



CURE Team

Specialists in Tobacco Addiction Treatment

Training Manual

The CURE Stands for:



Conversation

The right conversation every time



Understand

Understand the level of addiction



Replace

Replace nicotine to prevent withdrawal



Experts and Evidence-based treatments

Access to experts & the best evidenced based treatments

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Chapter 1: The scale of the tragedy

“Tobacco is the most effective agent of death ever developed and deployed on a worldwide scale”

American Cancer Society CEO

I Global scale of the tragedy

- Smoking is the single greatest cause of preventable death, disability, ill-health and social inequality
- Tobacco will kill over 175 million people between now and the year 2030
- 600,000 non-smokers die each year from second hand smoke, 28% of which are children
- Half of all smokers will die prematurely & lose an average of 10 years of life
- After the age of 35 smokers lose a day of life for every 4 days of smoking
- Smoking causes 16 different forms of cancer and damages every organ in the body

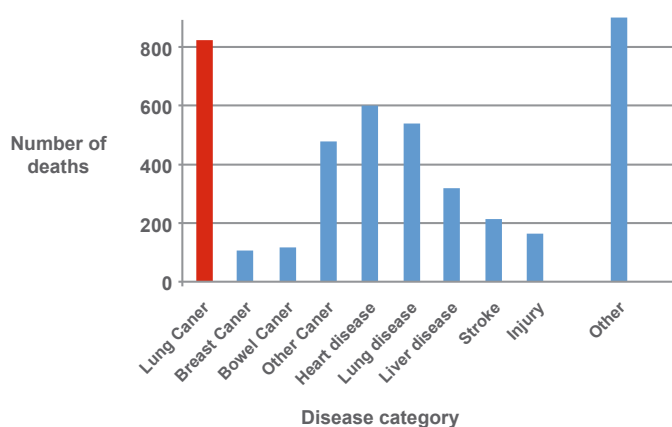
I UK scale of the tragedy

- There are approximately 6 million smokers in the UK (5% currently access to stop smoking services)
- Recent decline in smoking prevalence in the general population is due to reduced uptake
- Most immediate tobacco control imperative is helping active smokers quit
- Smoking costs the NHS: £850 million per year inpatient costs, £1.1 billion per year in primary care costs and £696 million per year in OP secondary care services
- Treating tobacco addiction is the single most cost-effective life saving intervention provided by the NHS
- The cost per life year gained of treating tobacco addiction is 1/25th the cost of statin therapy in patients with coronary artery disease

I Greater Manchester scale of the tragedy

- Smoking kills 13 people every day in Greater Manchester
- There are approximately 400,000 smokers in Greater Manchester
- Lung Cancer is the single biggest cause of premature death in Greater Manchester
- More than a third of hospital admissions across Greater Manchester are due to smoking
- There are 87,782 Greater Manchester smoker households that fall below the poverty line. If these smokers were helped to stop 34,131 households and 62,133 people could be lifted out of poverty

Causes of premature death in Greater Manchester 2011 - 2013



Public Health England

<http://healthierlives.phe.org.uk/topic/mortality>

Chapter 2: Understanding Tobacco Addiction

I Introduction: What are smokers addicted to?








Smoking tobacco leads to a powerful addiction and craving for nicotine. This addiction develops in the brain. Outside of the brain, nicotine is a relatively harmless drug that is very similar to caffeine.

Unfortunately whilst it is the nicotine that smokers crave and desire it is not nicotine that causes smoking related diseases like cancer, heart attacks and strokes. It is the 5000 other chemicals in tobacco smoke that cause the horrific damage to every organ in the body.

When tobacco is burnt the smoke contains approximately 5000 chemicals that include carbon monoxide, tar, arsenic, formaldehyde, benzene and polonium.

WHAT'S IN A CIGARETTE?

When a cigarette burns it releases a dangerous cocktail of over 5,000 different chemicals - many of which cause cancer

 1,3- BUTADINE Used in rubber manufacturing	 CADMIUM Used in batteries	 POLYCYCLIC AROMATIC HYDROCARBONS A group of DNA-damaging chemicals, including benzo(a)pyrene
 CHROMIUM Used to manufacture dye, paints and alloys	 BENZENE An industrial solvent, refined from crude oil	 POLONIUM-210 A highly radioactive element
		 FORMALDEHYDE Used as a preservative in science laboratories and mortuaries
		BERYLLIUM Used in nuclear reactors

www.cancerresearchuk.org

I Why do smokers become addicted to nicotine?

When cigarette smoke is breathed into the lungs nicotine very quickly enters the bloodstream and travels very quickly into the brain. Nicotine causes the brain to produce feel-good and calming hormones that lead to a sense of relief, pleasure and calmness. As the nicotine disappears after the cigarette is finished the feel good hormones also disappear. This can cause negative feelings like anxiety, restlessness and agitation. The brain starts to crave more nicotine to alleviate these negative feelings. Over time the cravings intensify and the smoker struggles to cope without nicotine and continues to smoke.

Over many years of smoking the brain demands more and more nicotine to satisfy the cravings. Without nicotine the smoker suffers increasingly severe withdrawal symptoms such as: **Restlessness, agitation, sweating, nausea, headaches, insomnia, poor concentration, anxiety, anger, and irritability.** These symptoms drive smokers to reach for another cigarette and the cycle starts again.



I Tobacco Addiction is a disease

What is the definition of a disease.....

