to smoke you may experience.”

- Remind the patient to be prepared for the possible withdrawal symptoms and to try to take it easy in the first few weeks of not smoking.

“It’s important to prepare yourself for what to expect in this early period of staying smokefree. If you’re experiencing mood changes or difficulty concentrating, cut yourself some slack – it’s the nicotine, not you.”

- Taking their medication will also help make the withdrawal symptoms easier to deal with. If the patient is having difficulty coping with withdrawal, refer to the titration protocol and adjust the medication accordingly.

Understanding tobacco dependence and withdrawal symptoms

- The severity of withdrawal symptoms and urges to smoke can differ from person to person and moment to moment.
- Withdrawal symptoms are known to be more severe in more dependent individuals, and people with certain types of severe mental health illness.
- There is also a genetic component to tobacco dependence that may also be useful to explain to the patient. This genetic component plays a role in how susceptible a person is to becoming dependent, how severely they experience withdrawal symptoms, and how difficult they find it to stop.

Assess current treatment use (frequency, correct technique, compliance)

Find out about how the patient is using their medication, including how the product is being used and the frequency of use.

You could say:

“You were prescribed [prescribed medications, e.g., NRT patch and mouth spray]. Have you been using them regularly?”

If yes, document dosage and ask:

“How frequently are you using the [faster-acting NRT product, e.g. nasal spray, lozenge]?”

If the patient is not using any stop smoking medications or aids:

Enquire why they didn’t start, or stopped using, their medication. Review the correct technique for their specific medication.

If the patient was not taking it or was using it incorrectly, ask if they would like to try it again using the new information or if they would be interested in trying a different method.

For administration techniques for each medication see **Appendices 5–7**.

If they stopped taking it because of side effects (see below).

Assess any side effects

Assess any side effects the patient may be experiencing and help them to distinguish between medication side effects and withdrawal symptoms. Strategies for addressing side effects can be discussed to assist with alleviating these. Most side effects reduce with continued use.

Side effects are often the result of incorrect product use. Check on how the patient is using the product(s) and provide guidance and advice on correct use, if necessary.

Ask the patient:

“Have you had any difficulty/side effects with the NRT/stop smoking medication(s)?”

It can be useful to ask patients to rate the severity of any reported side effects.

- If the patient reports a side effect known to occur when taking the medication, review correct technique:

“Some unpleasant side effects sometimes occur when NRT is not used correctly. Let me review correct use with you and we can see if that helps.”

- If the patient has been using their medication correctly and is still experiencing side effects, discuss strategies for managing common side effects:

“There are a few tips I can provide to help you manage better with some of the side effects you mentioned, such as sleep disturbance, skin irritation, coughing and throat irritation.”

For patients experiencing side effects:

“It is unfortunate that you are experiencing side effects from the medication. Why don’t we see how best we can address this together?”

- It is not uncommon for side effects such as nausea and mouth or throat irritation to be the result of incorrect use. Review the instructions for use with the patient (see **Appendices 5–7** for NRT, nicotine analogue and nicotine vape quick reference sheets).
- Many side effects will dissipate with continued use and patients and TDAs should be aware of this and reassess at a later date. It is important not to reduce dose or discontinue medication and risk the patient returning to smoking.
- Switching to a different faster-acting NRT product should be considered to reduce side effects and/or enhance compliance.
- If symptoms are severe (3 or 4 on severity scale) or the patient is not able to tolerate the side effects, consider decreasing the dosage of the medication and/or switching to another product (e.g., nicotine analogue).
- For unknown or severe side effects and allergic reactions, discontinue the medication and follow-up with the clinical lead or responsible team member. In rare cases, switching medications may be required for some patients.

4

Agree to treatment plan and provide specialist support during hospital stay**Advise on importance of tobacco dependence aids and instructions for use**

Reinforce the importance of using tobacco dependence medications or nicotine vapes.

Ensure the patient understands that using their medication regularly and correctly is highly recommended and will maximise its efficiency:

“Tobacco dependence treatment, such as medications, nicotine replacement therapy and nicotine vapes, help significantly reduce withdrawal symptoms and urges to smoke. With these medications you are twice as likely to be successful at quitting than if you were to try and quit without them. They are safe and do not cause cancer, strokes, heart or lung disease. There are three main types of medication: nicotine replacement therapy, nicotine vapes, and nicotine analogues (varenicline and cytisine).”

- Review correct use and technique with the patient (see **Appendices 5–7** for NRT, nicotine analogue and nicotine vape quick reference sheets).

Reinforce the need to use faster-acting NRT regularly throughout the day, on the hour, every hour and as required to help with coping with urges to smoke:

“It’s important to use the [faster-acting NRT product, e.g. nasal spray, lozenge] throughout the day – we like to say use it on the hour, every hour. In addition, it can be used when you have urges to smoke. If you find you are using a lot of the medication, we can increase the dose of the patch or add another medication.”

“Make sure you take your NRT with you wherever you go. Always keep a supply handy, perhaps where you used to keep your cigarettes.”

- Offer the patient the opportunity to ask any questions or express any concerns about the stop smoking aid they are using:

“Do you have any questions or concerns about using the [medication of choice]?”

Respond to any questions that may arise. Reinforce the safety of these products and the important role they will play in helping the patient remain smokefree, and how this will improve their recovery and overall health.

If the answer is “I’m not planning on using any medication”:

- If the patient communicates that they are not planning on using any medication, explore the reasons for this and encourage use of one of the medications. Spend a few minutes discussing why medications are recommended, that they are safe, and that multiple options are available to them, including: combination NRT, nicotine vapes, and nicotine analogues.
- Past experience with the use of medications can often affect a patient’s beliefs about the value of using them. Medications such as NRT are often used incorrectly, and you can take a few minutes to explain that we now use two medications in combination (see sample text below), reinforcing that patients and research show us this is more effective for managing withdrawal symptoms and cravings and making it easier for people to manage without smoking.
- Some patients believe they need to use willpower alone to stop smoking. Take a few minutes to ensure that patients understand that use of these medications is standard treatment for all patients with tobacco dependency. While willpower is helpful, many patients will benefit from using stop smoking medications.

Nicotine replacement therapy (NRT)

“Nicotine replacement therapies – shortened to NRT – are very effective aids to help you stop smoking. They contain a small amount of the pure nicotine that you are currently getting from cigarettes.”

“It is important to remember that this is clean, safe nicotine, without the 4,000 other chemicals found in tobacco smoke. NRT is not like smoking: it is not harmful, it is a smaller dose of nicotine than you get from smoking, and the nicotine is absorbed more slowly.”

Describe how NRT works and the different products available:

“NRT works by reducing urges to smoke and other withdrawal symptoms, thereby making stopping smoking a bit easier. It is not a magic cure – but it will help.”

“There are several different products to choose from and all are effective in helping you to stop: patches, nasal spray, gum, lozenge, inhalator, microtab, and mouth spray. They differ in the amount of nicotine that they contain, how it is delivered and how quickly it acts.”

Combination NRT (patch plus one other product) is the most effective medication option and is suitable for most patients of stop smoking services (see below).

“Combination NRT means a combination of two NRT products, often the patch to deliver a background continuous dose and the nicotine gum or lozenge to provide quick extra help when needed. Do you have any thoughts about this?”

“Studies show that using two products together gives you an increased chance of success compared with using one product. Combining products is also very safe: there is no need to worry about overdosing on nicotine. If you are unsure about using two products, you could start off with the patch and if you find you are having difficulty in dealing with your urges to smoke you can then try adding another product.”

If patients are classed as more dependent smokers, based on the HSI, then a higher dose product such as the 25 mg patch, 4mg chewing gum, 4mg lozenge or nicotine nasal spray will help them more.

Nicotine vapes (e-cigarettes)

Some patients will choose to use a nicotine-containing vaping device (vape) or may be already using one.

Unlike cigarettes, vapes do not burn or contain tobacco and do not produce tar or carbon monoxide. Vaping is very popular with smokers and the evidence to date indicates that they are significantly less harmful than smoking cigarettes. If using a nicotine vape helps the patient stay smokefree, it is much safer than continuing to smoke.

“Many patients find nicotine vapes – sometimes called electronic cigarettes or e-cigarettes helpful for quitting smoking, and evidence shows that they can be effective. If you do choose to use a vape and that helps you to quit and stay smokefree, then it is far safer for you than continuing to smoke. Importantly, vapes do not produce carbon monoxide, which is the poison produced when you smoke cigarettes. There is a wide range of vapes available and most people need to try various types and flavours to find the one they like. At our hospital we have [detail available devices]. I can get you started and we can see how you get on.”

Where appropriate, explain the hospital policy on vaping during admission, including information on designated areas.

Provide guidance on how to use a vape and, if appropriate, discuss using one in combination with NRT.

Nicotine-containing vape liquids are a form of nicotine replacement and dosing guidelines follow the same principles as with NRT. The HSI can be used to select initial dose of nicotine. Starting at a nicotine concentration that is at least equal to the number of cigarettes smoked is recommended and, in some cases, it will need to be higher. Patients can reduce the nicotine concentration over time.

As many trusts don't allow vaping onsite, vaping may be an option offered to patients following discharge. For patients who were using a nicotine vape to assist with stopping prior to admission, treatment with NRT should be considered during inpatient admission.

Nicotine analogues (varenicline and cytisine)

Nicotine analogue medications (varenicline and cytisine) are effective treatments for tobacco dependence that can be discussed and prescribed at the point of admission or during the admission.

Inform the patient about these medications and the instructions for their use.

Inform the patient about common side effects, including nausea, sleep disturbance, and vivid or colourful dreams. These can be minimised by taking the medication with food and a glass of water, taking anti-sickness medications, taking the medication earlier in the evening and/or reducing the dose.

Adjust NRT (as needed) and/or consider use of nicotine vapes/analogue

Monitoring patients in the initial period following smoking abstinence is important to ensure that the selected dose meets their needs.

Some patients will require their dose of NRT to be increased or nicotine analogue added to their treatment plan to effectively manage withdrawal and urges to smoke. Patient response as well as patient preference can be used to guide treatment.

As appropriate, discuss modifying the medication plan to manage cravings, withdrawal, and side effects. This includes increasing the nicotine dose and frequency of NRT product used (See NRT protocol).

While it is not common, some patients may benefit from experimenting with different shorter acting NRT products. As appropriate, the patient can be supported by changing the faster acting NRT product they were prescribed in hospital to one that may be more suitable to them. Adjusting the nicotine dose (up or down) is often required to tailor the treatment plan. The most common situation is that the patient does not receive sufficient NRT to effectively manage nicotine withdrawal symptoms and cravings to smoke.

Patient self-management

Patients should be advised to self-manage their NRT use to optimally manage cravings and withdrawal symptoms, including increasing the frequency at which they use their faster-acting NRT product or increasing the dose of the NRT patch.

It should be noted that use of faster-acting NRT products beyond the maximum recommended frequency is associated with an increase in side effects, particularly nausea. It may therefore be preferable to increase the amount of NRT delivered via the patch – this may include the use of more than one NRT patch.

Practice guidance for adjusting treatment plan

Indications:

- Currently smoking, including those who have reduced but not achieved complete cessation
- Experiencing significant withdrawal symptoms and/or urges to smoke
- There is risk of relapse

Action:

If withdrawal symptoms and urges to smoke persist after initiation of the rapid NRT protocol and/or the patient reports smoking or being at risk of relapse:

- Consider addition of nicotine analogue
- Increase dose of NRT
- Consider addition of nicotine vape

Increasing NRT dose:

- Adjust dose so total dose is equal to number of cigarettes per day or greater.
- NRT dose should seek to approximate nicotine delivered by cigarettes. As a general guideline we attempt to deliver 1mg of nicotine from NRT for each cigarette smoked per day by the patient. For patients who smoke within 30 minutes of waking, higher doses may be necessary.
- $\text{NRT dose (mg)} = \text{number of cigarettes per day}$

Example: 50 cigarettes per day = 50mg/day or 2 x 25mg patch + faster-acting product

- After 24 hours, you may add 7mg nicotine patch
(general recommendation is to increase by 7mg increments)

Reducing NRT dose:

- The down titration of NRT dose when using the patch or faster-acting NRT is only recommended if the patient is managing cravings and withdrawal well
- When down-titrating, add faster-acting NRT as needed. After 24 hours, if moderate or intense cravings persist, return to the prior dose of NRT patch.

Advise on managing urges to smoke and identify personal coping strategies

Provide tailored guidance on managing any withdrawal symptoms or urges to smoke the patient may be experiencing.

Urges to smoke

- Urges to smoke are common. The most important thing to remember is that these urges pass after a short time, often just three to five minutes, and the longer an individual goes without a single puff on a cigarette, the less frequent the cravings become.
- When a patient feels the urge to smoke, they should plan to do the following:
 - **Delay:** Cravings are at their worst for three to five minutes. Do your best to delay the temptation to smoke and the urge will pass.
 - **Exit:** Remove yourself from situations where you have the temptation to smoke.
 - **Avoid:** Avoid situations in which you may be tempted to smoke, particularly in the early period after quitting.
 - **Distract yourself:** Keep your mind off smoking by doing something else, such as going for a walk, surfing the internet, talking to a friend, playing a game, or taking a shower.
 - Deep breathing: Deep belly breathing can help you to relax while cravings pass.
- Patients should be advised to use faster-acting NRT (e.g., gum, inhaler, mouth spray) when a craving hits.
- Avoiding situations where the patient knows they might be tempted to smoke, at least temporarily at the start of the smokefree admission, is recommended.

Conduct and explain CO testing

Carbon monoxide (CO) tests provide patients with feedback on the immediate effects of being smokefree on their recovery and long-term health. Many patients find this feedback particularly motivating as evidence of the benefits they get from quitting smoking.

Explain to the patient that CO is a toxic, odourless, poisonous gas contained in cigarette smoke and that there is a simple test that can be carried out to determine CO levels. Explain that CO tests are carried out to show the patient objective proof of the immediate benefits of quitting for their recovery and improved long-term health from being smokefree. CO tests are also used to validate that they really have stopped smoking. The expected level for someone who doesn't smoke is below six parts per million (ppm). It is not typically zero due to environmental exposure to CO.

Note: There is a cut-off of 4ppm is used for pregnant women as part of the maternity care pathway.

“Carbon monoxide is a toxic gas inhaled when you smoke a cigarette. Carbon monoxide starves the heart and lungs of oxygen. This can affect healing and recovery, and causes heart disease and other illnesses. The good news is that shortly after stopping smoking the level of carbon monoxide in your body returns to that of a non-smoker. This machine measures the amount of carbon monoxide in your lungs in parts per million and if you have not been smoking then we would expect it to be below six parts per million.”

It is worth emphasising that patients will be required to hold their breath for a minimum of 15 seconds before blowing into the CO monitor. This allows the pressure in the lungs to equalise and for the CO in the blood to pass into the air in the lungs. It is this that is then measured by the monitor.

“What I am going to ask you to do in a minute is to take a big deep breath, hold your breath and then exhale into this machine. You will need to hold your breath for about 15 seconds. After you have taken your breath I will hand the machine to you, the machine will count down and I will then tell you when to exhale into it.”

