

# Tobacco Dependence Aids – 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 stopping long-term.
- NRT products are typically used for 8–12 weeks. It is important to use the full course of the medications to increase success with stopping 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 (several years), 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:

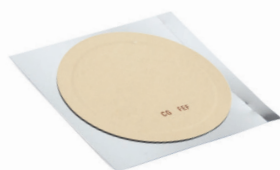
- 25 mg, 15 mg, 10 mg

#### 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 stopping.
- 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 products (oral and nasal)

### Gum

#### Products:

- Fruit fusion, freshmint, icy white, or plain
- Nicorette 2 and 4 mg
- Nicotinell 2 and 4 mg
- NiQuitin CQ 2 and 4 mg

**2mg** (smokes their first cigarette 30 or more minutes after waking up)

**4mg** (smokes their first cigarette within 30 minutes of waking up)



#### How it works

- 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.\*

#### Instructions

- 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.

**Possible side effects:** nausea, headache, heartburn, coughing, hiccups, throat irritation.

\* 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.

\*\* **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.

### Inhalator

Plastic holder containing cartridge with 15 mg of nicotine



#### How it works

- 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.

#### Instructions

- 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.

**Possible side effects:** nausea, mouth/throat irritation.

## Fast-acting products (oral and nasal)

### Mouth spray

A 1mg 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 1mg 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.

## Fast-acting products (oral and nasal)

### 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. 1.5mg 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 4mg.

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

### Microtabs

Nicorette: small white tablet  
2mg 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. 0.9mg 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/publications/topCategory/stop-smoking-aids](http://www.ncsct.co.uk/publications/topCategory/stop-smoking-aids) or [www.medicines.org.uk/emc](http://www.medicines.org.uk/emc)

## Vapes (e-cigarettes, electronic cigarettes)

- Nicotine-containing vapes are first line tobacco treatments and significantly less harmful than smoking.
- Vapes do not contain tobacco and there 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 stop should use a vape with nicotine-containing e-liquid or nicotine salts.
- 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 single-use model and for this reason may give patients a better chance of stopping smoking.

<p><b>Tanks</b></p> 	<ul style="list-style-type: none"> <li>■ Typically the size of a large pen, they have a more powerful battery than single-use devices and a 'tank' that the patient fills with their choice of e-liquid.</li> <li>■ These devices can often be used with an interchangeable range of atomisers, cartomisers and tanks and may have adjustable power settings.</li> <li>■ 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.</li> </ul>
<p><b>Regulated mods</b></p> 	<ul style="list-style-type: none"> <li>■ These contain a chip that controls the power being delivered to the atomiser which prevents the device from short-circuiting.</li> <li>■ Many devices allow the patient to adjust the voltage or wattage applied to the coil and some offer temperature control as well.</li> <li>■ 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.</li> <li>■ 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.</li> <li>■ The devices are generally recommended for more experienced vapers.</li> </ul>
<p><b>Pods</b></p> 	<ul style="list-style-type: none"> <li>■ Compact rechargeable devices, often shaped like a USB stick.</li> <li>■ They use pods (small refills of e-liquid) made specifically for the device, often using nicotine salts. Pods are replaced when empty.</li> <li>■ Most of these pods come pre-filled with a chosen flavour, although some newer models have refillable pods that allow a choice of flavour.</li> <li>■ Pods offer patients simplicity (you don't refill) and are more compact in size and appearance than tanks.</li> <li>■ In the UK the maximum strength of nicotine currently allowable for use in pod systems is 20 mg.</li> <li>■ There is the opportunity to gradually titrate down to 0 mg nicotine with some devices.</li> <li>■ Due to their smaller battery and the limit on nicotine content, delivery of nicotine is currently not comparable to other devices.</li> </ul>
<p><b>Single-use</b></p> 	<ul style="list-style-type: none"> <li>■ Newer to the market, they are compact, single-use and prefilled with flavoured e-liquid or nicotine salts.</li> <li>■ They are most commonly pre-loaded with one strength of 20 mg nicotine salt.</li> <li>■ They are draw-activated and once the flavour/taste diminishes, they are designed to be disposed of and replaced with a new one.</li> <li>■ They require no filling or practice to use and are relatively cheap. People not ready to commit to vaping may experiment with them.</li> <li>■ The effectiveness of nicotine delivery is yet to be established, although reports from users are favourable.</li> </ul>

# Prescription only stop smoking medications

## 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.
- In the inpatient setting, NRT may be used during this 7–14 day period, until the full therapeutic dose is reached or for longer periods.
- 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.

### 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.
- Formal monitoring of mood should be in place for all patients with history of mental illness whilst taking varenicline.





## Prescription only stop smoking medications

### 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. Take NRT (patient's choice of product) during this 5-day period, until the full therapeutic dose is reached.
- Cytisine is an effective treatment for tobacco dependence 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.
- Hypersensitivity to: mannitol, microcrystalline cellulose, magnesium stearate, glycerol dibehenate and hypromellose.

#### 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.

#### Extra Care:

Formal monitoring of mood should be in place for all patients with history of mental illness whilst taking cytisine.

This does not mean that cytisine should not be used. The caution should be discussed with the patient, risks assessed and a close eye kept on any possible worsening of these conditions if cytisine is used.

#### Possible side effects

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





## Prescription only stop smoking medications

<p><b>Bupropion</b> (Zyban)</p> <p><b>How it works</b></p> <p>Mechanism not known; reduces withdrawal and desire to smoke possibly by inhibiting neuronal reuptake of dopamine.</p> <p><b>How it is used</b></p> <ul style="list-style-type: none"><li>■ 150 mg daily for 6 days, then</li><li>■ 150 mg twice daily, at least 8 hours apart.</li></ul> <p><b>Instructions</b></p> <ul style="list-style-type: none"><li>■ Set quit date and start tablet use 1–2 weeks before this date.</li><li>■ Treatment for 9 weeks; some patients may continue to take it for up to 24 weeks, or as required.</li></ul> <p><b>Contraindications</b></p> <ul style="list-style-type: none"><li>■ Pregnancy/breast feeding, people under 18, history of seizure disorder, abrupt alcohol/sedative withdrawal, CNS tumour, use of irreversible monoamine oxidase inhibitors (allow 14 days), history bulimia, anorexia nervosa, history bipolar disorder.</li><li>■ Use with caution in patients with renal insufficiency or hepatic impairment. The recommended dose in these patients is 150 mg once a day.</li><li>■ See Summary of Product Characteristics (SPC) for full list of contraindications <a href="http://www.medicines.org.uk/emc/product/3827/smpc">www.medicines.org.uk/emc/product/3827/smpc</a></li></ul>	<p><b>Possible side effects</b></p> <ul style="list-style-type: none"><li>■ &gt;1/10 patients experience insomnia.</li><li>■ Less common symptoms (&gt;1/100).</li><li>■ Rash/urticaria.</li><li>■ Headache/dizziness.</li><li>■ Fever.</li><li>■ Gastrointestinal problems, e.g. dry mouth, nausea.</li><li>■ Low risk (&lt;1/1000) seizure.</li></ul>
	

### For more information

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