'An *abnormal condition of a body part* resulting from various causes, such as infection, genetic defect, or environmental stress, and characterized by an *identifiable group of symptoms*.'

Now look at nicotine addiction again.....

Nicotine is an *environmental stress* that leads to an *abnormal condition of the brain* and causes an *identifiable group of symptoms* (*Restlessness, agitation, sweating, nausea, headaches, insomnia, poor concentration, anxiety, anger, irritability*)

Tobacco Addiction is, by definition, a disease

It is not a lifestyle choice. It is a chronic and relapsing disease that often begins in childhood.

Let's also remember the purpose of the NHS set out in the NHS Constitution:

'To provide equal & fair access to all patients to the most effective & evidence based treatments for their illness and disease, physical or mental'

Smokers have a disease – an addiction to nicotine in tobacco. We have very effective treatments to help cure their disease. The CURE specialists' primary role is to understand and empathise with a smokers' disease, how powerful the addiction to nicotine is and ensure smokers have fair and equal access to this help and treatment.

For too long smokers have suffered the stigma that smoking is a lifestyle choice and have not received the help and treatment they need for their addiction. Busting the myth that nicotine is the dangerous drug in tobacco helps a smoker understand they crave a harmless substance that can be delivered in a different and safer way without exposing themselves to the disease causing toxic chemicals. This in itself can be a powerful revelation for a smoker.

Chapter 3: Introduction to pharmacotherapy for tobacco addiction – The EAGLES study

There are very effective treatments for tobacco addiction. The CURE project aims to ensure all smokers admitted to hospital have access to these treatments and are well informed about how best to use them.

There are three main treatments for tobacco addiction

- Nicotine replacement therapy
- Varenicline (Champix)
- Bupropion (Zyban)

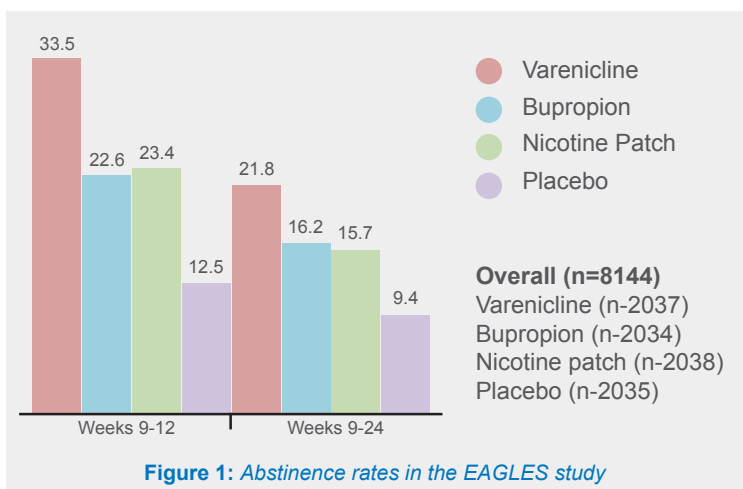
I The EAGLES Study – The Lancet 2016

The EAGLES study is a critical piece of evidence that informs how we best treat and help patients with an addiction to tobacco. It is a randomised controlled trial to evaluate the effectiveness of the three main pharmacotherapy strategies (nicotine replacement therapy, varenicline and bupropion) for treating tobacco addiction head to head and versus placebo. It is the only trial that has directly compared the different treatment strategies. It also answered the questions over neuropsychiatric adverse events using these treatments.

Over 8000 patients were randomised in the trial. These patients were split into those that had a history of mental health disease and those that did not. Each patient was randomly allocated to either placebo (no treatment), nicotine replacement therapy, varenicline or bupropion.

The main outcomes of the trial were to see which treatment was most effective at helping smokers to quit and how often moderate to severe mental health problems happened as the patients were undergoing treatment.

I Results



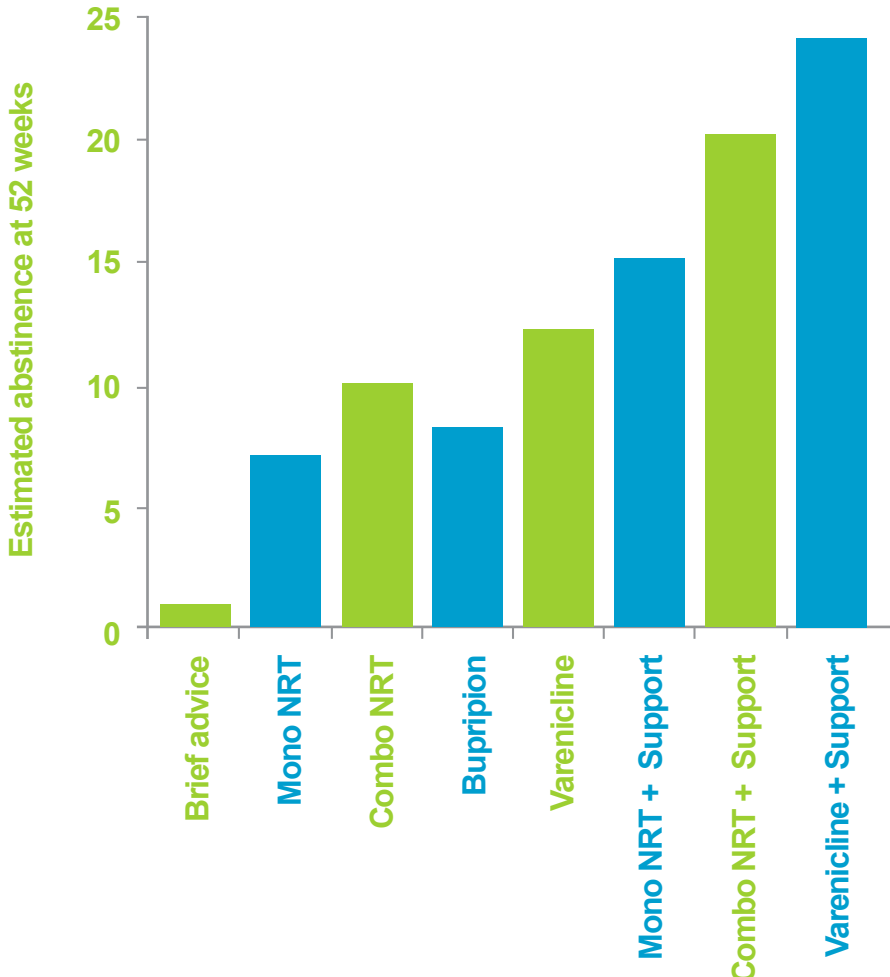
Varenicline was the most effective treatment (33.5% quit rate at 9-12 weeks):