After the test:

- If the test wasn't completed adequately (i.e., patient did not hold their breath for the required time or did not place their lips around the tube properly) then politely advise the patient that the test needs to be repeated. Allow them a couple of minutes to get their breath back before repeating the test.

- **If reading was below 6ppm**

“Congratulations! This reading is that of someone that no longer smokes; you are already benefiting from not smoking and you should be very proud of your achievement. This is because you haven't had a cigarette for X amount of time. We can help you to maintain low levels of carbon monoxide by using nicotine replacement therapy to manage your cravings and remain smokefree whilst you're in hospital.”

Use feedback to explain the support available.

- **If reading was 6ppm or above**

If the patient indicates they have not smoked, it is important to remain non-judgemental and ask the person if they may have been exposed to CO somewhere else (e.g., being in close contact with other smokers)

“The monitor is showing a reading of _____ parts per million which is what we expect to see for someone who is still smoking. The normal range for a non-smoker is between 1 and 5ppm and so you can see that your reading is X times higher than what we would expect from a non-smoker. The good news is that if you do not smoke at all you can get this down to the levels of a non-smoker.”

If the patient reports they have smoked in past 24 hours:

“As we would expect, given you reported smoking in the last 24 hours, your carbon monoxide reading is high. Carbon monoxide levels reduce shortly after stopping smoking, so we can support you to reduce your carbon monoxide levels by supporting you to remain smokefree.”

Our bodies produce small amounts of CO and it is also present in the atmosphere around us, so the reading will almost never be zero. It will also fluctuate slightly depending upon what air you have been exposed to. A reading of below 6ppm is considered to be that of a non-smoker.

Readings above 6ppm are not normally caused by being in the company of other people who smoke; this can increase exposure to CO but does not normally push the reading above 6ppm. For patients who report that they are not smoking it may be worth doublechecking and examining what other sources of CO may be affecting their reading.

Discuss patient's smokefree goal/plan during and beyond hospital admission

Ask the patient how they feel about stopping smoking:

“How do you feel about stopping smoking during your hospital stay?”

Or

“Are you ready to receive treatment and support to stay smokefree once you go home?”

If yes, ask about their reasons for wanting to stop:

“What has made you decide to go smokefree now?”

Ask about their confidence in staying smokefree while in hospital:

“If I ask you to rate for me on a scale of 1 to 10 how confident you are that you will be able to stay smokefree during your admission, what level would you rate your confidence?”

For patients focusing on temporary abstinence:

Let them know that support with staying smokefree during their admission can be the focus, and reinforce the importance of support for a smokefree admission:

“If you feel you are not able to quit long term now, that's ok, we are here to support you with staying comfortable and smokefree during your stay in hospital.”

Explain that the offer of support is always open and provide information on how to access it if they change their mind

“The offer of support with staying smokefree after you leave hospital is open. If you change your mind, I would be really pleased to provide the support you need. I think you will find that taking it day by day is sometimes the best way. See how you do over the next day or two.”

“Either I or a member of the Tobacco Dependence Team will stop by in any case to see how you are doing tomorrow/another date, or you can ask the ward staff to get in touch with me.”

Provide brief motivational intervention for patients (as appropriate)

- Roll with resistance: back off and use reflection when the patient expresses resistance.

e.g., ***“It sounds like you’re feeling pressure about your smoking.”***

- Express empathy

e.g., ***“I understand that you are worried about how to manage withdrawal symptoms.”***

- Explore concerns and benefits

“What are some of the good things that smoking does for you?” and

“What are some of the not so good things?”

“Looking ahead what do you think would you like to do about your smoking?”

- Support self-efficacy: help the patient identify and build on past successes. How long did they quit for, how much better did they feel, what worked well, what did they learn?

e.g., ***“I know that you have a lot on your plate right now, and I understand thinking about stopping smoking for good might be too much to commit to right now. I know you stopped in the past. Tell me more about when you have stopped smoking in the past.”***

- Ask permission to provide information.

e.g., ***“Would you like to hear about some strategies that can help you address(identify concern patient identified) when you quit?”***

- Offer options for achievable small steps toward change (e.g., reading about the benefits of quitting and strategies).

- Encourage the patient to talk about the quitting process: rewards, risk, relevance, roadblocks e.g., reasons for quitting, positives, concerns about quitting, difficulties).

5

Provide summary, agree to next follow-up, and prompt commitment

Discuss and agree to follow-up plan

Discuss the importance of follow-up support once the patient leaves hospital.

“We know working with a stop smoking practitioner for one to three months, either in person or by phone, can double your success with quitting. It will be important that, after your discharge from hospital, we link you to support with staying smokefree.”

Review the options and agree to a discharge plan with ongoing support and treatment that flexes to the needs of the patient.

“There are a few different methods of follow up support that are available after you leave hospital. Let’s review these and see which one will suit you best.”

“These include (as locally available):

- Follow-up by the local stop smoking team***
- Follow-up at one of the community pharmacies***
- Follow-up by our team here at the trust***
- We also have a digital app that provides support with quitting.”***

Patients have the option to opt out of community-based support. However, it is important to leave the door open and if length of stay permits to reassess after the patient has been smokefree for a period.

Provide summary and ask about any questions

Provide the patient with a summary of the consultation and the treatment plan that you have agreed to and allow time for patient or family members /care providers to ask questions.

It should include the following:

- Confirm medication choice and supply, and instructions for use.
- Summarise what to do when they experience urges to smoke and withdrawal symptoms.
- Summarise plan agreed to for stop smoking support post-discharge.
- Seek patient commitment to the treatment plan you have discussed today (ideally verbal).
- As appropriate (based on LOS), schedule next follow-up with them
- How to contact you or member of the tobacco dependence team if they have any questions or concerns.
- Reinforce the importance of a smokefree admission and boost patient confidence in their ability to remain smokefree.

Ask if they have any questions.

“Are there any questions that you have?”

4.2 Follow-up consultation

Timeframe: Based on length of stay and patient complexity

Responsible persons: Tobacco Dependence Team/Tobacco Dependence Advisor

Duration: 10–15 minutes

Clinical checklist

Done

1	Check on patient progress	<input type="checkbox"/>
	■ Provide positive reinforcement	
2	Measure carbon monoxide (CO) [recommended good practice]	<input type="checkbox"/>
3	Assess treatment response	<input type="checkbox"/>
	■ Assess withdrawal symptoms and urges to smoke and how they have dealt with them	
	■ Confirm correct use of treatment (frequency, technique); address any side effects	
	■ Discuss any difficult situations experienced and method of coping	
4	Review and revise treatment plan	
	■ Adjust treatment (as needed); advise on continued use	<input type="checkbox"/>
	■ Consider addition of nicotine analogue or nicotine vape	<input type="checkbox"/>
	■ Discuss strategies for coping with urges to smoke	<input type="checkbox"/>
	■ Discuss personal smoking routines, triggers, high risk situations and coping strategies	<input type="checkbox"/>
	■ Reassess patient's tobacco treatment goals and confidence in remaining smokefree	<input type="checkbox"/>
	■ Provide information about community follow-up support (as appropriate)	<input type="checkbox"/>
	For patients focusing on temporary abstinence:	
	■ Provide brief motivational intervention (as appropriate)	<input type="checkbox"/>
	■ Assess interest in harm reduction ('Cut Down to Stop' with use of vape or NRT)	<input type="checkbox"/>
	■ Keep door open and provide information on support should they change their mind	<input type="checkbox"/>
5	Provide summary and prompt commitment for staying smokefree	
	■ Address any questions or concerns	<input type="checkbox"/>
	■ Prompt commitment from patient for staying smokefree or achieving harm reduction goals	<input type="checkbox"/>

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

After the consultation

Document consultation in patient record	<input type="checkbox"/>
Coordinate NRT or vape, nicotine analogue supply	<input type="checkbox"/>
Communicate with care team (as needed)	<input type="checkbox"/>
Communicate with prescriber's (as needed)	<input type="checkbox"/>
Coordinate community referral (as needed)	<input type="checkbox"/>

- When approaching the patient, conduct a visual assessment of their current physical and mental state and use this to guide your interaction, in particular, any changes that may have occurred since the last assessment.
- As you engage with the patient, re-assess their ability to interact with you. Factors such as pain, consciousness, cognitive impairment, will all need to be considered as these can change significantly during the hospital stay
- Encourage the patient to talk openly about how they've been getting on with the Tobacco dependence treatment and listen out for any concerns/issues with the medications or in relation to remaining smokefree
- Be mindful not to judge or criticize any lapses to smoke that may have occurred during the hospital stay. Reassess compliance to treatment, review medication and explore possible reasons for the lapse. Reiterate importance of abstinence in relation to current health issues and the benefits to these
- If abstinence is reported, congratulate the patient on their commitment to remaining smokefree during their admission and gauge their willingness to extend this to a longer-term goal of abstinence
- Reassure the patient that treatment and support will be provided during their stay and can be arranged to continue beyond discharge
- Document the outcome of the consultation in the patients notes

**TDA
Tips**

Where appropriate based on LOS, follow-up assessments are recommended with all inpatients who smoke. to provide ongoing support, review response to treatment, provide behavioural support, and revise treatment plan as needed. For patients focussed on smokefree admission this is an opportunity to revisit their commitment to making long term abstinence their goal.

1**Check on patient progress and provide positive reinforcement**

Check on patient progress and show genuine interest in how they are doing with their recovery and staying smokefree.

Reaffirm with the patient that you are here to support them to achieve a smokefree admission or smoking abstinence.

Let the patient know that you would like to learn how they have been doing with staying smokefree and make any necessary changes to their treatment plan and discuss some specific strategies for ensuring they are coping well. Keep the tone of the visit positive and nonjudgmental.

“Hi _____, how are you doing? I am so glad to see you, I’m interested to hear how you have been doing with staying smokefree? Tell me how you have been doing since I/my colleague last saw you?”

“Hi _____, it’s lovely to see you again, I’m looking forward to hearing how you have been managing to stay smokefree since I/my colleague last saw you”

As appropriate, learn about their hospital recovery generally and how they are feeling, plans for discharge. This is useful in building a relationship with the patient and can inform the treatment plan.

Ask about how they have been doing with staying smokefree during their admission and discuss the response.

“How are you getting on, have you managed to stay smokefree since your admission to hospital?”

or

“How have you been getting on with not smoking?”

or

“When did you last use tobacco?”

For patients who report being smokefree:

- Congratulate, and provide positive reinforcement.

- Ask how they feel about being smokefree. Reflect on any positive feedback they provide.

“How are you feeling about being smokefree these past few days/last week/X weeks?”

*“Have you noticed any positive changes now that you are not smoking?
(e.g., to your breathing?)”*

For patients who report smoking:

- Ensure you remain non-judgmental and supportive.
- As appropriate, provide positive feedback about any small successes they have been able to achieve including reducing smoking.

“It would be great for you to be completely smokefree, as that’s the best thing you can do for your recovery, I know you have smoked for many years and would normally smoke _____ cigarettes in a day. You said you smoked _____ and in many ways that is a success/step in the right direction. No one said this would be easy so let’s see if I can help with making it a little easier.”

“Ideally, we would like you to become totally smokefree from your arrival, however, we also understand how difficult it can be. It is brilliant that you have successfully managed to smoke less, and, with a little more help and support we can help you to stay on track”

- Find out more about circumstances including frequency of smoking, circumstances, where they accessed the products.
- Show your confidence in their ability to get on track and that you can discuss making changes to their treatment plan to help with making the urges to smoke easier to deal with and discussing tips

Use of NRT or medications among patients who report smoking

- Sometimes both patients and health care professionals will discontinue stop smoking treatment because they have returned to smoking or had a few cigarettes.
- It is absolutely safe to use stop smoking treatments and smoke.
- For patients who report smoking, medications should be continued and patients assured of the safety.
- The fact the patient is smoking while taking the medication should signal the need to review appropriate dosing of NRT and or add a nicotine analogue to the treatment plan.
- Learning about where, when, and why the patient is smoking can also be useful. This information can be used to inform strategies to address the circumstances that lead to their smoking.

2

Measure CO (optional/recommended)

See section 4.1 for instructions.

Discuss results with patient and as appropriate use to reinforce benefits of staying smokefree are having or reinforce the health effects continued smoking is having on them.

If a low reading (below 6 ppm):

- Congratulate patient and use as opportunity to discuss positive effects of staying smokefree is having on their recovery and overall health.

If above 6 ppm:

- Use this as an opportunity to either compare with previous reading (lower or higher) and discuss opportunity to focus on staying smokefree to get that number down and help ensure a healthy recovery.

3

Assess treatment response

- Assess withdrawal symptoms and urges to smoke and how they have dealt with them

Ask the patient ***"Have you been experiencing any withdrawal symptoms or urges to smoke?"***

Asking patients to rate the severity of any withdrawal symptoms can be valuable to tool for identifying patients who may benefit from treatment adjustment.

"On a scale from 0 (being mild) to 4 (being severe), how severe is the _____ you're experiencing?"

For any patient reporting withdrawal symptoms that are a 3 or 4 in severity treatment adjustment should be considered.

Ask about how they have dealt with urges to smoke and withdrawal symptoms and provide advice as appropriate.

- Confirm correct use of treatment (frequency, technique); address any side effects

"Have you been regularly using the stop smoking medication/aid we recommended regularly (on the hour every hour)?"

"Tell me about how frequently you are using the _____ fast acting NRT?"

Assess any side effects that may be experienced and address as appropriate.

"Have you had any difficulty/side effects with the NRT/medications?"

Rate severity of scale of 0 to 4.

Review strategies for dealing with any reported side effects (See **Appendix 3**).

For patients reporting side effects or urges to smoke, review correct techniques. It can be helpful to have patient demonstrate or verbally explain how they are using the fast-acting NRT product so that you can offer any guidance on correct technique. You can also demonstrate correct technique to patient.

For patients using nicotine analogues who report nausea:

“Many patients report nausea when they first begin using Varenicline/Cytisine. This usually disappears within the first few weeks of using the medications. Since your nausea is not severe what I would recommend is ensuring that you always take the medication with a full glass of water and after food. We can also consider adding an anti-nausea medication. Would you like to try that for a few days and let me know if the nausea continues?”

For patient using a nicotine analogue who report sleep disturbance or night-time awakenings:

“This is one of the known side effects of the medication and it’s also something experienced by patients who quit smoking, but not always associated with the medication. We find this tends to subside over time. Are you finding it difficult to manage? It can be helpful if you move your evening dose, so you take it earlier. That tends to improve sleep disturbances. You can try that but if you find it is not bearable than you can also reduce your dose to half which should help.”

■ **Discuss urges to smoke and any difficult situations experienced and method of coping**

Learn about any difficult situations the patient has experienced with urges to smoke or withdrawal symptoms. Ask about how they dealt with them.

“Have there been any difficult moments in terms of urges to smoke or withdrawal symptoms?”

“I would love to hear about how you managed (what you did) when this happened/ when you get a strong urge to smoke?”