There was no increased risk of moderate to severe neuropsychiatric adverse events with any of the treatments; NRT, varenicline or bupropion. The act of stopping smoking carries a small risk of moderate to severe neuropsychiatric events and this is regardless of the treatment used. The risk is higher in those with a history of psychiatric illness (5%) versus those without (2%). **Varenicline is safe to use in patients with stable mental health disease (ie who have had no change of dose or new medication added in the last 3 months).** Advise patients to seek help in the event of a neuropsychiatric event. In the long term, stopping smoking can improve mental health disease such as anxiety and depression.

This is especially important as the smoking prevalence in patients with mental health illness is very high (40%) and has not reduced in the last 20 years. These are the most vulnerable members of our society and smoking cessation is the most powerful and beneficial intervention we can offer. The CURE project must focus on overcoming the barriers to delivering effective treatment for tobacco addiction in smokers with mental health disease

The graph below shows the estimated 52 week quit rates from all the different pharmacotherapy strategies. It confirms that varenicline and behavioural support is the most effective treatment, closely followed by NRT and behavioural support. It also confirms that these medications are effective without behavioural support and therefore **if such support is refused or is not available, this should not preclude treatment with evidence base medications for tobacco addiction.**



In the CURE project smokers admitted to hospital will be offered NRT, varenicline and specialist support; harnessing our most powerful and effective treatments in a multi-faceted approach to curing this disease.

Chapter 4: Pharmacotherapy for tobacco addiction: nicotine replacement therapy

I Mode of Action

Nicotine replacement therapy (NRT) delivers nicotine into the bloodstream without the toxic components of cigarette smoke. NRT alleviates cravings for tobacco and is an effective and safe smoking cessation tool. **Nicotine is a relatively harmless substance with similar effects to caffeine. It is safe in long term use with no increase in mortality, serious adverse events, cardiovascular disease or cancer.**

Nicotine replacement therapy is the most effective medication for the immediate relief and prevention of cravings when stopping smoking. This is why nicotine replacement therapy is the first line treatment for smokers admitted to hospital and should be started as soon as possible after being admitted.

I Evidence Base:

Nicotine replacement therapy increases the chance of abstinence by approximately 60% compared to placebo. **In the EAGLES study NRT was more effective than placebo in smoking cessation (23.4% quit rate at 9-12 weeks versus 12.5%).**

I Side effects:

Warn about sleep disturbance. Nicotine patches can cause mild skin irritation. Short acting nicotine can cause dyspepsia, nausea or hiccups if nicotine is swallowed rather than absorbed at the gums.

I Contraindications

NRT can be used in all smokers admitted to hospital and in acute illnesses including pneumonia, heart attack and stroke. 24 hour nicotine patches are not advised for use in pregnancy as it is best to give baby a rest overnight. Liquorice gum is also not advised for use in pregnancy and lactation due to the presence of glycyrrhizin.

Prescribing notes:

- NRT should be prescribed for a minimum of 8-12 weeks.
- Ongoing prescription may be required to facilitate ongoing abstinence.
- Encourage patients to use the short acting nicotine regularly e.g. Little and often, up to on the hour every hour if needed

Cravings for nicotine are extremely powerful and NRT is weaker than cigarettes. Patients cannot overdose on nicotine except for causing mild symptoms such as light-headedness or nausea. However, under-dosing will affect how well NRT can alleviate cravings!

There is no increased risk of moderate to severe neuropsychiatric adverse events with NRT. The act of stopping smoking carries a small risk of moderate to severe neuropsychiatric events and this is regardless of the treatment used. The risk is higher in those with a history of psychiatric illness (5%) versus those without (2%). **Advise patients to seek help in the event of a neuropsychiatric event.** In the long term, stopping smoking can improve mental health disease,



Prescribing Nicotine Replacement Therapy

Nicotine replacement therapy comes in two forms: short acting and long acting. Think of NRT as a trying to put out a fire (cravings). Long acting nicotine is like a sprinkler system – providing a constant flow of water to control the fire. Short acting nicotine is like a fire extinguisher – a rapid burst of water to put the fire out there and then.

Some patients only need one type of NRT whereas many will require combination NRT. Always discuss NRT treatment options with patients and help and advise them which mono or combination therapy suits them best. Treatments may need to be adjusted or totally changed as the person progresses through the quit attempt. It is important to discuss the dose and correct use of each medication the patient chooses to ensure they get the best from it, do not underuse it and give them the best chance to avoid relapse

NRT is not as powerful as smoking at delivering nicotine and it is important to explain this to smokers and encourage them to use the NRT, particularly the short acting nicotine, frequently – little and often, up to **on the hour every hour** especially when first starting the treatment when nicotine cravings are at their worst.

Short acting nicotine

Short acting nicotine comes in many forms, each as effective as each other. Each short acting nicotine has its own technique and top tips for ensuring smokers get the best relief of their cravings.

- **Nicotine inhalator**

The inhalator is not a very accurate name for this device because the user does not inhale the nicotine. The user puffs on the device so the medication enters the mouth and is absorbed through the gums. It is not breathed into the lungs. Patients often like this device because it mimics the hand to mouth action of smoking. It is not as powerful as a cigarette and you should **advise your patients to use the inhalator for 20 minutes at a time to have an effect similar to a cigarette.**

Nicotine dose - **10 puffs from a nicotine inhalator = 1 puff on a cigarette**

- **Nicotine chewing gum**

Nicotine chewing gum is not to be chewed like normal chewing gum. **Advise your patients to chew the gum until they notice a hot fiery taste, then park the gum between their lip and gum to let the nicotine be absorbed through the gum.** If they chew it like normal gum they are likely to swallow the nicotine which cause heartburn, nausea and hiccups.

- **Nicotine lozenges**

Nicotine lozenges are sucked like a sweet to release the nicotine. The nicotine is then absorbed through the gums. However, if there are any symptoms of the nicotine being swallowed (heartburn, nausea, hiccups) then **advise your patients to park the lozenge between the lip and gum to allow the nicotine to be absorbed through the gum.**

Short acting nicotine

- **Nicotine microtabs**

These are very small tablets that are placed under tongue. They are not chewed, sucked or swallowed. The nicotine is absorbed through the gums.

- **Nicotine nasal spray**

Nicotine is sprayed into the nostrils and absorbed into bloodstream through the lining of the nose. Give the following advice to your patients:

Tip your head back slightly and insert the spray tip into one of your nostrils. Press nozzle firmly and quickly. Spray into your other nostril. If you experience sneezing, a runny nose, or watery eyes, these effects should decrease after the first few days.

- **Nicotine mouthspray**

Nicotine mouthspray is sprayed into the inside of the cheek and is absorbed into the bloodstream through the linings of the mouth. *Not to be swallowed.*

- **Nicotine mini lozenges**

Nicotine lozenges are sucked initially like a sweet to release the nicotine. The nicotine is then absorbed through the gums. However, if there are any symptoms of the nicotine being swallowed (heartburn, nausea, hiccups) then **advise your patients to park the lozenge between the lip and gum to allow the nicotine to be absorbed through the gum.**

- **Nicotine oral strips (Not available in Trust)**

These are a film strip containing nicotine. Place one strip onto the tongue and press it gently onto the roof of the mouth. **Not to be chewed or swallowed.**

Short acting nicotine doses (Available in Trust)

Nicotine inhalator	15mg/cartridge (maximum 6 cartridges in 24 hours) On the hour every hour initially Whenever cravings occur
Nicotine chewing gum	2mg as required (maximum 15 in 24 hours) On the hour every hour initially Whenever cravings occur
Nicotine lozenges	2mg as required (maximum 15 in 24 hours) On the hour every hour initially Whenever cravings occur
Nicotine microtabs	2mg as required (maximum 15 in 24 hours) On the hour every hour initially Whenever cravings occur
Nicotine nasal spray	2 sprays each nostril On the hour every hour initially Whenever cravings occur



Long acting nicotine

Long acting nicotine comes in the form of patches. Patches ideally need to be applied to a hairless area of skin such as the upper arm. Patches can cause skin irritation though this is usually mild. Patches come in 16 hour and 24 hour forms. One of the most powerful indicators of a smoker's addiction is how quickly they smoke after waking up. We use this information to help decide whether a 16 hour patch or a 24 hour patch is best for them.

If they smoke within 30 minutes of waking up then they need a 24 hour patch to help alleviate these early morning cravings. However the 24 hour patch is likely to cause more sleep disturbance.

If it takes longer than 30 minutes to smoke after waking then they can have a 16 hour patch with is likely to cause less sleep disturbance and shouldn't affect early morning cravings.