4

Review and revise treatment plan

- Adjust treatment (as needed); advise on continued use
- Consider addition of nicotine analogue or nicotine vape
- Reinforce importance of using treatment as recommended and for full course

“Many people who use medications such as NRT, to help them stop smoking do not use them for long enough. It is common to believe that after a few weeks of not smoking there is no longer a need to continue taking the medication. It is recommended that you use the medication for the amount of time that was prescribed but we can discuss reducing the medication once you feel that you are ready.”

■ **Confirm/reassess patient tobacco treatment goals**

■ *"How are you feeling about stopping smoking now?"*

or *"What are your thoughts about stopping smoking now?"*

■ **Provide advice on coping with urges to smoke**

"Quitting smoking is a process, and it takes time. Be patient with yourself.

If you feel tempted again to smoke, try:

- *Changing the situation – stop smoking immediately, leave the room, throw out your cigarettes ... and carry on with your smokefree goal.*
- *Talking positively to yourself – remind yourself of how far you have come, encourage yourself to keep at it.*
- *Taking action – find something else to do that makes it difficult to smoke (e.g., Shower), do physical activity, chew mint flavoured gum, find a bigger focus than your craving (e.g., the news).*
- *Asking for help – talk to someone to distract or encourage you."*

■ **Discuss personal smoking routines, triggers, high risk situations and coping strategies**

Work with the patient to identify situations in which they may find it difficult not to return to smoking. It can be helpful to focus the discussion on a specific time frame like the upcoming week. In addition, a patient's past experience with quitting can be very use in identifying situations in which they may have difficulty or place them at greatest risk for relapse.

"When you have tried to quit smoking in the past were there any situations or times of the day that you found it particularly difficult not to smoke."

"Looking at the week ahead are there any specific situations that are coming up that you feel you might find it difficult?"

"Remind yourself of something that you are looking forward to experiencing this week as now you are no longer smoking"

"Thinking about when you leave from hospital/back home are there any specific things that you are worried about that might challenge you (from staying smokefree)?"

Discuss situations that could be considered 'high risk' for the patient such as:

- Being around people who are smoking
- When alcohol is involved as it lowers inhibitions.
- When having an argument with someone such as a family member, spouse or friend.
- When experiencing work-related stress or feeling overwhelmed to meet deadlines or expectations
- Celebrations and holidays
- When dealing with a death or illness

Identify strategies for addressing high risk situations:

- Attempt to have the patient come up with strategies for dealing with difficult situations. Patients will be far better at understanding what strategies will work for them than anyone else can.
- If they are stuck in identifying strategies ask about past experience in addressing this situation? Ask what worked last time? What could they have done differently?
- If patients are stuck offer examples of what other patients have done who were in a similar situation.

“Imagine what you would do if you were not able to have a cigarette”

“What are ways to help you cope with stress that don’t involve cigarettes?”

“If you are used to smoking at specific times during the day, how can you change your routine?”

Dispel myths surrounding smoking and stress

For patients who are feeling stressed, reinforce the fact that while they may feel that smoking decreases stress, studies have shown that smoking causes long-term stress levels to rise. For those who are dependent on smoking, it may appear to relieve stress when in fact it will make it worse.

“Many patients say that one of the main reasons they have a slip up is to help them deal with stress. However, we know that once people stop smoking, their stress levels are less than when they smoked. Next time you feel stressed and want a cigarette, think to yourself, ‘what would a non-smoker do?’ Maybe it’s taking long deep breaths, or going for a walk, or phoning a friend. Let’s talk about what you think may work for you in those situations.”

Address concerns about weight gain

For patients concerned about weight gain, a gain between 5 and 7 pounds during the first few months of quitting is normal. Reassure the patient and give them tips to help avoid gaining weight when stopping smoking.

“A common concern is gaining a little weight. You’ll be less likely to gain weight if you make some small changes to your diet and increase your physical activity. You can manage this small gain with a brisk 30-minute walk daily. We have also found that making a small change to your diet (e.g., dropping a snack) can reduce any weight gain. Using NRT, Varenicline, nicotine vape may also slow weight gain”

Reinforce the 'smokefree promise' with patients:

"We have come up with a great plan to support you with quitting. The first few days and weeks of becoming smokefree can be the toughest but once you get through this period, things should start to feel a little easier. You may find yourself in situations whereby you are tempted to smoke and think that having just one cigarette will be okay, but it will undo all the hard work you have just put in, Imagine how disappointed you will feel to have to go back to day one and start over again when you have done so well – make a promise to yourself to stay smokefree."

■ Reassess patient's tobacco treatment goals and confidence in remaining smokefree**Assess confidence**

At each follow up visit, reassess a patient's confidence in being able to quit or, for those patients who have already quit, their confidence in being able to remain smoke free.

"On a scale of 1 to 10, with 10 being most confident, how confident are you that you can quit smoking/stay quit?"

If the patient's confidence level is greater than 5, they are quite confident that they will be able to become/remain smoke free. Encourage them to call or follow up if something changes.

"That's great that you are feeling confident about stopping smoking. Be sure to contact me if there are any changes in your confidence level so that we can figure out how to boost your confidence back up."

If their confidence level is 5 or less, explore the reasons why they have low confidence and discuss strategies to help improve their confidence.

"Ok, I hear that your confidence in becoming/remaining smokefree is low; can you tell me why you feel that way?"

Discuss response and provide appropriate support.

Useful questions may be:

"Why are you a 3 and not a 1?"

"What would need to happen for you to get from 3 to 5?"

■ Provide information about community follow-up support (as appropriate)

Discuss importance of follow-up support once they leave hospital.

"We know working with a stop smoking practitioner for one to three months either in person or by phone can double your success with quitting. It will be important that we arrange this for you after your discharge from hospital to support with staying smokefree."

Review options and agree to discharge plan with ongoing support and treatment that flexes to the needs of the patient.

“There are a few different methods of follow up support that are available after you leave hospital. Let’s review these and see which one will suit you best.”

“These include (as locally available):

- *Follow-up by the local stop smoking team*
- *Follow-up by a local community pharmacy*
- *Follow-up by our team here at the trust*
- *We also have a digital app that provides support with staying smokefree”*

Patients have the option to opt out of community-based support. However, it is really important to leave the door open and, if length of stay permits, to reassess after the patient has been smokefree for an extended period.

5

Provide summary and prompt commitment to staying smokefree

Provide a summary:

- Confirm the plan for the use of stop smoking aids and how frequently they will be used
- Have the patient describe what they will do if they experience cravings and ensure that they have some strategies in place if they are feeling like they want to smoke
- Ensure the patient knows who to contact if they are having any difficulty
- Address any questions or concerns

Ask the patient:

“Do you have any questions for me?”

Remind the patient that it will continue to get easier over time. Encourage them to stay committed and to contact the Tobacco dependence Team if they need support.

- Prompt commitment from the patient to staying smokefree or achieving harm reduction goals

Have the patient confirm, and ideally state aloud, their commitment to the treatment plan, whether this is to stay smokefree during their admission, to achieve long-term abstinence, or to reduce their smoking by an agreed amount.

4.3 Discharge planning

Timeframe: Prior to discharge based on length of stay (LOS)

Responsible persons: Tobacco Dependence Team/Tobacco Dependence Advisor

Duration: 5–10 minutes

Clinical checklist

Done

1	Assess progress and any challenges experienced, provide positive reinforcement and reassess readiness to stop or reduce smoking	<input type="checkbox"/>
2	Provide supply of tobacco dependence medication / aids	<input type="checkbox"/>
3	Discuss importance of support following discharge from hospital	
	■ Discuss importance and review plans for post-discharge support	<input type="checkbox"/>
	■ Inform patient of post-discharge follow-up calls/contacts	<input type="checkbox"/>
4	Provide guidance on staying smokefree/reducing smoking following discharge	
	■ Discuss plan/tips for staying smokefree following discharge	<input type="checkbox"/>
	■ Discuss plan for dealing with urges to smoke	<input type="checkbox"/>
	■ Reinforce the importance of abrupt cessation and dealing with any lapses	<input type="checkbox"/>
	■ Identify support persons and plan ahead for patients with other people who smoke in the home	<input type="checkbox"/>
5	Provide a summary and address any questions or concerns	<input type="checkbox"/>
	■ Prompt commitment from patient to staying smokefree or achieving harm reduction goals	

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

After the consultation

Document consultation in patient record	<input type="checkbox"/>
Provide a supply of NRT and/or vaping liquids to be used post-discharge (minimum recommended supply is 2 weeks).	<input type="checkbox"/>
Communicate with patient's care team (as needed)	<input type="checkbox"/>
Communicate with prescribers (as needed)	<input type="checkbox"/>
Coordinate community referral (as needed)	<input type="checkbox"/>

- When approaching the patient, conduct a visual assessment of their current physical and mental state and use this to guide your interaction, taking particular note of any changes that may have occurred since the last assessment
- As you engage with the patient, re-assess their ability to interact with you. Factors such as pain, consciousness and cognitive impairment will need to be considered as these can change significantly during the hospital stay
- Listen to any concerns and worries the patient may have around treatment or their ability to remain smokefree once they are discharged
- For those that have achieved a successful smokefree admission, re-explore and encourage a longer-term goal of abstinence once they go home and the associated benefits to their health this would have
- Be open to the fact that even the most resistant patient may change their mind about stopping smoking and you will want to ensure they are linked with post-discharge support
- Reassure the patient that treatment and support will still be provided during their stay and can continue beyond discharge to avoid relapse back to smoking
- Always congratulate and praise the patient on how much they have achieved so far, remember that this is not easy for them
- Summarise and reflect on any significant changes or achievements and discuss potential barriers and sources of support the patient may need to remain abstinent
- Discuss the benefits of ongoing support as part of their continuing care plan and ensure an appointment has been arranged for ongoing specialist follow-up
- Patients that have previously declined support during their admission may be more receptive post-discharge, so consider offering a referral as part of the routine follow-up call
- Document the outcome of the consultation in the patient's notes

**TDA
Tips**

1

Assess progress and any challenges experienced, provide positive reinforcement and reassess readiness to stop or reduce smoking

- Assess progress with quitting and any challenges experienced
- Provide positive reinforcement for quitting and reinforce personal benefits
- Reassess readiness to stop or reduce smoking, as appropriate

2

Discuss continued use of treatment and provide supply of tobacco dependence medication/aids

- Review instructions for use of tobacco dependence medication following discharge including products, frequency of use and instructions for use
- Reinforce the importance of using these medications for the full 10–12 week treatment course
- Ensure the patient has a supply of medications or aids

Provide a supply of NRT and/or vaping liquids to be used post-discharge and until the next consultation with a tobacco dependency specialist. The minimum recommended supply is 2 weeks.

Inform patients that the service they have been referred to will be able to continue to supply them with tobacco dependence medication or aid for the full 10–12-week treatment period.

Ensuring adequate supply of NRT during transfer of care

While ideally the community-based stop smoking service will provide a continued supply of combination NRT or other medication free of charge, there are often delays to carrying out the initial assessment.

Working with the local stop smoking and pharmacy services to ensure they are seeing patients discharged from hospital and that stop smoking aids are being provided is critical to preventing relapse. Some services arrange for pick up or drop off of tobacco dependence medications for patients with mobility issues or poor health. Working with local services to develop processes for supporting patients in the critical period following discharge from hospital with continued supply of NRT is recommended best practice.

3

Discuss importance of support following discharge from hospital

- Discuss the importance of referral to post-discharge follow-up support, where they will get expert support with staying smokefree

It will be important to schedule the first consultation **before the NRT products supplied to the patient in hospital run out.**

Remind the patient of the agreed appointment date, time and location. Provide a contact number for service the patient has been referred to.

“We have coordinated a referral to the [community pharmacy/stop smoking service] to support you with staying smokefree when you return home. You can expect to receive a call from them to see how you are doing and also provide you with an additional supply of NRT. ”

“If you have any questions or concerns before that time, you can always call X at _____. Likewise, if you can’t keep your appointment please give them a call. Don’t worry if you struggle at all with staying quit – the advisors at the service are friendly and I think you will find their support will be really helpful.”

Inform the patient about follow-up calls that will take place 7–14 days and one month post-discharge.

“We follow-up with all patients following discharge from hospital. We will plan to give you a quick check-in call next week or the following. Can I just verify the number you would like us to use to reach you? We will also schedule a time to see you back here at the hospital.”

Confirm the best contact number and time of day to contact the patient, noting this in the patient record.

4

Provide guidance on staying smokefree/reducing smoking following discharge**■ Review the plan/tips for staying smokefree following discharge from hospital.**

Time permitting, provide guidance to all patients:

“There are a few things that other patients have found really helped to keep them on track, could I share some of these with you?:

- throw out all of your cigarettes, lighters and ashtrays*
- make a conscious effort to avoid people who smoke, especially in the first few weeks*
- try to keep yourself busy during the times when you would normally smoke*

If you do get the urge to smoke, use the [faster-acting NRT product, e.g. inhalator or spray] to help the craving pass, or distract yourself until the urges to smoke pass.”

- Review the patient’s plan for dealing with urges to smoke, withdrawal symptoms and triggers in this early period (over next week)
- Reinforce the importance of abrupt cessation and dealing with any lapses
- Ask about other people who smoke in the home and signpost to local stop smoking support as appropriate.
- For patients who identify having other people who smoke in the home or significant others; identify strategies for coping.
- Discuss with the patient who might be able to support them with staying smokefree (e.g., a good friend, spouse or partner, family member, co-worker)

“Is there someone that will be able to support you with your goal to stop smoking? Someone who can lend you support and encouragement or be there for you in any difficult times as you make this important change?”

Be prepared for situations in which there is no ‘support person’ and provide reassurance that this is ok.

5

Provide a summary and contact number and address any questions or concerns

Provide a brief summary of your call and any modifications to medications you have discussed.

Prompt commitment from the patient to staying smokefree or achieving harm reduction goals.

5.0 The Post-Discharge Care Bundle

1–4 week follow-up and outcome measurement

5.1 Post-discharge telephone follow-up

Timeframe: 7–14 days post-discharge

Responsible persons: Tobacco Dependence Team/Tobacco Dependence Advisor

Duration: 10 minutes

Clinical checklist

Done

1	Establish rapport and explain the reason for the call	<input type="checkbox"/>
2	Assess smoking status and reassess smokefree goals	<input type="checkbox"/>
3	Assess medication use and supply level	<input type="checkbox"/>
4	Confirm access to community-based support, briefly address barriers, review options and refer as appropriate	<input type="checkbox"/>
5	Provide a summary and schedule 28-day follow-up	<input type="checkbox"/>

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

After the consultation

Document consultation in patient record	<input type="checkbox"/>
Coordinate community referral (as needed)	<input type="checkbox"/>

- Always greet the patient in a positive manner and remain open to their progress so far
- As you engage with the patient, re-assess their ability to interact with you, either in person or over the telephone
- Check on treatment compliance: are they using the medication, and have they engaged with specialist support?
- If continual abstinence is reported, congratulate and praise the patient on how much they have achieved so far, remember that this is not easy for them
- Remind the patient that their achievement of going smokefree will continue to have significant benefits to their health beyond their recent stay in hospital and is likely to help prevent future hospital admissions
- Discuss the benefits of ongoing specialist support as part of their continuing care plan and ensure a follow-up appointment has been arranged
- Document the outcome of the call in the patient's notes

1

Establish rapport and explain the reason for call

Returning home after a hospital stay can be challenging due to ongoing illness, recovery and mobility issues. Additionally, this can be a period in which there is an elevated risk of relapse to smoking, as patients return to their regular routines and the environments where they have smoked in the past. Furthermore, the stress of illness and hospitalisation may affect the patient's motivation to quit or be a trigger for smoking.