NRT Summary Prescribers Guide

NRT Type	Doses Available	Frequency	Abbreviation of route on drug karex	Other information	Pack size (For GP letter)
Nicotine patches 24hr	1mg 14mg 7mg	OD Max. 1 /24hr	TOP	Use to ease early morning cravings. Apply to non-hairy, dry skin. Rotate site. Slow release.	Boxes of 7
Nicotine patches 16hr	25mg 15mg 10mg	OD Max. 1 /24hr	TOP	Use if sleep disturbance on 24hr patches/awake longer b4 smokes. Other as above.	Boxes of 7
Nicotine gum	4mg 2mg	PRN Max. 15 pieces /24hr	PO	Do not chew continually. Chew and rest for approx. 30mins. Use regularly.	Small box = 25 or 30 pieces Large box = 96, 105 or 210 pieces
Nicotine lozenges	4mg 2mg 1mg (not widely available)	PRN Max. 15 /24hr	PO	Do not suck continually. Suck and rest for approx. 30mins. Use reg.	Small box = 72 lozenges Large box = 96 or 144 lozenges
Nicotine inhalator	15mg	PRN Max. 6 caps /24hr	INH	Do not drag or inhale. Puff or suck to avoid coughing and throats irritation. Use regularly, little and often.	Starter pack = 4 capsules Follow on pack = 20 or 36 caps a box *Each box contains a new inhalator tube
Nicotine microtabs	2mg	PRN Max. 80mg / 24hr	BUCCAL	Allow to absorb sub-lingually. Use regularly.	Pack of 100 microtabs
Nicotine nasal spray	500mcg / per spray	PRN Max. 64 sprays /24hr	Nasal	Quickest acting. Same 7 second relief as cigs. May cause nasal irritation. Use regularly.	Singles 200 sprays per bottle 10mg /ml
Nicotine mini lozenges	500mcg / per spray	PRN Max. 15 /24hr	Not included on PGD	Do not suck continually. Suck and rest for approx. 30mins. Use regularly.	Mini's = Singles or pack of 3 (4weeks supply) Cools = singles or pack of 4
Nicotine oral strips	2.5mg	PRN Max. 15 / 24hr	Not included on PGD	Place film on tongue and press gently onto roof of mouth. Do not chew or swallow.	Pack of 15 or 60 *Difficult to get hold of at moment
Nicotine Mouthspray	1mg /per spray	PRN Max. 4 sprays / per hr	Not included on PGD	Spray into side of cheek not to back of throats to avoid hiccups, indigestion and sore throat. Demonstrate how to open / use	Singles or pack of 2

*If using combination therapy remember is correct dose for CPD but half the maximum number per day

*If too specific in box size can result in delay to patient while item is ordered, therefore I often use 'large box' 'small box'

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Long acting nicotine

When prescribing nicotine replacement therapy remember the three CURE questions:

1. How many cigarettes do you smoke?
2. How many cigarettes do you smoke a day?
3. How long have you been awake before you smoke your first cigarette?

These questions can stratify smokers into three levels of addiction which informs the choice of NRT:

Low level addiction <10 cigarettes per day	Prescribe a short acting nicotine according to patient preference
Moderate level addiction 10-19 cigarettes per day	Prescribe either a short acting or a long acting nicotine replacement therapy (consider combination therapy) 14mg/24hr patch (smokes within 30 minutes of waking) 15mg/16hr patch (does NOT smokes within 30 minutes of waking)
High level addiction >20 cigarettes per day	Prescribe both short acting and long acting nicotine replacement 21mg/24hr patch (smokes within 30 minutes of waking) 25mg/16hr patch (does NOT smokes within 30 minutes of waking)



CURE Initial Inpatient Treatment Protocol

Below is the CURE initial prescribing pathway for all clinicians, used at the Wythenshawe CURE pilot site. It is intended for use by admitting doctors to encourage early prescription of stop smoking medications. It reduces the options of short acting nicotine so it is not overly complex but also maintains a choice of nicotine delivery that includes those that mimic the action of smoking (inhalator) and more discrete NRT forms (lozenges/nicotine). As a CURE specialist, the full range of NRT can be prescribed taking into account a detailed and personalised treatment plan made with the smoker.

Low Level Addiction ≤ 10 Cigarettes/day



Prescribe a short acting nicotine replacement ("reach for" nicotine)
Advise patients to use short acting nicotine frequently and when cravings occur

First line:

- Nicotine lozenges 2mg as required**
usual maximum 15 in 24 hours

Options if patient would prefer an alternative short acting NRT

- Nicotine inhalator 15mg/cartridge**
maximum 6 cartridges in 24 hours
- Nicotine microtabs 2mg as required**
usual maximum 24 in 24 hours

Discuss Varenicline with all smokers -
see varenicline section

Advice for patients on short acting nicotine

Inhalator: The user 'puffs' on the device so the medication enters the mouth and is absorbed through the gums. It is not inhaled into the lungs.

Lozenges: Suck like a sweet to release the nicotine which is then absorbed through the gums. If the patient suffers heartburn, nausea or hiccups (nicotine being swallowed) then try parking the lozenge between the lip and gum.

Microtabs: Place under the tongue and allow to dissolve. They are not chewed, sucked or swallowed.

Moderate Level Addiction 10-19 Cigarettes/day



Prescribe a long acting nicotine patch AND CONSIDER adding a short acting "reach for" nicotine replacement.

- Nicotine Patches 14mg/24 hour**
(Smokes within 30 minutes of waking)
- Nicotine Patches 15mg/16 hour**
(Does NOT smoke within 30 minutes of waking)
- Short acting nicotine replacement**
(As per low level addiction pathway)

Advice for patients Patches

Advise patients to use a clean & hairless area of skin to apply the patch. Skin irritation can occur but is generally mild

24 hour patches are ideal for patients that smoke within 30 minutes of waking but can cause sleep disturbance.

Discuss Varenicline with all smokers -
see varenicline section

High Level Addiction ≥20 Cigarettes/day



Prescribe a long acting nicotine patch AND a short acting "reach for" nicotine replacement. Discuss the following options with the patient:

- Nicotine Patches 21mg/24 hour**
(Smokes within 30 minutes of waking)
- Nicotine Patches 25mg/16 hour**
(Does NOT smoke within 30 minutes of waking)
- Short acting nicotine replacement**
(As per low level addiction pathway)

Advice for patients Patches

Advise patients to use a clean & hairless area of skin to apply the patch. Skin irritation can occur but is generally mild

24 hour patches are ideal for patients that smoke within 30 minutes of waking but can cause sleep disturbance.