Patients may be struggling with withdrawal symptoms or urges to smoke.

Let the patient know the Tobacco Dependence Team calls all patients they meet whilst in hospital to see how they are doing now that they have returned home.

***"Hi _____. It's _____ from the Tobacco Dependence Team at the _____ trust.
How are you?"***

***We are calling to see how you have been getting on since your return home.
It's important for us to ensure you are getting on well and have the support you need
to quit or reduce your smoking."***

2

Learn about smoking status and reassess smokefree goals

Ask about smoking status and discuss the response.

For patients who were engaged in long-term abstinence attempts you can ask:

“How are you getting on, have you managed to stay smokefree since leaving hospital?”

or

“How have you been getting on with not smoking since being discharged from hospital?”

To get an accurate response it is often useful to clarify the patient's response by offering them the following options, or by asking them to confirm that they have not had even one puff on a cigarette:

- No, not even a puff.
- Yes, between 1 and 5 cigarettes.
- Yes, just a few puffs.
- Yes, more than 5 cigarettes.

If the patient has remained abstinent:

- Congratulate and praise them on their progress to date.
- Reinforce the importance of staying smokefree and not having one even one puff on a cigarette. Advise the patient that most people who relapse go back to smoking in the first few weeks after stopping and that managing not to smoke at all makes their chances of becoming a permanent non-smoker much higher.

If the patient has had a slip(s) (had a few cigarettes but not returned to regular smoking):

- Acknowledge the effort made, especially for more dependent people who smoke. However, also reinforce the rationale of complete abstinence, as having the occasional cigarette makes withdrawal worse and reduces the likelihood of quitting.
- Learn about the details of the patient's smoking (when, where and why). Provide brief advice and ensure they are seen by follow-up support.

If the patient has relapsed (returned to regular smoking):

- It will not be uncommon for patients who expressed initial interest in quitting to change their mind or feel a lack of confidence in their ability to quit. It can be helpful to understand the challenges of quitting and provide non-judgmental support and encouragement. Often just a few minutes speaking to a trained practitioner can assist with boosting patient confidence and help them stay on track with the plan for quitting.

For patients not engaged in becoming smokefree:

“How many cigarettes a day are you smoking at the moment?”

“Have you attempted to reduce your smoking at all?”

Provide advice and motivational intervention as appropriate.

Assess their readiness to go smokefree:

“Have you thought about our offer to support you with quitting?”

or

“I did want to check to see how you are doing and let you know the offer of support is always here. We can also provide medications without cost and specialist support.”

Respond as appropriate.

Review options for follow-up support and initiate referral to stop smoking support as appropriate.

3

Assess medication use and supply level

- Assess patients use of tobacco dependence medication.

“Have you been using the _____ (product) that was provided to you?”

- Assess current supply levels.

“How much medication supply do you have left?”

4

Confirm access to community-based support, briefly address barriers, review options and refer as appropriate

Confirm access to follow-up support (for patients who were referred to community-based follow-up support):

“I wanted to check to see if you met with the stop smoking advisor at the [name of service to which patient was referred for stop smoking support]?”

If the patient is being actively followed by a community-based stop smoking service:

“That’s great, I am so glad you have been working with the service.”

Learn more about their experience, where appropriate, and provide reinforcement:

“Are you finding you are getting the support you need?”

“You are the one doing all the work, but I am glad to know that, despite the fact that a visit to hospital is how we met, you have been able to use the opportunity to get expert support with stopping.”

If patient is not being followed by community-based stop smoking support, briefly address any barriers, review options and refer as appropriate.

Whilst structured support from a specialist service will provide the best chance of stopping, consider alternative support mechanisms as part of addressing any reported barriers.

This might include a different service (for instance if they were referred through APS, a LA SSS might work better, or it could be a digital offer, self-help, support group etc.).

Advise any patients not interested in formal support about the option to switch to vaping.

“Have you thought about using a vape instead of smoking? A lot of people who smoke find it is helpful in reducing their smoking or stopping altogether.”

If the service was not in touch:

- Let the patient know that you will be in touch with the service to see what may have happened.
- Provide any immediate support they may need particularly with the supply of stop smoking treatment that was prescribed in hospital.

If the patient has changed their mind:

- Review the reasons for this and encourage them to consider engaging in support, letting them know the door remains open.
- Consider other options for follow-up support as appropriate.

If the patient has identified barriers to accessing the service, briefly address these barriers.

Barriers may include: travel time, ability to devote time to visit, concerns about being pressured or not understood.

5

Provide a summary and schedule 28-day follow-up**Provide patients with brief advice:**

“Make a conscious effort to stay around people who do not smoke. Try to keep yourself busy during the times when you would normally smoke. If you do get the urge to smoke, use the inhalator or gum to help the craving pass, or keep yourself busy for three to five minutes while the urge to smoke passes.”

For patients experiencing moderate to severe withdrawal symptoms or urges to smoke, advice should be provided about increasing frequency of use, or dose of the NRT products.

Provide a summary

Summarise what was discussed as part of the call and any actions to be taken by the patient or yourself (e.g., initiate referral).

Ask the patient if they have any questions:

“Do you have any questions or concerns that you want to talk about?”

If no, continue. **If yes**, answer the questions as best you can.

Schedule 28-day follow-up

Schedule the 28-day follow-up appointment. This appointment is ideally conducted as a face-to-face appointment at the hospital trust as CO testing is conducted as part of this visit. If a face-to-face visit cannot be conducted due to mobility issues or other barriers, a telephone call can be used to conduct the assessment.

Ensure the patient has a contact number for the service to which they are being referred and/or the trust Tobacco Dependence Team.

5.2 Four-week follow-up appointment

Timeframe: 28 days post-discharge

Responsible persons: Tobacco Dependence Team/Tobacco Dependence Advisor

Duration: 10 minutes

Format: In person (via telephone if in person not possible)

Clinical checklist

Done

1	Learn about progress and assess current smoking status, reassess smokefree goals	<input type="checkbox"/>
2	Conduct CO test and review results	<input type="checkbox"/>
3	Assess medication use and supply level	<input type="checkbox"/>
4	Confirm access to community-based support, briefly address barriers, review options and refer as appropriate	<input type="checkbox"/>
5	Provide a summary and provide positive reinforcement for quitting	<input type="checkbox"/>

Communication skills used

Build rapport	<input type="checkbox"/>	Use reflective listening	<input type="checkbox"/>
Boost motivation and self-efficacy	<input type="checkbox"/>	Provide reassurance	<input type="checkbox"/>

After the consultation

Document consultation in patient record	<input type="checkbox"/>
Coordinate community referral (as needed)	<input type="checkbox"/>

1

Learn about progress and assess current smoking status, readiness to quit

Welcome the patient and ask about their health status. Show genuine interest in learning about how they have been doing in general and in staying smokefree.

For patients who were engaged in long-term abstinence:

“How are you getting on, have you managed to stay smokefree since leaving hospital?”

or

“How have you been getting on with not smoking since being discharged from hospital?”

To get an accurate response it is often useful to clarify the patient's response by offering them the following options, or by asking them to confirm that they have not had even one puff on a cigarette:

- No, not even a puff.
- Yes, between 1 and 5 cigarettes.
- Yes, just a few puffs.
- Yes, more than 5 cigarettes.

If the patient has remained abstinent:

- Congratulate and praise the patient on their progress to date.
- Reinforce the importance of staying smokefree and not having one even one puff on a cigarette. Advise the patient that most people who relapse go back to smoking in the first few weeks after stopping and that managing not to smoke at all makes their chances of becoming a permanent non-smoker much higher.

If the patient has had a slip(s) (had a few cigarettes but not returned to regular smoking):

- Acknowledge the effort made, especially for those more dependent on smoking. However, also reinforce the rationale of complete abstinence, as having the occasional cigarette makes withdrawal worse and reduces the likelihood of quitting.
- Learn about the details of the patient's smoking (when, where and why). Provide brief advice and ensure they are seen by follow-up support.

If patient has relapsed (returned to regular smoking):

- It will not be uncommon for patients who expressed initial interest in quitting to change their mind or feel a lack of confidence in their ability to quit. It can be helpful to understand the challenges of quitting and provide non-judgmental support and encouragement. Often just a few minutes speaking to a trained practitioner can assist with boosting patient confidence and help them stay on track with the plan for quitting.

For patients not engaged in becoming smokefree:

“How many cigarettes a day are you smoking at the moment?”

“Have you attempted to reduce your smoking at all?”

Provide advice and motivational intervention as appropriate.

Assess their readiness to go smokefree:

“Have you thought about our offer to support you with quitting?”

or

“I did want to check to see how you are doing and let you know the offer of support is always here. We can also provide medications without cost and specialist support.”

Respond as appropriate.

Review options for follow-up support and initiate referral to stop smoking support as appropriate.

2

Conduct CO test and review results

Conduct a CO test as described in previous sections. Review the results and use these as reinforcement or a motivational intervention to prompt commitment to remain smokefree or remain on track.

Record the CO result in the patient’s medical record. This record is used as part of the national dataset.

3

Assess medication use and supply level

- Assess patients use of tobacco dependence medication.

“Have you been using the _____ (product) that was provided to you?”

- Assess current supply levels.

“How much medication supply do you have left?”

4

Confirm access to community-based support, briefly address barriers, review options and refer as appropriate

For patients who were referred to community-based support:

"I'm interested in finding out if you met with the stop smoking advisor at [name of service to which patient was referred for stop smoking support]?"

If the patient is being actively followed by community-based stop smoking service:

"That's great, I am so glad you have been working with the service. Well done, this is such a great achievement."

Learn more about their experience, where appropriate, and provide reinforcement:

"Are you finding you are getting the support you need?"

"You are the one doing all the work, but I am glad to know that, despite the fact that a visit to hospital is how we met, you have been able to use the opportunity to get expert support with stopping."

If the service was not in touch:

- Let patient know that you will be in touch with the service to see what may have happened.
- Provide any immediate support they may need particularly with the supply of stop smoking treatment that was prescribed in hospital.

If the patient has changed their mind:

- Review the reasons for this and encourage them to consider engaging in support, letting them know the door remains open.
- Consider other options for follow-up support as appropriate.

If the patient has identified barriers to accessing the service, briefly address these barriers.

Barriers may include: travel time, ability to devote time to visit, concerns about being pressured or not understood.

5

Provide a summary and positive reinforcement for quitting**Provide positive reinforcement for quitting**

Provide positive reinforcement to patients on the importance of staying smokefree to their health. Where appropriate, link to the patient's personal reasons for quitting.

Acknowledge that stopping smoking can be difficult but that the support being provided shows how important we believe it is for their health.

If time permits, you can ask the patient about some of the good things that have come from quitting, encouraging them to describe these in their own words. You can also calculate the money saved by not buying cigarettes or provide information about benefits they will have to their health in relation to their reason for hospitalisation or other health issues.

Ask the patient if they have any questions:

"Do you have any questions or concerns that you want to talk about?"

If **no**, continue. If **yes**, answer the questions as best you can.

Provide a summary and contact number

Provide a summary of what was discussed, thank the patient for their time and provide a contact number, as appropriate.

6.0 Clinical Considerations

Allergic reactions

Patients with mild to moderate severe allergic reactions to a stop smoking aid should discontinue use and switch to another stop smoking aid while in hospital and beyond. A Tobacco Dependence Advisor should be able to advise the patient on a suitable replacement.

Body weight

Patients with very high BMI, including overweight or large muscle mass, may benefit from higher doses of NRT and/or use of a nicotine analogue medication. Patients with low BMI, including the elderly, may require dose reductions, particularly when using varenicline, in order to manage side effects such as nausea. This does not seem to affect the efficacy of the medication.

Cardiac patients

Smoking is the most important modifiable risk factor for both the primary and secondary prevention of CVD. Stopping smoking is associated with a significant reduction of future cardiac events *including reinfarction, revascularization and death*.^{37,38} Stopping smoking has a benefit that is equal to or greater than other available secondary prevention strategies including beta-blockers, aspirin, or renin-angiotensin aldosterone system inhibitors.³⁹

There is high quality evidence that Combination NRT (patch + faster acting product) and varenicline can be safely used in cardiac patients.^{32,40} There is no evidence of any significant increase in any adverse cardiac outcomes or other ill effects to patients.⁴¹

While there have been only a small number of studies to examine the use of NRT among patients with acute coronary syndromes (ACS), studies conducted to date show no adverse effects.^{33–36} There is also evidence to support the efficacy of varenicline among patient with ACS.^{36,40,42} The benefits to be gained from smoking cessation far outweigh the well-established risk of continued smoking.

Diabetic patients

For patients who stop smoking, close monitoring of glycaemic control and adjustment of anti-diabetic medications, as needed, is recommended in the first year after stopping smoking. Liaise with the nursing team administering anti-diabetic medication if the patient is being supported with smoking abstinence during their admission.

Highly dependent

Patients who are more dependent generally benefit from higher doses of NRT or nicotine vapes. There is also evidence that varenicline is more effective in those who are more dependent.

Research has shown that a higher dose of NRT provided by more than one patch (42/50 mg) is more effective in managing withdrawal symptoms in highly dependent people compared to a single NRT patch (21/25 mg).^{43,44,45,46} High dose NRT has been found to be well tolerated and safe among more dependent smokers.^{43,47,48}

The use of two patches plus faster-acting NRT can be considered among patients who smoke 40 or more cigarettes per day, or those close to that consumption who are more dependent based on the Heaviness of Smoking Index (HSI). The use of a second patch may serve as a more feasible method for achieving a higher nicotine dose than a second faster-acting product, given it does not require frequent administration. The use of a second patch can be assessed on a case-by-case basis and with the reassurance that there is almost no likelihood of overdose or adverse effects in those who are more dependent.

The general guidance is that a higher nicotine dose (i.e., two patches) and faster-acting NRT product can be considered for those who:

- have cravings and/or withdrawal symptoms that are not being well managed with combination NRT (one patch and a faster-acting product), or
- did not get adequate relief of withdrawal symptoms from a single nicotine patch dose during a prior quit attempt.

Less dependent

There is limited strong evidence on the efficacy of tobacco dependence medications and aids for those who are less dependent (those who typically smoke less than 10 cigarettes per day). However, NRT or nicotine vapes will still be beneficial to these patients, in particular those who struggle with urges to smoke.

Orthopaedic and musculoskeletal patients

Patients will experience an increased risk of decreased bone mass and of developing osteoporosis. The risk increases with the length and intensity of the patient's smoking history. Patients have an increased risk of fracture and a slower rate of fracture healing. There is mixed evidence that nicotine affects bone health, unlike smoking. Nicotine delivered via NRT will not reach the same level in blood as nicotine delivered via a cigarette.

Use of oxygen

Smoking presents a high fire risk with the use of medical oxygen.

Nicotine vapes are classified by some fire services as a fire risk and must never be used close to medical oxygen. A large proportion of the risk relates to the batteries in these devices and how they are charged.

Some patients may be prescribed home oxygen therapy to help manage their condition. There is a significant risk of fire associated with smoking and the use of home oxygen therapy. The home oxygen service and the fire service may conduct a risk assessment and repeat the assessment on a scheduled basis. Smoking whilst using home oxygen can also mitigate the benefits of the oxygen therapy. Continued smoking may prevent the installation of home oxygen or result in its removal if there is a high risk of fire.

Pregnant women

NRT is safe and effective in supporting pregnant women to quit smoking. Combination NRT can be used for pregnant women who smoke and might be particularly helpful to those who are more dependent or who are struggling with withdrawal symptoms and/or urges to smoke. It is recommended that pregnant women use a 16-hour patch or remove the 24-hour patch overnight. Varenicline is not licensed for pregnant and breastfeeding women.

Patients with mental health illness

Patients with a mental health condition are able to abstain or quit with evidence-based support. Consistent messages from healthcare staff involved in the patient's care can help support the patient's temporary abstinence or quit attempt.

Combination NRT, vapes and varenicline can be safely used in patients with mental health illness, provided they are monitored by a healthcare professional.^{13,49,50} Stopping smoking, regardless of the use of medication, may result in changes to mood and treatment response.

Patients taking clozapine (to include olanzapine and other antipsychotics)

Upon identification of clozapine use by patients, urgent specialist advice should be sought.

Trusts will have a clozapine protocol in place for dose adjustment. The recommended dose adjustment is 25% over the first week. The dose is reduced gradually over one week until 75% of original dose. Blood plasma levels are taken before and after to guide further dose reductions. Doses will need to be adjusted again should patients return to smoking. The specialist will assess whether dose reduction is needed for short lengths of stay where the patient does not intend to remain smokefree long-term. Refer to **Appendix 10** for further guidance.

On stopping, reduce dose gradually (over one week) until 75% of original dose reached (i.e., reduce by 25%). Repeat plasma level one week after stopping. Anticipate further dose reductions.

Renal impairment

Patients with severe renal impairment (creatinine clearance <30 ml/min) should reduce their dose of varenicline by half (0.5 mg twice daily). Patients with renal failure should not use varenicline.

Surgical patients

Smoking is associated with a high perioperative risk and contributes to poor surgical and anaesthetic outcomes.⁵¹ Specifically, stopping smoking is associated with a 41% reduction in post-operative complications.⁵¹ For planned surgery, patients who smoke should quit as far in advance (before admission) as possible. Whilst there are substantial benefits from abstaining for as little as 24 hours before the operation, the largest benefits for surgical patients occur when smoking is stopped four to eight weeks prior to surgery.^{51,52} Patients requiring surgery during an admission should be supported to remain abstinent.

There is no known risk of NRT use among surgical patients or strong evidence to suggest that NRT impacts healing or cardiovascular complications, with the exception of facial-cranial surgery for which there is minimal research to guide practice.^{53,54} This is because NRT delivers nicotine by the blood system (venous) and rates of delivery are much lower than those delivered via a cigarette (pulmonary system) and are free of the carbon monoxide (CO) and other toxins present in tobacco. Patients with history of smoking will have a reduced response to nicotine exposure relative to a person who has never smoked. The risk-benefit assessment for NRT use versus the known effects of smoking should guide decision making.

7.0 References

1. RCP. Hiding in plain sight: Treating tobacco dependency in the NHS. London: The Royal College of Physicians; 2018.
2. Mullen KA, Manuel DG, Hawken SJ, et al. Effectiveness of a hospital-initiated smoking cessation programme: 2-year health and healthcare outcomes. *Tob Control* 2017;26(3):293–99. doi: 10.1136/tobaccocontrol-2015-052728
3. Evison M, Pearse C, Howle F, et al. Feasibility, uptake and impact of a hospital-wide tobacco addiction treatment pathway: Results from the CURE project pilot. *Clin Med (Lond)* 2020;20(2):196–202. doi: 10.7861/clinmed.2019–0336
4. Rigotti NA, Clair C, Munafo MR, et al. Interventions for smoking cessation in hospitalised patients. *Cochrane Database Syst Rev* 2012;5(5):CD001837. doi: 10.1002/14651858.CD001837.pub3
5. Reid RD, Mullen KA, Slovinec D'Angelo ME, et al. Smoking cessation for hospitalized smokers: an evaluation of the "Ottawa Model". *Nicotine Tob Res* 2010;12(1):11–8. doi: 10.1093/ntr/ntp165
6. Hughes JR, Peters EN, Naud S. Relapse to smoking after 1 year of abstinence: a meta-analysis. *Addict Behav* 2008;33(12):1516–20. doi: 10.1016/j.addbeh.2008.05.012 [published Online First: 20080608]
7. Hartmann-Boyce J, Hong B, Livingstone-Banks J, et al. Additional behavioural support as an adjunct to pharmacotherapy for smoking cessation. *Cochrane Database Syst Rev* 2019;6(6):CD009670. doi: 10.1002/14651858.CD009670.pub4
8. Stead LF, Koilpillai P, Fanshawe TR, et al. Combined pharmacotherapy and behavioural interventions for smoking cessation. *Cochrane Database Syst Rev* 2016;3(3):CD008286. doi: 10.1002/14651858.CD008286.pub3
9. Michie S, Churchill S, West R. Identifying evidence-based competences required to deliver behavioural support for smoking cessation. *Ann Behav Med* 2011;41(1):59–70. doi: 10.1007/s12160-010-9235-z
10. Michie S, Hyder N, Walia A, et al. Development of a taxonomy of behaviour change techniques used in individual behavioural support for smoking cessation. *Addict Behav* 2011;36(4):315–9. doi: 10.1016/j.addbeh.2010.11.016
11. Black N, Johnston M, Michie S, et al. Behaviour change techniques associated with smoking cessation in intervention and comparator groups of randomized controlled trials: a systematic review and meta-regression. *Addiction* 2020;115(11):2008–20. doi: 10.1111/add.15056 [published Online First: 20200416]
12. NICE. Tobacco: Preventing uptake, promoting quitting and treating dependence. NICE Guideline [NG209]. In: (NICE) NifHaCE, ed., 2021.
13. Livingstone-Banks J, Fanshawe TR, Thomas KH, et al. Nicotine receptor partial agonists for smoking cessation. *Cochrane Database Syst Rev* 2023;5(5):CD006103. doi: 10.1002/14651858.CD006103.pub8
14. Lindson N, Chepkin SC, Ye W, et al. Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev* 2019;4(4):CD013308. doi: 10.1002/14651858.CD013308
15. McNeill A, Simonavičius E, Brose L, Taylor E, East K, Zuikova E, Calder R, Robson D. Nicotine vaping in England: an evidence update including health risks and perceptions, 2022, 2022.
16. Theodoulou A, Chepkin SC, Ye W, et al. Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev* 2023;6(6):CD013308. doi: 10.1002/14651858.CD013308.pub2
17. Smoking Toolkit Study. <https://smokinginengland.info/graphs/top-line-findings>
18. Hartmann-Boyce J, Lindson N, Butler AR, et al. Electronic cigarettes for smoking cessation. *Cochrane Database Syst Rev* 2022;11(11):CD010216. doi: 10.1002/14651858.CD010216.pub7
19. Lindson N, Klemperer E, Hong B, et al. Smoking reduction interventions for smoking cessation. *Cochrane Database Syst Rev* 2019;9(9):CD013183. doi: 10.1002/14651858.CD013183.pub2

20. Tulloch HE, Pipe AL, Els C, et al. Flexible, dual-form nicotine replacement therapy or varenicline in comparison with nicotine patch for smoking cessation: a randomized controlled trial. *BMC Med* 2016;14:80. doi: 10.1186/s12916-016-0626-2
21. Rigotti NA, Kruse GR, Livingstone-Banks J, et al. Treatment of Tobacco Smoking: A Review. *JAMA* 2022;327(6):566–77. doi: 10.1001/jama.2022.0395
22. Thomas KH, Dalili MN, Lopez-Lopez JA, et al. Comparative clinical effectiveness and safety of tobacco cessation pharmacotherapies and electronic cigarettes: a systematic review and network meta-analysis of randomized controlled trials. *Addiction* 2022;117(4):861–76. doi: 10.1111/add.15675
23. Ramon JM, Morchon S, Baena A, et al. Combining varenicline and nicotine patches: a randomized controlled trial study in smoking cessation. *BMC Med* 2014;12:172. doi: 10.1186/s12916-014-0172-8
24. Hajek P, Smith KM, Dhanji AR, et al. Is a combination of varenicline and nicotine patch more effective in helping smokers quit than varenicline alone? A randomised controlled trial. *BMC Med* 2013;11:140. doi: 10.1186/1741-7015-11-140
25. Koegelenberg CF, Noor F, Bateman ED, et al. Efficacy of varenicline combined with nicotine replacement therapy vs varenicline alone for smoking cessation: a randomized clinical trial. *JAMA* 2014;312(2):155–61. doi: 10.1001/jama.2014.7195
26. Ebbert JO, Hays JT, Hurt RD. Combination pharmacotherapy for stopping smoking: what advantages does it offer? *Drugs* 2010;70(6):643–50. doi: 10.2165/11536100-000000000-00000
27. Chang PH, Chiang CH, Ho WC, et al. Combination therapy of varenicline with nicotine replacement therapy is better than varenicline alone: a systematic review and meta-analysis of randomized controlled trials. *BMC Public Health* 2015;15:689. doi: 10.1186/s12889-015-2055-0
28. King A, Vena A, de Wit H, et al. Effect of Combination Treatment With Varenicline and Nicotine Patch on Smoking Cessation Among Smokers Who Drink Heavily: A Randomized Clinical Trial. *JAMA Netw Open* 2022;5(3):e220951. doi: 10.1001/jamanetworkopen.2022.0951
29. Garcia-Rodriguez O, Secades-Villa R, Florez-Salamanca L, et al. Probability and predictors of relapse to smoking: results of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Drug Alcohol Depend* 2013;132(3):479–85. doi: 10.1016/j.drugalcdep.2013.03.008
30. Taylor GM, Lindson N, Farley A, et al. Smoking cessation for improving mental health. *Cochrane Database Syst Rev* 2021;3(3):CD013522. doi: 10.1002/14651858.CD013522.pub2
31. Wu AD, Gao M, Aveyard P, et al. Smoking Cessation and Changes in Anxiety and Depression in Adults With and Without Psychiatric Disorders. *JAMA Netw Open* 2023;6(5):e2316111. doi: 10.1001/jamanetworkopen.2023.16111
32. Mills EJ, Thorlund K, Eapen S, et al. Cardiovascular events associated with smoking cessation pharmacotherapies: a network meta-analysis. *Circulation* 2014;129(1):28–41. doi: 10.1161/CIRCULATIONAHA.113.003961
33. Meine TJ, Patel MR, Washam JB, et al. Safety and effectiveness of transdermal nicotine patch in smokers admitted with acute coronary syndromes. *Am J Cardiol* 2005;95(8):976–8. doi: 10.1016/j.amjcard.2004.12.039
34. Woolf KJ, Zabad MN, Post JM, et al. Effect of nicotine replacement therapy on cardiovascular outcomes after acute coronary syndromes. *Am J Cardiol* 2012;110(7):968–70. doi: 10.1016/j.amjcard.2012.05.028
35. Pack QR, Priya A, Lagu TC, et al. Short-Term Safety of Nicotine Replacement in Smokers Hospitalized With Coronary Heart Disease. *J Am Heart Assoc* 2018;7(18):e009424. doi: 10.1161/JAHA.118.009424
36. Franck C, Fillion KB, Eisenberg MJ. Smoking Cessation in Patients With Acute Coronary Syndrome. *Am J Cardiol* 2018;121(9):1105–11. doi: 10.1016/j.amjcard.2018.01.017
37. National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General. Atlanta (GA): Centers for Disease Control and Prevention (US); 2014. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK179276/>
38. Wu AD, Lindson N, Hartmann-Boyce J, et al. Smoking cessation for secondary prevention of cardiovascular disease. *Cochrane Database Syst Rev* 2022;8(8):CD014936. doi: 10.1002/14651858.CD014936.pub2

39. Kottke TE, Faith DA, Jordan CO, et al. The comparative effectiveness of heart disease prevention and treatment strategies. *Am J Prev Med* 2009;36(1):82–88. doi: 10.1016/j.amepre.2008.09.010
40. Sterling LH, Windle SB, Filion KB, et al. Varenicline and Adverse Cardiovascular Events: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *J Am Heart Assoc* 2016;5(2) doi: 10.1161/JAHA.115.002849
41. Benowitz NL, Pipe A, West R, et al. Cardiovascular Safety of Varenicline, Bupropion, and Nicotine Patch in Smokers: A Randomized Clinical Trial. *JAMA Intern Med* 2018;178(5):622–31. doi: 10.1001/jamainternmed.2018.0397
42. Eisenberg MJ, Windle SB, Roy N, et al. Varenicline for Smoking Cessation in Hospitalized Patients With Acute Coronary Syndrome. *Circulation* 2016;133(1):21–30. doi: 10.1161/CIRCULATIONAHA.115.019634
43. Mills EJ, Wu P, Lockhart I, et al. Comparisons of high-dose and combination nicotine replacement therapy, varenicline, and bupropion for smoking cessation: a systematic review and multiple treatment meta-analysis. *Ann Med* 2012;44(6):588–97. doi: 10.3109/07853890.2012.705016
44. Shiffman S, Ferguson SG, Gwaltney CJ, et al. Reduction of abstinence-induced withdrawal and craving using high-dose nicotine replacement therapy. *Psychopharmacology (Berl)* 2006;184(3–4):637–44. doi: 10.1007/s00213-005-0184-3
45. Ferguson SG, Shiffman S, Gwaltney CJ. Does reducing withdrawal severity mediate nicotine patch efficacy? A randomized clinical trial. *J Consult Clin Psychol* 2006;74(6):1153–61. doi: 10.1037/0022-006X.74.6.1153
46. Hatsukami D, Mooney M, Murphy S, et al. Effects of high dose transdermal nicotine replacement in cigarette smokers. *Pharmacol Biochem Behav* 2007;86(1):132–9. doi: 10.1016/j.pbb.2006.12.017
47. Fredrickson PA, Hurt RD, Lee GM, et al. High dose transdermal nicotine therapy for heavy smokers: safety, tolerability and measurement of nicotine and cotinine levels. *Psychopharmacology (Berl)* 1995;122(3):215–22. doi: 10.1007/BF02246542
48. Dale LC, Hurt RD, Offord KP, et al. High-dose nicotine patch therapy. Percentage of replacement and smoking cessation. *JAMA* 1995;274(17):1353–8.
49. Anthenelli RM, Benowitz NL, West R, et al. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *Lancet* 2016;387(10037):2507–20. doi: 10.1016/S0140-6736(16)30272-0
50. Raich A, Ballbe M, Nieva G, et al. Safety of Varenicline for Smoking Cessation in Psychiatric and Addicts Patients. *Subst Use Misuse* 2016;51(5):649–57. doi: 10.3109/10826084.2015.1133646
51. Mills E, Eyawo O, Lockhart I, et al. Smoking cessation reduces postoperative complications: a systematic review and meta-analysis. *Am J Med* 2011;124(2):144–54 e8. doi: 10.1016/j.amjmed.2010.09.013
52. Wong J, Lam DP, Abrishami A, et al. Short-term preoperative smoking cessation and postoperative complications: a systematic review and meta-analysis. *Can J Anaesth* 2012;59(3):268–79. doi: 10.1007/s12630-011-9652-x
53. Nolan MB, Warner DO. Safety and Efficacy of Nicotine Replacement Therapy in the Perioperative Period: A Narrative Review. *Mayo Clin Proc* 2015;90(11):1553–61. doi: 10.1016/j.mayocp.2015.08.003
54. Stefan MS, Pack Q, Shieh MS, et al. The Association of Nicotine Replacement Therapy With Outcomes Among Smokers Hospitalized for a Major Surgical Procedure. *Chest* 2020;157(5):1354–61. doi: 10.1016/j.chest.2019.10.054