Discuss Varenicline with all smokers -
see varenicline section

Chapter 5: Pharmacotherapy for tobacco addiction: varenicline

Varenicline is a highly effective tobacco addiction treatment with smokers over three times more likely to stop with the help of this medication. It has been proven to be more effective than NRT and bupropion in a head to head randomised controlled trial. **Varenicline should be prescribed in combination with specialist and behavioural support, but if such support is refused or is not available, this should not preclude treatment with varenicline**

I Mode of Action:

Varenicline is a nicotinic receptor agonist and antagonist. It causes dopamine release via its agonist action and alleviates cravings for nicotine and also prevents dopamine release from nicotine in cigarette smoke through its antagonist action. It is a highly effective treatment for tobacco addiction through both relief of cravings and preventing positive impact from smoking that reinforces the addiction.

I Evidence Base:

The EAGLES study is the only randomised controlled trial to evaluate the effectiveness of the three main pharmacotherapy strategies (nicotine replacement therapy, varenicline and bupropion) in tobacco addiction head to head and versus placebo. Over 8000 patients were randomised between the four arms. **Varenicline was the most effective treatment (33.5% quit rate at 9-12 weeks):**

I Side effects:

Warn about nausea (advise to take medication with food and water), *sleep disturbance, taste disturbance, dizziness, dry mouth, headaches, drowsiness and vivid dreams*. **The dose can be reduced to 0.5mg BD if intolerable side effects**

I Dose

0.5mg once daily Day 1-3
0.5mg twice daily Day 4-7
1mg twice daily Day 8+

In the outpatient setting, varenicline is started prior to a quit date

- This quit date is ideally within 1-2 weeks of starting varenicline but can be at any time within the 12 weeks of treatment.
- Whilst the course length is 12 weeks it can be extended to 24 weeks.
- Further courses of varenicline in the event of relapse are appropriate.

In the inpatient setting varenicline is prescribed alongside nicotine replacement therapy with the aim of stopping NRT at a subsequent date (equivalent to the 'quit date' in the outpatient setting).

I Note

There is no increased risk of moderate to severe neuropsychiatric adverse events with varenicline (EAGLES study 2016, The Lancet). The act of stopping smoking carries a small risk of moderate to severe neuropsychiatric events and this is regardless of the treatment used. The risk is higher in those with a history of psychiatric illness (5%) versus those without (2%). **Advise patients to seek help in the event of a neuropsychiatric event.** In the long term, stopping smoking improves mental health disease, e.g. stopping smoking is more effective than antidepressants in treating depression.

Varenicline should be offered to all smokers admitted to hospital & can be prescribed alongside NRT if additional nicotine is needed in the initial phase of treatment. Varenicline is the first line treatment for tobacco addiction.



Chapter 6: Pharmacotherapy for tobacco addiction: bupropion

| Mode of Action:

Bupropion is a nicotinic receptor antagonist. It prevents dopamine release from nicotine in cigarette smoke through its antagonist action. It is an effective treatment for tobacco addiction through the preventing positive impact from smoking that reinforces the addiction. However it has a number of drug interactions and side effects such that it should only be prescribed following multiple unsuccessful quit attempts with varenicline or NRT and under the guidance of a specialist tobacco addiction treatment service.

| Evidence Base:

In the EAGLES study bupropion was more effective than placebo in smoking cessation (22.6% quit rate at 9-12 weeks versus 12.5%).

One therapy was not shown to be superior to another between bupropion and NRT (OR 0.96 95% CI 0.83-1.11, p0.58)

| Side effects:

Warn about seizures, mania, insomnia *dry mouth, headaches, feeling sick or dizzy* and hypertension (**weekly BP monitoring if given with NRT**).

| Contraindications:

Avoid in acute alcohol withdrawal, *children under 18 years of age*, acute benzodiazepine withdrawal, bipolar disorder, CNS tumour, eating disorders, history of seizures and severe hepatic cirrhosis.

| Cautions:

Due to seizure risk avoid in patients with the potential for lowered seizure threshold e.g. alcohol abuse, diabetes with hypoglycaemic episodes, head trauma. Due to mania risk avoid in bipolar disease. Avoid prescription with tamoxifen – reduced serum levels of tamoxifen.

| Dose

150mg OD day 1-6
150mg BD day 7+

| Prescribing notes

Treatment course = 7-9 weeks. **Discontinue if abstinence not achieved at 7 weeks**
Reduce dose to 150mg OD in the elderly, renal impairment, hepatic impairment or any of the following medications:

- Anti-psychotics
- Anti-depressants
- Anti-malarials
- Tramadol
- Theophylline
- Corticosteroids
- Quinolones
- Anti-histamines.

| Note:

There is no increased risk of moderate to severe neuropsychiatric adverse events with bupropion (EAGLES study 2016, The Lancet). The act of stopping smoking carries a small risk of moderate to severe neuropsychiatric events and this is regardless of the treatment used. The risk is higher in those with a history of psychiatric illness (5%) versus those without (2%). **Advise patients to seek help in the event of a neuropsychiatric event.** In the long term, stopping smoking improves mental health disease, e.g. stopping smoking is more effective than antidepressants in treating depression.