8.0 Tobacco Dependence Advisor Training and Professional Development

TDA Training

See NCSCT website for more information:

www.ncsct.co.uk/publications/topcategory/nhs

Training for Other Team Members

A new eLearning for Admission Care Team and other NHS staff involved in the tobacco treatment programme will be available in early 2024. See NCSCT website for updates:

www.ncsct.co.uk/publications/topcategory/nhs

Additional Training Resources

The NCSCT offers a suite of online training courses that can be accessed from our training home page (list of online courses are below): <https://elearning.ncsct.co.uk/england>

- NCSCT Stop Smoking Practitioner Training and Assessment Programme
- Specialty course: Mental health and smoking cessation*
- Specialty course: Pregnancy and smoking cessation*
- Stop Smoking Medications
- Vaping: A guide for healthcare professionals
- Very Brief Advice on Smoking (VBA+)
- Very Brief Advice on Smoking for Pregnant Women
- Very Brief Advice on Secondhand Smoke

* Specialty courses are open to those who have passed the practitioner training

9.0 Resources for Tobacco Dependence Advisors

The resources listed here are in addition to the NHS Standard Treatment Programme for Hospitalised Tobacco Dependence Treatment; resources are included for the purpose of improving the quality of the behavioural support programme delivered to patients setting a goal of long-term abstinence.

Reference material

BTS Clinical Practice Guidelines

To be added

Tobacco: preventing uptake, promoting quitting and treating dependence
NICE Guidelines NG209

www.nice.org.uk/guidance/ng209

Hiding in plain sight: *Treating tobacco dependency in the NHS*

This key document addresses the harms and costs arising from smoking in the patients we see every day and argues for a new approach to treating their addiction.

www.rcplondon.ac.uk/projects/outputs/hiding-plain-sight-treating-tobacco-dependency-nhs

NHS Tobacco Dependency Programme

This webpage provides a summary of the NHS tobacco dependency programme.

www.england.nhs.uk/ourwork/prevention/tobacco-dependency-programme

NHS Tobacco Dependence Competency Framework

The competency framework outlines the competencies (knowledge and skills) for both frontline staff who will deliver the initial assessment, staff delivering specialist tobacco dependence treatment within the NHSE as well as leadership.

<https://future.nhs.uk/system/login?nextURL=%2Fconnect%2Eti%2FNHSp%2Fview%3FobjectId%3D30815248>

NHS Futures – Tobacco Dependence Forum

<https://future.nhs.uk/system>

Effects of smoking on health

ASH Factsheets

What is in a cigarette?

ash.org.uk/resources/view/whats-in-a-cigarette

NCSCT Secondary Care Factsheets

The NCSCT secondary care factsheets summarise the relationship between cigarette smoking and specific diseases or conditions and the clinical benefits of quitting. They also cover what we know about intervening with these patient groups in the hospital setting, including the use of tobacco dependence medications and referral to specialist stop smoking support.

www.ncsct.co.uk/pub_secondary-care-resources.php

The clinical case for providing stop smoking support to hospitalised patients

Cardiovascular patients

Dental patients

Diabetic patients

Mental Health

Oncology

Paediatrics

Pregnant Women

Respiratory patient

Rheumatology patients

Stroke patients

Surgical patients

Wound care

Briefings and clinical tools

Tobacco dependence medications and aids

Stop smoking aids quick reference

This quick reference clinical tool has been written by experts in the field to support stop smoking practitioners with the task of helping patients to choose the best medication for them.

www.ncsct.co.uk/publication_stop_smoking_medications_quick_reference.php

Combination NRT Briefing

Published in 2021, this NCSCT briefing on combination NRT summarises the latest research evidence and clinical good practice regarding the use of combination NRT:

www.ncsct.co.uk/publication_combination_nrt_briefing.php

Vaping (e-cigarettes)

NCSCT Vaping Briefing for Health and Social Professionals

www.ncsct.co.uk/publication_Vaping_Briefing.php

Smoking Cessation and Mental Health: A briefing for frontline staff

www.ncsct.co.uk/publication_Smoking_cessation_and_Mental_Health_briefing.php

Stop smoking in pregnancy: a briefing for maternity care providers

www.ncsct.co.uk/publication_briefing_for_midwifery_staff.php

Supplying NRT for pregnant women

www.ncsct.co.uk/publication_supplying_NRT.php

Medication interaction with smoking

www.sps.nhs.uk/articles/considering-drug-interactions-with-smoking

www.sps.nhs.uk/articles/managing-specific-interactions-with-smoking

10 Resources for Patients and Family

NHS smokefree

The NHS Smokefree website offers information and tips on quitting smoking, including information on accessing stop smoking support, daily email support, the free NHS Quit Smoking digital app and the online NHS Smokefree Quit Smoking Support Group.

www.nhs.uk/better-health/quit-smoking

Find your local Stop Smoking Service

Local Stop Smoking Services offer free stop smoking support from trained stop smoking practitioners along with tobacco dependence medications.

www.nhs.uk/better-health/quit-smoking/find-your-local-stop-smoking-service

NHS Smokefree National Helpline: 0300 123 1044

The Smokefree National Helpline provide information and support with stopping smoking delivered by trained, expert advisors; all lines are open **Monday to Friday 9am to 8pm and Saturday and Sunday 11am to 4pm.**

Digital Stop Smoking Apps

NHS Quit Smoking App

apps.apple.com/gb/app/nhs-smokefree/id687298065

Smokefree 28

play.google.com/store/apps/details?id=com.silverbackis.smokefree28&hl=en_GB

SF28 has been developed by experts to help you stop smoking. It sets up the challenge of being completely smoke free for 28 days. That is the period when craving and withdrawal symptoms are at their worst and if you can make it through without a single puff on a cigarette you are 20 times more likely to stay off cigarettes for good.

Appendix 1

Benefits of stopping smoking by clinical diagnosis

Condition	The facts	Short- and long-term benefits of stopping	Speaking to patient
Wound healing	Stopping smoking significantly improves wound healing and recovery.	<ul style="list-style-type: none"> ■ Reduced rate of wound infections ■ Reduced rate of impaired wound healing ■ Increased rate of bone healing 	<p>You are less likely to have wound infections if you stop smoking.</p> <p>If you smoke your bones take longer to fuse/repair than for a non-smoker.</p>
Length of stay and 30-day readmissions	Stopping smoking is associated with reduced length of stay in hospital and reduced risk of future admissions to hospital.	<ul style="list-style-type: none"> ■ Reduction in 30-day hospital readmission ■ Reduced length of stay in hospital 	Stopping smoking will significantly aid your recovery and help to reduce the time you need to spend in hospital.
Respiratory	Stopping smoking has been shown to improve lung function, reduce self-reported symptoms, reduce medication use including rescue medications, improve corticosteroid response, and improve quality of life scores.	<ul style="list-style-type: none"> ■ Smoking cessation improves the efficacy of therapies, including oxygen therapy and COPD inhalator medication such as bronchodilators or inhaled corticosteroids ■ Smoking cessation is associated with a 43% decreased risk of hospitalisation (HR 0.57 (95% CI 0.33–0.99)) 	Stopping smoking is one the best things you can do to help manage your condition, keep your lungs as healthy as possible and help prevent another stay in hospital. Patients who stop smoking often find that they use their medication less.
Cardiovascular	Stopping smoking is one of the most powerful things we can do to reduce risk of future heart attack.	<ul style="list-style-type: none"> ■ Decreased risk of 30-day readmission ■ Reduced rate of re-stenosis after angioplasty ■ Reduced risk of MI ■ Reduced risk of death following MI, CABG, cardiac event 	We know that smoking is a major cause of heart attacks. Stopping smoking will help you recover and prevent another heart attack.

Condition	The facts	Short- and long-term benefits of stopping	Speaking to patient
Surgery	Stopping smoking is one of the most powerful interventions for improving surgical outcomes. Quitting smoking four to eight weeks prior to surgery provides greatest benefit, however stopping at any time will have important benefits.	<ul style="list-style-type: none"> ■ 40% reduction in post-surgical complications including post-surgical infections ■ Improved surgical outcomes ■ Reduced length of stay following surgery ■ Improved wound and bone healing 	There are lots of benefits to stopping smoking before surgery, such as less risk of anaesthetic complications and improved recovery post-surgery, which may mean a shorter stay in hospital.
COPD	Stopping smoking has been shown to be more effective than all pharmacological treatment for slowing disease progression, for improving COPD outcomes and reducing COPD-related mortality.	<ul style="list-style-type: none"> ■ Slows respiratory function decline (FEV1) ■ With sustained quitting (approx. two years) the rate of decline in respiratory function among former smokers will return to that of never smokers ■ Improved lung function (5–10% with three to nine months of smoking cessation) 	Stopping smoking is the single most important thing you can do to help slow down progression of the disease. You will be helping to keep your lungs as healthy as possible and not cause any more damage.

Condition	The facts	Short- and long-term benefits of stopping	Speaking to patient
Diabetes	Diabetes and smoking is a lethal combination – a ticking time bomb. Stopping smoking is one of the most powerful interventions for reducing disease progression and complications among diabetic patients with significant reductions in both short- and long-term cardiovascular disease (CVD) risk.	<ul style="list-style-type: none"> ■ Within eight weeks insulin becomes more effective at lowering blood sugar levels ■ Slows the progression of nephropathy in type 2 diabetics ■ Decreased risk of developing coronary heart disease, within 11 years the risk decreases to that of non-smoking diabetics ■ Decreased risk in all-cause mortality, cardiovascular and cancer mortality, within 11 years the risk decreases to that of non-smoking diabetics 	Stopping smoking helps you to keep more effective control on your blood sugar levels and manage your condition. There are lots of benefits to being long-term abstinent, such as a lower risk of cardiovascular disease.
Oncology	Following a diagnosis of cancer stopping smoking is extremely important for improving treatment response, reducing risk of tumour progression, improving survival and reducing risk of future tumours.	<ul style="list-style-type: none"> ■ Increased treatment response ■ Decreased risk in complications ■ Reduction in risk of disease progression ■ Decreased risk of development of a second primary tumour ■ Increased survival rate following diagnosis ■ Increased quality of life 	Stopping smoking will help you with your treatment and lower your risk of complications.

Appendix 2

Nicotine withdrawal symptoms and strategies

Symptom	Average duration	Prevalence	Mechanism	Strategies
Light-headedness	<48 hours	10%	Body is getting more oxygen than prior to quitting.	Get up slowly from a seated or lying down position.
Night-time awakenings	<1 week	25%	Nicotine affects brain and sleep patterns.	Reduce caffeine intake.
Urges to smoke	>2 weeks	70%	Your brain has nicotine receptors. When you quit smoking these nicotine receptors are deprived of nicotine and are crying out to be stimulated.	Your craving will only last a few minutes. Let it pass. Urges become less frequent and severe the longer it has been since the last cigarette. Use your faster-acting NRT product to help with cravings. Develop strategies to deal with cravings. Remember the DEADD strategies.
Poor concentration	<2 weeks	60%	Nicotine is a stimulant. The brain is getting used to staying alert without nicotine.	Be patient with yourself. Take breaks throughout your day.
Restlessness	<4 weeks	60%	Your brain has nicotine receptors. When you quit smoking these nicotine receptors are deprived of nicotine and are crying out to be stimulated.	Take time to relax. Take deep slow breaths in through your nose and out through your mouth. Develop new routines for distraction. Reduce caffeine intake.
Irritability / aggression	<4 weeks	50%	Your brain has nicotine receptors. When you quit smoking these nicotine receptors are deprived of nicotine and are crying out to be stimulated.	Inform friends and family of your goal for long term abstinence so that they are aware of changes to your mood in this early period. Try to take it easy. Take a walk. Use relaxation techniques or a suitable exercise routine.

Symptom	Average duration	Prevalence	Mechanism	Strategies
Depressed mood	<4 weeks	60%	Changes to mood often occur in patients who quit smoking. Quitting smoking may unmask untreated depression.	Try to do something you enjoy each day. If score is >3, proceed with screening protocol. If < 3 advise patient to monitor and report worsening symptoms. If significant, provide counselling, prescribe appropriate medication, or refer the patient to a specialist.
Tired/low energy	2–4 weeks	–	Nicotine is a stimulant. It keeps body and brain alert.	Take a nap if you are tired. Don't push yourself. Your body is learning how to stay alert without nicotine.
Increased appetite/weight gain	>10 weeks	70%	The brain can confuse nicotine craving with hunger. Taste buds return to normal and food begins to taste better. Nicotine is also associated with increased metabolism (approx. 150 calories/day for a regular smoker).	Choose healthy snacks, drink plenty of water and increase physical activity.
Constipation	>4 weeks	17%	Bowel movements may be less frequent.	Increase dietary fibre intake. Consider use of over-the-counter or prescription medication.

Duration is the average time period people typically experience this side effect after they quit smoking.

Prevalence indicates the percentage of people who quit who experience this symptom.

Appendix 3

Common side effects of tobacco dependence medications and strategies

Product	What percent of patient experience this side effect	Strategies
Nicotine replacement therapy		
Skin irritation	35% (patch)	Rotate sites, use clear patch, or use cortisone cream.
Nausea	6% (patch) 18% (gum) 10% (spray)	Review instructions for use. Avoid swallowing for 15 seconds after. Avoiding using more than recommended dose of faster-acting NRT (increase patch dose instead).
Dizziness	6% (patch)	
Difficulty sleeping	7% (patch)	Remove patch at bedtime. Reapply 45–60 minutes before waking (set alarm).
Mouth or throat irritation	17% (inhalator) 10% (mist)	Take slow puffs of inhaler to avoid throat burn. Avoid inhaling mist.
Headache	30% (patch) 10% (mist)	Use over the counter medication.
Allergic reactions	2% (patch)	Discontinue medication and switch to another stop smoking aid.
Varenicline		
Nausea	30% (breakdown below)	<ul style="list-style-type: none"> ■ Generally reduces on its own within two weeks of use ■ Take with full glass of water and meal ■ Take each tablet at least eight hours apart ■ Use over-the-counter anti-nauseant ■ Reduce dose by half (0.5mg per day) if it is unresolved with the above ■ Discontinue if nausea is severe
<ul style="list-style-type: none"> ■ Mild ■ Moderate ■ Severe 	38.1% 71.4% 2%	
Headache	15.5%	
Vivid/abnormal dreams	15%	Take dose earlier in the evening.

Appendix 4

Nicotine replacement therapy quick reference

Nicotine replacement therapy (NRT)

- NRT is both effective in increasing success with stopping smoking and safe.
- Most common side effects are mild.
- Combining the NRT patch with fast-acting NRT products (e.g. gum, inhalator, mouth spray) has been shown to increase success with quitting.
- NRT products are typically used for 8–12 weeks. It is important to use the full course of the medications to increase success with quitting long-term. The amount of NRT can be reduced over this time period or full dose can be maintained. Some patients will benefit from using NRT for extended periods of time, and this is safe practice.

Guidelines for individualised dosing of NRT:

- It is important for patients to use enough NRT.
- The initial dose of NRT can be determined based on **heaviness of smoking index** (number of cigarettes and time to first cigarette in the morning).
- For patients who are heavily dependent, higher doses of NRT (>42 mg) have been shown to be more effective than standard doses (21 mg) in reducing withdrawal symptoms and cravings.
- Patient experience with withdrawal and cravings can be used to guide the need to adjust the initial dose. Both the dose of NRT patch and the frequency of using the fast-acting NRT can be increased as needed to address withdrawal and cravings.

Patch

16-hour skin patch:

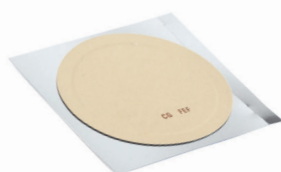
- 25 mg, 15 mg, 10 mg

24-hour skin patch:

- 21 mg, 14 mg and 7 mg

Products:

- Nicorette Invisi 25 mg, 15 mg, 10 mg
- Nicotinell 21 mg, 14 mg and 7 mg
- NiQuitin CQ 21 mg, 14 mg and 7 mg (Original and Clear)



How it works

- Delivers a steady dose of nicotine to the bloodstream via skin.
- Peak levels reached in 2–6 hours.
- Nicotine absorption: 0.6 to 1.6 mg per hour (depends on strength selected).

Prescribing guidelines

- Initial dose of nicotine based on heaviness of smoking index (number of cigarettes and time to first cigarette).
- Combining a patch with fast-acting NRT increases success with quitting.
- Use for 10–12 weeks or longer based on patient's needs.
- Step down approach: Step 1 (21 mg/25 mg) for 8 weeks; Step 2 (14 mg/15 mg) for 2 weeks; Step 3 (7 mg/10 mg) 2 weeks OR, full dose can be used for 12 weeks and then stopped.

Instructions



- Apply the patch to a clean, dry, non-hairy area.
- Replace the patch with a new one every 24 hours.
- Rotate site daily; rash from adhesive is common; topical creams may be applied.

Pregnant women

- 16-hour patch is recommended in pregnancy; remove patch at night.
- Pregnant women may experience increased skin sensitivity/rash.

Possible side effects: headache, dizziness, nausea, flushing, stomach upset, skin irritation, trouble sleeping (if patient has difficulty sleeping, use 16 hour patch or remove the 24 hour patch at bedtime).

Fast-acting NRT (oral and nasal)

<p>Gum</p> <p>Products:</p> <ul style="list-style-type: none"> ■ Fruit fusion, freshmint, icy white, or plain ■ Nicorette 2 and 4 mg ■ Nicotinell 2 and 4 mg ■ NiQuitin CQ 2 and 4 mg <p>2 mg (smokes their first cigarette 30 or more minutes after waking up)</p> <p>4 mg (smokes their first cigarette within 30 minutes of waking up)</p> 	<p>How it works</p> <ul style="list-style-type: none"> ■ Delivers nicotine to bloodstream through buccal mucosa (lining of mouth and throat). ■ Peak levels reached in about 30 minutes. ■ Nicotine absorption: approx. 0.9 mg per 2 mg piece and 1.2 mg per 4 mg piece. ■ The flavouring in Nicorette original contains negligible amounts of medicinal alcohol and will not have any noticeable effects.* <p>Instructions</p> <ul style="list-style-type: none"> ■ Approx. one piece per hour every hour. ■ Special chewing technique: chew and park.** ■ Chew-park-chew for about 20–30 minutes. After 30 minutes gum is exhausted. ■ Use up to 15 pieces. Using more than 20 pieces per day may cause nausea, consider increasing dose of patch if patient requires >20 pieces. ■ Avoid acidic drinks (like fruit juice) for 15 minutes before or during use. ■ Sticks to dentures; not appropriate for people with complicated dental work. ■ Can be combined with NRT patch. ■ Duration of treatment: 8–12 weeks; can be extended as required. <p>Possible side effects: nausea, headache, heartburn, coughing, hiccups, throat irritation.</p> <p>* Although negligible, the presence of alcohol may be an issue for some people because of their cultural and religious beliefs, or because of issues with alcohol.</p> <p>** Chew and park: Chew slowly until they can taste the nicotine or feel a slight tingling in their mouth, then stop chewing. Place the gum between the cheek and gums. After one minute, repeat the process until cravings are resolved.</p>
<p>Inhalator</p> <p>Plastic holder containing cartridge with 15 mg of nicotine</p> 	<p>How it works</p> <ul style="list-style-type: none"> ■ Puffing on inhalator draws nicotine vapour into the mouth: absorbed into bloodstream through buccal mucosa (lining of mouth and throat). ■ Behavioural replacement for 'hand to mouth' action. ■ Peak levels reached in 15–20 minutes. ■ Nicotine absorption: 20 minutes puffing for 1 mg nicotine depending upon technique. <p>Instructions</p> <ul style="list-style-type: none"> ■ Line up ridges of plastic holder to open and insert cartridge (you will hear a click). ■ Use every hour and puff for about 20 minutes or as needed to manage cravings. ■ Special puffing technique: take slow shallow puffs to avoid throat burn. ■ Each cartridge lasts for about 40 minutes of intense use. ■ 6 cartridges per day. ■ Avoid acidic drinks (like fruit juice) for 15 minutes before or during use. ■ Can be combined with NRT patch. ■ Duration of treatment: 8–12 weeks; can be extended as required. <p>Possible side effects: nausea, mouth/throat irritation.</p>

Mouth spray

A 1 mg mouth spray:

Nicorette, brand name QuickMist



How it works

- Delivery through buccal mucosa (lining of mouth and throat), faster acting (about two minutes to reach bloodstream).
- Nicotine absorption: peak levels reached within 16 minutes of administration.
- Each spray contains 1 mg nicotine; bottle contains about 150 sprays.
- Contains negligible amounts of medicinal alcohol (7 mg/spray) and will not have any noticeable effects.*

Instructions

- 1–2 sprays every 30 minutes to an hour, as required throughout the day to minimise withdrawal symptoms and urges to smoke.
- Child-proof lock (push lever and slide up or down).
First use: prime the pump (point away and spray).
- Open mouth wide; point inside mouth toward cheek and spray (press firmly); repeat on other side of mouth.
- Hold in mouth and refrain from swallowing for a few seconds immediately after spraying.
- Avoid acidic drinks (like fruit juice) for 15 minutes before or during use.
- Can be combined with NRT patch.
- Duration of treatment: 8–12 weeks; can be extended as required.

Possible side effects: headache, nausea, vomiting, changes in taste, tingling.

* Although negligible, the presence of alcohol in these products may be an issue for some people because of their cultural and religious beliefs, or because of issues with alcohol.

Nasal spray

Bottled nicotine solution:

10 mg/ml



How it works

- Delivers nicotine to bloodstream through nasal mucosa; faster acting (about two minutes to reach bloodstream).
- Peak levels reached in about 10 minutes.
- Nicotine absorption: approx. 0.5 mg nicotine each shot.
- Each bottle = 200 sprays = 6 days.

Instructions

- Remove the protective cap. Prime the spray by placing the nozzle between first and second finger with the thumb on the bottom of the bottle. Press firmly and quickly until a fine spray appears, this can take a few 'pumps'.
- Insert the spray tip into one nostril, pointing the top towards the side and back of the nose (45 degree angle). Press firmly and quickly. Give a spray into the other nostril.
- Warn patients that initial use may not be pleasant. Inform patients these adverse effects will pass with time (usually 2 days). Have a box of tissue on hand.
- 1–2 shots of spray in each nostril every hour.
- Initially at least 30 shots a day.
- Can be combined with NRT patch.
- Duration of treatment: 8–12 weeks; can be used longer as required.

Possible side effects: during the first 2 days of treatment, nasal irritation, sneezing, running nose, watering eyes, cough. Both the frequency and severity declines with continued use. Other possible side effects include nausea, headache.

Lozenge and mini lozenge

Sugar-free compressed tablet

- Nicotinell 1mg and 2mg (mint)
- NiQuitin CQ Original and Mini Lozenge 1.5mg, 2mg and 4mg (Original, Mint)
- Nicorette Mini Lozenge 2mg and 4mg (mint)



How it works

- Delivers nicotine to bloodstream through buccal mucosa (lining of mouth and throat).
- Peak levels of 4 mg reached within 30 minutes.
- Nicotine absorption: approx. 1.5 mg per 4 mg lozenge.

Instructions

- Placed in mouth, allow to dissolve (20–30 minutes) by moving around mouth periodically; avoid crushing or chewing.
- 1 lozenge every 1–2 hours as required to minimise withdrawal symptoms and urges to smoke.
- Avoid acidic drinks (like fruit juice) for 15 minutes before or during use.
- Can be combined with NRT patch.
- Duration of treatment: 8–12 weeks; can be extended as required.

Prescribing guidelines

- Greater tobacco dependence (smokes within 30 mins of waking): use 4 mg.

Possible side effects: sore mouth or throat, throat irritation, jaw pain, hiccups, nausea, headache.

Microtabs

Nicorette: small white tablet
2 mg nicotine



How it works

- Each tablet delivers nicotine to bloodstream via buccal mucosa (lining of mouth and throat).
- Peak levels reached in about 30 minutes.
- Nicotine absorption: approx. 0.9 mg per tablet.

Instructions

- Used sub-lingually: placed under the tongue until dissolved (30 minutes); should not be chewed or swallowed.
- Use 1–2 per hour; 16–40 tablets a day.
- Avoid acidic drinks (like fruit juice) for 15 minutes before or during use.
- Can be combined with NRT patch.
- Duration of treatment: 8–12 weeks; can be used longer as required.
- 1 week's supply = 2 boxes of 100 each.

Possible side effects: throat irritation, hiccups, nausea, headache.

For more information

See Summary of Product Characteristics (SPC) where you can find all the information on effects, side effects, and drug interactions: www.ncsct.co.uk/pub_stop-smoking-medications.php or www.medicines.org.uk/emc/

Appendix 5

Nicotine analogue quick reference

Varenicline (Champix)

How it works

Varenicline works directly at the level of the nicotine receptors in the brain. Partially alleviates craving and withdrawal symptoms by partially stimulating nicotine receptors, and blocks the rewarding effects of nicotine if the patient smokes.

How it is used

- **Days 1–3:** 0.5mg once daily
- **Day 4–7:** 0.5mg twice daily (breakfast and dinner)
- **Weeks 2–12:** 1mg twice daily (breakfast and dinner)

Instructions

- Set quit date and begin taking varenicline 7–14 days before quit date.
- Swallow tablet whole; take with water and after a meal.
- Take tablets at last 8 hours apart.
- May have minor or moderate influence on the ability to drive and use machines. Make sure medication does not affect mental alertness before commencing these activities.
- Patients unable or unwilling to stop smoking after target quit date within 7–14 days of medication use may continue using the medication. It is recommended that they set a new quit date within 5 weeks of use.
- Varenicline is used for 12 weeks and patients should use full course of treatment. An additional course of 12 weeks treatment may be prescribed for those patients who think that they need it.

Contraindications

- Pregnant and breastfeeding women, adolescents.
- End stage renal failure.

Cautions

- Severe renal impairment (creatinine clearance <30 ml/min) reduce dose to 0.5mg twice daily.
- Severe psychiatric disorder.

Possible side effects

Side effects generally resolve over time (first 2 weeks).

- Nausea (30%): mostly mild to moderate (3% severe).
Verify patients are taking medication with/after a meal. Patients can be advised to lie down if this helps (the nausea will generally pass) and anti-emetics can be taken if persists.
- Headaches (15%)
- Insomnia (18%)*
- Abnormal (vivid) dreams (13%)*

*Option to take dose earlier in the evening.

The dose may be reduced to 0.5mg twice daily as required to address side effects.

History of psychiatric disorder

- The use of varenicline among people with or without a history of psychiatric disorder has **NOT** been associated with an increased risk of serious neuropsychiatric adverse events compared with placebo.
- Practitioners should be aware of the possible emergence of serious neuropsychiatric symptoms in people attempting to quit with or without treatment.
- Care should be taken with patients with a history of psychiatric illness and patients should be advised and monitored accordingly. The possible risks of taking this medication should be weighed against the benefits of stopping smoking.



Cytisine

How it works

Cytisine is a naturally occurring plant-based substance that mimics the effect of nicotine in the brain. Like varenicline, cytisine acts to reduce withdrawal symptoms and urges to smoke; it also reduces the reward and satisfaction associated with smoking.

How it is used

Cytisine is started on a reducing dosing schedule over a 25 day course

- **Day 1–3:** 1 capsule every 2 hours (maximum 6 capsules/day)
- **Day 4–12:** 1 capsule every 2.5 hours (maximum 5 capsules/day)
- **Day 13–16:** 1 capsule every 3 hours (maximum 4 capsules/day)
- **Day 17–20:** 1 capsule every 5 hours (maximum 3 capsules/day)
- **Day 21–25:** 1–2 capsules/day

Instructions:

- Taken orally with water.
- The standard treatment course for cytisine is 25 days.
- Smoking should be stopped completely no later than 5th day of treatment.
- Cytisine is an effective treatment for tobacco dependency and can be added to all other treatments, e.g., NRT or nicotine vape.
- Cytisine cannot be prescribed but can be purchased from online retailers as a consumer product.
- Cytisine is more likely to be successful alongside behaviour change support provided by a TDA during and after hospital admission.

Contraindications:

- Patients with renal or hepatic impairment.
- Under 18 years of age or over 65 years.
- Pregnant and breastfeeding women.
- Patients with unstable angina, clinically significant arrhythmias, recent stroke or myocardial infarction.
- Patients using anti-tuberculosis drugs.

Cautions

Should be used with caution in case of ischemic heart disease, heart failure, hypertension, pheochromocytoma (a tumour of the adrenal gland), atherosclerosis (hardening of the arteries) and other peripheral vascular diseases, gastric and duodenal ulcer, gastroesophageal reflux disease, hyperthyroidism (overactive thyroid), diabetes, schizophrenia, kidney and liver failure.