Given the careful drug history required to examine for interactions & the increased risk of seizures, coupled with the equivalent efficacy of NRT, bupropion should be considered a third line treatment behind varenicline and NRT.

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Chapter 7: e-cigarettes

Electronic-cigarettes are nicotine delivery devices that do not contain tobacco. These devices heat a liquid containing nicotine & an alcohol solvent. The user inhales the vapour (using e-cigarettes is called vaping, NOT smoking). Because the user inhales the vapour, it is the only form of nicotine replacement that uses the lungs for absorption like cigarettes (NRT uses the skin and the buccal membrane in the mouth).

Vaping is proving very popular as a way to stop using tobacco amongst smokers. There are over 3 million vapers in the UK. There are several reasons why e-cigarettes are popular amongst smokers trying to quit tobacco:

- Vaping mimics the hand to mouth action & habit of smoking
- Vaping has the same sensation of something hitting the back of the throat during inhalation - an important part of the learnt behaviour of smoking
- Vaping can deliver high doses of nicotine as it is absorbed through the lungs and can therefore potentially ease cravings for nicotine without using tobacco

I Evidence base

E-cigarettes have been proven to be an effective stop smoking aid. In a randomised controlled trial by Hajek et al, published in the NEJM, 886 participants from stop smoking services across the UK were randomised to either NRT for up to 3 months or an e-cigarette starter pack. Both groups received weekly behavioural support for at least 4 weeks.

- 1-yr quit rate in the e-cigarette group was double that of the NRT group (18.0% vs 9.9%)
- E-cigarettes were a highly cost effective intervention at £65/QALY

I Vaping induced lung injury

An epidemic of vaping induced lung injury occurred recently in America. No such cases have ever been reported in the UK. The cause was later identified as illicit liquid containing cannabis and vitamin E acetate. In the UK the e-cigarette market is heavily regulated and is required by law to meet minimum standards. Only alcohol solvent is allowed in the UK and vitamin E acetate is banned. It is important therefore to advise smokers to buy devices and liquids from registered vendors.

I E-cigarettes and the CURE project

E-cigarettes cannot be prescribed as part of an inpatient pathway and therefore the CURE pathway is focused on pharmacotherapy interventions. However, given the efficacy and popularity of e-cigarettes then the CURE project must support smokers who choose to use e-cigarettes as an aid to quit smoking tobacco. CURE specialists must therefore present consistent advice regarding e-cigarettes

- Vaping should only be recommended for smokers as part of a personalised treatment plan that includes the offer of intensive support through a quit attempt
- Vaping is significantly less harmful than smoking tobacco (Not safe, but significantly less harmful)
- Smokers using an e-cigarette should switch entirely to the e-cigarette device and not use tobacco at all
- To do this, smokers should use the highest strength nicotine liquid and use the e-cigarette as much as possible in order to prevent cravings and risk relapse to tobacco
- The initial switch to an e-cigarette can be difficult as the technique of vaping is slightly different to smoking & sometimes causes a cough. Discuss this with an experienced vendor for advice. Using a flavoured liquid can sometimes overcome the initial cough.
- Advise smokers to purchase their device and liquids from shops registered with the Independent British Vaping Trade Association that ensures no links to the tobacco industry
- Non-smokers should never start vaping



The Wythenshawe CURE patient information leaflet on e-cigarettes is provided below as a further reference. This leaflet can be used in any interaction with a smoker as a source of information.

Nicotine poisoning risk

Reported cases of accidental exposure to e-liquid have included young children ingesting the liquid from e-cigarette cartridges and refills which may not be childproof. E-cigarettes and e-liquids should always be kept out of the reach of children.

Fire risk

There have been reported cases of house fires caused by faulty e-cigarette batteries and chargers. Always use the correct charger and never leave e-cigarettes charging unattended.

Use with home care oxygen

E-cigarettes should never be used (nor their batteries recharged) in the vicinity of homecare oxygen as there have been reported cases of ignition and fire in such circumstances.

Illicit e-liquids

Recent deaths and severe lung disease in America, related to e-cigarettes, were due to vaping illicit e-liquids containing cannabis and a substance called Vitamin E Acetate (illegal in the UK). Only buy e-liquids from a licensed vendor.



E-cigarette factsheet



What should I do if I want try switching from smoking to vaping?

- Visit a local vaping shop and ask about different types/flavours
- Find a shop registered with the British Independent Vape Trade Association www.ibvta.org.uk (independent from the tobacco industry)
- Using an e-cigarette has a different technique to smoking and takes some getting use to (some smokers find they make them cough initially). Seek advice from the vape shop staff
- Contact your local stop smoking service. Your chances of stopping smoking completely are significantly increased with the support of a specialist trained in helping smokers to stop. Some stop smoking services offer a free e-cigarette starter kit.

In Manchester contact:

Be smoke free (community stop smoking team): **0161 823 4157**

CURE team (hospital stop smoking team): **0161 291 5030**

What are e-cigarettes?

- E-cigarettes (stands for 'electronic-cigarette') are a device for inhaling vapour (heated liquid)
- The liquid contains nicotine
- Unlike normal cigarettes, e-cigarettes don't burn tobacco
- Using an e-cigarette is called 'vaping'. Using an e-cigarette is NOT smoking

What do e-cigarettes contain and how do they work?

E-cigarettes contain a battery, a heating element and either a cartridge containing e-liquid or a 'tank' that can be filled with e-liquid. E-liquid typically contains propylene glycol or glycerine, together with nicotine and sometimes flavouring. Sucking air through the e-cigarette triggers the heating element to heat the liquid to create vapour and inhaling the vapour delivers a hit of nicotine.

Are e-cigarettes safe?

E-cigarettes are not completely risk-free, but experts agree they are much less harmful than smoking. Public Health England estimates vaping to be 95% less harmful than smoking tobacco.

Why are e-cigarettes less harmful than smoking?

- Smokers are addicted to nicotine
- However, nicotine itself is relatively harmless
- Nicotine does NOT cause the diseases of smoking like cancer, heart disease, lung disease, strokes
- The danger from smoking is the poisonous chemicals made when tobacco is burnt
- When a person breathes in tobacco smoke they are breathing in 5000 different poisonous chemicals
- These include tar, carbon monoxide, cyanide, benzene (found in petrol) & acetone (paint stripper)
- E-cigarettes have no tobacco in, the nicotine is dissolved in the e-liquid and heated to make a vapour
- This means the number of harmful chemicals in the vapour is dramatically lower



Can e-cigarettes help people quit smoking?

Research indicates that e-cigarettes are very effective in helping smokers cut down or stop smoking completely. E-cigarettes are twice as effective as nicotine replacement therapy (like patches) at helping smokers to stop and are now the most popular quitting aid among smokers in England. Smokers using an e-cigarette should try to switch entirely to the e-cigarette and not use any tobacco.



Are there different types of e-cigarette?

There are many different types of e-cigarette, some look like normal cigarettes; others have a pen-like shape or a box-like shape with a mouthpiece.



Is there any risk to others from e-cigarette vapour?

E-cigarette vapour is mainly composed of propylene glycol or glycerine (the same substances used in smoke machines in theatres). The risks to bystanders from exposure to e-cigarette vapour are likely to be extremely low.

Can e-cigarettes be used during pregnancy?

Any risks to the unborn child from exposure to e-cigarette vapour are as yet unknown. Pregnant women are advised to use licensed stop smoking medicines if they need support to remain smoke free, however if they choose to use an e-cigarette that is a much preferable alternative to relapsing to smoking.



Chapter 8: Training needs & specialist courses

Training	Description	How	Cost
CURE Level 1	<ul style="list-style-type: none"> Understanding Tobacco Addiction Providing brief advice to smokers Supporting a smokefree site 	Trust specific eLearning platform	FREE
CURE Level 2	<ul style="list-style-type: none"> Introduction to treating tobacco addiction Prescribing nicotine replacement therapy - the CURE protocol Additional treatments for tobacco addiction Discharging patients on treatment for tobacco addiction 	Trust specific eLearning platform	
NCSCCT	<p><i>Practitioner training:</i></p> <ul style="list-style-type: none"> Core competencies in helping people stop smoking 	Online	
	<p><i>Specialty courses for staff with Practitioner training:</i></p> <ul style="list-style-type: none"> Mental Health & smoking cessation Pregnancy & smoking cessation E-Cigarettes: A guide for healthcare professionals Stop smoking medications Very brief advice on smoking for pregnant women Very Brief advice in smoking cessation Very brief advice on second hand smoke 	Online	
MECC E-Cigarette Practitioner Workshops	The sessions are aimed to support frontline staff to offer appropriate advice on using nicotine-containing products on general sale, including NRT and nicotine-containing e-cigarettes. (NICE guidance 92 Stop smoking interventions and services). The sessions also provide a safe platform to ask questions, share best practice and raise concerns.	Face-to-face Book via: phpn.north@hee.nhs.uk	



Chapter 9: Suggested reading

Please see below a list of suggested reading to support and enhance the knowledge gained through training:

Stop Smoking Interventions and Services

[NICE Guidelines NG92](#)

Smoking: Supporting People to Stop

[NICE Guidelines QS43](#)

Smoking: Acute, Maternity and Mental Health Services

[NICE Guidelines PH48](#)

Towards a Smokefree Generation: Tobacco Control Plan for England

July 2017

Greater Manchester Tobacco Control Plan

July 2017

- Ottawa Smoking Cessation Model - read about the model and keep up to date on how they are progressing:
<https://ottawamodel.ottawaheart.ca/>

- o https://ottawamodel.ottawaheart.ca/sites/ottawamodel.ottawaheart.ca/files/omsc_hmpg/omsc_highlight_document_2016.pdf

- Innovation in Medicine 2018: Providing smoking cessation for patients in hospitals will save lives and money
<https://www.rcplondon.ac.uk/projects/outputs/hiding-plain-sight-treating-tobacco-dependency-nhs>

- Preventing Ill Health CQUIN publications – case studies

- o Tees Esk and Wear Valley NHS Foundation Trust

- o Innovative ways to support smokers requiring nicotine management in a mental health organisation

- o Tobacco-free NHS – the journey for one London trust

- o <https://publichealthmatters.blog.gov.uk/2017/02/14/tobacco-free-nhs-the-journey-for-one-london-trust/>

- o How one mental health Trust in Leicestershire is using e-cigarettes as a tool to go smokefree

- o <https://publichealthmatters.blog.gov.uk/2017/07/25/how-one-mental-health-trust-in-leicestershire-is-using-e-cigarettes-as-a-tool-to-go-smokefree/>



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