Possible side effects

- Nausea (4–6.7%)
- Vomiting (2%)
- Insomnia (5.9%)
- Abnormal dreams (7.5%)
- Headache (2.5%)
- Dry mouth



Appendix 6

Nicotine vape quick reference

- Nicotine-containing vapes are first line tobacco treatments and significantly less harmful than smoking.
- Vapes do not contain tobacco and here is no combustion, so they do not produce tar or carbon monoxide, two of the most damaging elements in tobacco smoke.
- Vapes are consumer products and are regulated for safety and quality by the Tobacco and Related Products Regulations 2016.

Guidelines for nicotine concentrations

- People who want to quit should use a vape with nicotine-containing e-liquid.
- E-liquid (juice) is typically available with nicotine concentrations of 0mg/ml, 3mg/ml, 6mg/ml, 12mg/ml and 18mg/ml. The maximum nicotine concentration is 20mg/ml.
- Most people who smoke regularly are likely to need 18mg/ml (at least to begin with). Those who are more dependent may initially benefit from vaping 18mg/ml nicotine e-liquid with a nicotine patch (NRT), using the vape as their faster acting nicotine product.
- Experience can guide how much nicotine is required; the aim should be to use sufficient nicotine to significantly reduce or eliminate withdrawal symptoms and urges to smoke.

How it works

- Vaping devices heat a solution to create an aerosol that is inhaled. The solution typically contains nicotine, propylene glycol, vegetable glycerine and flavourings.
- Like NRT, the nicotine in a vape reduces the urge to smoke and is an effective substitute for smoking, delivering nicotine without harmful tobacco smoke.

Instructions



- Use regularly throughout the day and when cravings occur. Patients should be advised to use their vape as often as they need to, in order to manage urges to smoke.
- The action of vaping is different to smoking, which generally involves taking a deep lungful of smoke from a cigarette. Patients new to vaping should inhale gently, drawing the vapour into the mouth and then inhaling into the lungs. Practice is often needed and patients shouldn't be put off by this.
- More frequent and consistent vaping ('grazing on nicotine') is typically needed to get sufficient nicotine, compared to smoking a cigarette every couple of hours ('bingeing on nicotine').
- Patients should be advised to always take their fully-charged vape with them when they go out, to avoid the risk of smoking when they haven't got their vape to hand.
- Advise patients not to leave their vape to charge overnight.
- Patients should be told that the benefits of vaping are greatest when they stop smoking tobacco completely.

Possible side effects

- The most common side effects of vaping tend to be a dry mouth and tickly cough.
- These can generally be remedied by drinking more water, as the vapour can have a drying effect on the mouth and throat.

Main types of vaping devices

- There are many types of vapes on the market, with a wide variety of appearance, battery size, and effectiveness. All devices deliver a flavoured aerosol, usually containing nicotine.
- Rechargeable devices with a refillable tank will deliver nicotine more effectively and quickly than a disposable model and for this reason may give patients a better chance of quitting smoking.

<p>Tanks</p> 	<ul style="list-style-type: none"> ■ Typically the size of a large pen, they have a more powerful battery than disposable devices and a 'tank' that the patient fills with their choice of e-liquid. ■ These devices can often be used with an interchangeable range of atomisers, cartomisers and tanks and may have adjustable power settings. ■ The patient can choose their own flavour and strength of e-liquid. With repeated use, experienced users can obtain blood nicotine levels comparable to that achieved from cigarettes.
<p>Regulated mods</p> 	<ul style="list-style-type: none"> ■ These contain a chip that controls the power being delivered to the atomiser which prevents the device from short-circuiting. ■ Many devices allow the patient to adjust the voltage or wattage applied to the coil and some offer temperature control as well. ■ Some mods come with puff counters or downloadable software that allow patients to program their own voltage and wattage level, and to monitor their patterns of use. ■ They come in a variety of shapes and sizes (from simple pen-style to larger box-shaped devices) and are designed to allow modifications and substitution of individual components according to patient preference and allow for more control over nicotine delivery. ■ The devices are generally recommended for more experienced vapers.
<p>Pods</p> 	<ul style="list-style-type: none"> ■ Compact rechargeable devices, often shaped like a USB stick. ■ They use pods (small refills of e-liquid) made specifically for the device, often using nicotine salts. Pods are replaced when empty. ■ Most of these pods come pre-filled with a chosen flavour, although some newer models have refillable pods that allow a choice of flavour. ■ Pods offer patients simplicity (you don't refill) and are more compact in size and appearance than tanks. ■ In the UK the maximum strength of nicotine currently allowable for use in pod systems is 20 mg. ■ Due to their smaller battery and the limit on nicotine content, delivery of nicotine is currently not comparable to other devices.
<p>Single-use</p> 	<ul style="list-style-type: none"> ■ Newer to the market, they are compact, single-use and prefilled with flavoured e-liquid or nicotine salts. ■ They are most commonly pre-loaded with one strength of 20 mg nicotine salt. ■ They are draw-activated and once the flavour/taste diminishes, they are designed to be disposed of and replaced with a new one. ■ They require no filling or practice to use and are relatively cheap. People not ready to commit to vaping may experiment with them. ■ The effectiveness of nicotine delivery is yet to be established, although reports from users are favourable.

Appendix 7

Heaviness of Smoking Index (HSI)

Heaviness of Smoking Index (HSI)

1. On the days that you smoke, how soon after you wake up do you have your first cigarette?

☐ Within 5 minutes (3 points)

☐ 6–30 minutes (2 points)

☐ 31–60 minutes (1 point)

☐ After 60 minutes (0 points)

2. How many cigarettes do you typically smoke per day?

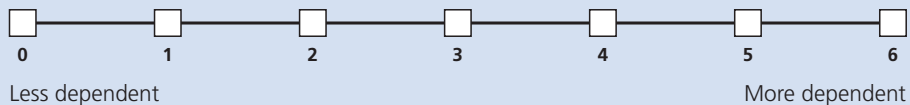
☐ 10 or fewer (0 points)

☐ 11–20 (1 point)

☐ 21–30 (2 points)

☐ 31 or more (3 points)

Scoring



Appendix 8

Carbon monoxide (CO) testing Instructions



What is carbon monoxide?

Carbon monoxide (CO) is a colourless, odourless and tasteless poisonous gas.

You can't see it or smell it but it is in tobacco smoke. CO is also present in faulty gas boilers and car exhaust fumes.

It has a relatively short half-life (four hours), with elimination becoming slower as the concentration decreases. It is usually undetectable around 24 hours after the last cigarette. It is therefore a useful marker of regular smoking.

Tobacco Dependence Advisors can share CO readings with patients as the proof of toxins leaving the body can be very motivational and can be an opportunity for behaviour change when used within the context of a supportive and structured assessment during the hospital admission.

Health Issues

After CO is breathed in, it is absorbed into the bloodstream from the lungs and mixes with haemoglobin to form carboxyhaemoglobin (COHb). It binds to the haemoglobin within the red blood cells about 200 times as readily as oxygen, thus depriving the body. When this happens, the blood is no longer able to carry oxygen, and this lack of oxygen can cause the body's cells and tissue to fail and die.

People who smoke can have between 2% and 20% of their normal blood oxygen taken up by CO. To compensate for the shortage of oxygen the body must work harder with less fuel:

- The heart will need to beat faster as it tries to get enough oxygen to the body
- The heart itself gets less oxygen and this increases the risk of damage to the heart muscles and sudden death
- The patient will become more breathless as the body has little spare oxygen for any extra demands made by exertion
- The linings of the arteries are more permeable to cholesterol, causing a fatty build up and increasing the risk of circulation problems, heart attack and stroke
- The lack of oxygen can cause tiredness and affect the ability to concentrate
- COHb creates thicker blood

After stopping smoking, the level of carbon monoxide falls almost immediately. It will be the same as a non-smoker's within a couple of days. The blood will carry more oxygen, and circulation is improved along with increased concentration and energy levels.

Carbon monoxide poisoning

Raised CO readings usually indicate tobacco smoking and would normally be checked in the context of motivational support for people attempting or exploring a quit. However, there are other reasons for a raised CO, such as secondhand smoke exposure, those living or working in urban areas, exposure to high levels of environmental pollution and inhalation of fumes from faulty exhausts or boilers. Lactose intolerance can also result in raised exhaled CO levels.

A patient may self-report that they are not smoking but, on testing, exhibit abnormally high expired CO levels. In such cases, they should be given advice about possible CO poisoning, which can be caused by the following:

- Faulty central heating systems, gas appliances and fires
- Car exhausts

Patients should be advised to:

- Have chimneys and flues checked
- Make sure gas appliances and heating systems are inspected
- Fit carbon monoxide alarms – available from DIY stores
- Never run cars, motorbikes or lawnmowers in a closed garage

Carbon monoxide testing

Exhaled carbon monoxide is a readily available, simple and affordable marker that can be assessed using a non-invasive technique that produces immediate and reliable results.

How the CO test works:

- A CO monitor measures the CO levels in the blood and the lungs.
- You blow into a hand-held machine, called a CO monitor, which measures the level of CO parts per million (COppm) in your body. This can then be converted into COHb %.
- The more CO you have inhaled, the higher your CO reading will be. It's not always linked to the number of cigarettes smoked but the intensity of smoking.
- In other words, the more smoke you have inhaled, the more CO you will have in your body and the higher your health risks.
- Different types of tobacco produce different amounts of CO.
- It can also detect harmful secondhand tobacco smoke exposure.

How to carry out carbon monoxide testing

CO monitors measure the amount of **carbon monoxide in expired breath**, displayed as parts per million (ppm).

CO monitors detect exposure to smoke in the previous **24 – 48 hours**.

Patients are required to hold their breath for **15 seconds** (minimum 10 seconds) to equalise pressure in the lungs and allow CO to transfer between blood and lungs

Evidence of smoking = reading above 6ppm

A stricter cut-off is used of 4ppm is used for pregnant women as part of the maternity pathway.

There are several models of CO monitors available and you should follow the instruction accompanying your machine. However, the following procedure is common to all monitors:

1. Both the patient and the TDA should use sanitiser gel (non-alcohol) on their hands before the test.
2. Attach a clean, disposable, mouthpiece (a fresh one for each patient) to the monitor.
3. Turn the machine on.
4. Ask the patient to take a deep breath.
5. The monitor will count down 15 seconds and beep during the last 3 seconds.
6. The patient needs to blow slowly into the mouthpiece, aiming to empty their lungs completely.
7. The parts per million (ppm) of CO in the lungs will be displayed on the screen.
8. The mouthpiece should be removed by the patient (for infection control reasons) and disposed of in a refuse sack which is tied before being placed in another bag for collection (double bagging) to prevent domestic staff touching the mouth pieces.
9. The CO monitor should be cleaned between tests using a non-alcoholic wipe.

You should follow the instructions accompanying your machine and local infection control procedures.

Infection control

- Mouthpiece is for single-use only.
- Dispose of mouthpiece by asking patient to remove and immediately throw into bin.
- Change 'D' piece as per instructions (this is the one-way bacteria filter).

Use recommended compatible wipes. Alcohol wipes can: affect the electrochemical sensors, cause permanent damage and affect reading and give false positive/negative readings.

Appendix 9

CO test chart

CO ppm	COHb(%)	
20 and above	3.20+	Heavy smoking
20	3.20	Smoking
19	3.04	
18	2.88	
17	2.72	
16	2.56	
15	2.40	
14	2.24	
13	2.08	
12	1.92	
11	1.76	
10	1.60	Light smoking
9	1.44	
8	1.28	
7	1.12	
6	0.96	Not smoking
5	0.80	
4	0.64	
3	0.48	
2	0.32	
1	0.16	

CO is a toxic, odourless, poisonous gas which lowers the oxygen in the bloodstream encouraging fatty deposits to form in blood vessels.

CO is absorbed into the blood from the lungs. It binds to haemoglobin in red blood cells about 200 times as readily as oxygen. CO deprives the body of oxygen which the body needs to survive.

People who smoke can have between 2%–20% of their normal blood oxygen taken up by CO. To compensate for the shortage of oxygen, the body must work harder which puts a strain on the vital organs.

When you stop smoking the levels of CO in your blood begin to fall almost immediately. They will return to normal levels within a couple of days. Your blood will carry more oxygen around the body, you will have more energy and better circulation

Appendix 10

Clinically significant drug interactions with tobacco smoking

Key points

- Tobacco smoke stimulates a liver enzyme responsible for metabolising some drugs in the body, which means that the metabolism of some drugs increases.
- This effect is not caused by nicotine but rather from the tar in tobacco smoke.
- When treating tobacco dependence, be aware of a small number of drugs, in particular clozapine, olanzapine which may require dose adjustment or increased monitoring when smoking status is altered.
- **This is irrespective of the stop smoking medicine used.**

Managing interactions with smoking

- It is good practice to undertake a medication review, or performing medicines reconciliation when an individual's smoking status changes.
- Medical history and current medication use should be asked at the initial assessment and pathways put in place for notifying prescribers and dose adjustments made as required.
- Dosage will need to be checked by the prescriber if the dose was worked out before the patient stopped smoking and then again if the patient relapses back to smoking.
- For most medicines, dose adjustment will not be required when a person stops smoking. However, it is helpful to be aware of relevant medicines and to counsel individuals to watch for signs of toxicity when stopping smoking.
- **Patients taking narrow-therapeutic-index drugs in particular clozapine should be monitored closely.**
- For some medicines, such as **clozapine**, a clinically relevant interaction can be predicted, and dose adjustment will be necessary with input from the specialist team.
- If dose adjustments are required on stopping smoking, these will likely need to be reversed if the individual restarts.

Below we summarise those drug interactions with tobacco smoking that are considered to be most clinically important. It should not however be considered a comprehensive list.

Some antidepressants and anxiolytics:

- Amitriptyline
- Clomipramine
- Diazepam
- Duloxetine
- Tricyclic antidepressants

Some antipsychotics:

- Clozapine
- Olanzapine
- Chlorpromazine

Physical drugs:

- Aminophylline
- Caffeine
- Erlotinib
- Flecainide
- Insulin
- Methadone
- Propranolol
- Riociguat
- Theophylline
- Verapamil
- Warfarin

For patient taking Clozapine**Hospital admissions**

Review smoking status on and during admission; arrange blood levels and dose reduction if smoking is significantly reduced or stopped.

Seek urgent specialist advice

Smoking status changes have a clinically important effect. Individuals stopping or reducing cigarette smoking are at risk of severe toxicity if blood levels and dose are not closely monitored. Those starting or resuming smoking may require dose titration.

Monitoring and dose adjustment

Dosage adjustment under specialist supervision will be needed.

If stopping smoking, take blood levels (in addition to any usual tests), and reduce dose as needed. Repeat blood levels after one week.

If starting (or restarting) smoking, take blood levels and titrate dose to maintain therapeutic effect. Repeat blood levels as needed.

Review changes if smoking is resumed.

Further Information**For more information see:**

www.sps.nhs.uk/articles/considering-drug-interactions-with-smoking

www.sps.nhs.uk/articles/managing-specific-interactions-with-smoking

