

36 - Treatment algorithms

Treatment algorithms

528 The Maudsley® Prescribing Guidelines in Psychiatry CHAPTER 4 that do not contain nicotine are regulated by Trading Standards in the UK. The Office for Health Improvement and Disparities, NHS England and the Care Quality Commission (CQC) support the use of vaping devices in mental health in-patient settings.^{18–20} Clinical effectiveness Since 2013, electronic devices have been the most popular quitting aid in England. A Cochrane review of the effect of e-cigarettes for smoking cessation found high-certainty evidence that nicotine-containing vaping devices were more effective than NRT (RR 1.59) and moderate-certainty evidence that they were more effective than vaping devices without nicotine (RR 1.46).² There is a small evidence base that they are also effective for helping people with a mental health condition reduce smoking.²¹ Preparations and dose The e-liquid is made up of nicotine, flavourings, propylene glycol (PG) and vegetable glycerine (VG). Single-use devices, prefilled cartridges or pods, and bottles of e-liquids are labelled with how many milligrams (mg) of nicotine there are per millilitre (mL), or as the percentage weight per volume (%w/v). In the UK, and several other countries, nicotine content ranges from zero (0%) to a maximum of 20mg/mL (or 2%). Nicotine is incorporated as freebase or nicotine salts; the latter has a lower pH than freebase nicotine, enabling a smoother throat-hit. Additionally, nicotine salts allow vaporisation at a lower temperature and enable higher nicotine levels to be inhaled,²¹ which may help with switching from smoking to vaping. Access to a variety of flavours can encourage the uptake of vaping as an aid to stopping smoking and vaping non-tobacco flavours is associated with increased smoking cessation in adults.²² The label on the vaping product packaging includes the ratio of VG to PG (VG/PG). PG is the carrier for the flavourings and nicotine and is also responsible for the throat-hit. VG has a natural sweetness and is responsible for the majority of aerosol (vapour). A 50/50 ratio is the most common. For smokers who miss the throat-hit or harsh feeling at the back of the throat from tobacco smoking, an e-liquid with a high PG ratio may be preferable (e.g. PG 70/VG 30). If big vapour clouds are preferred, then a high VG ratio needs to be used (e.g. PG 30/VG 70), though this is best suited to particular vaping devices (modular). Adverse effects Mouth and throat irritation, cough, headache and nausea are the most commonly reported symptoms of vaping and these subside over time. The Royal College of Physicians,²³ Office for Health Improvement and Disparities²² and Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment²⁴ advise that regulated vaping devices are a much less harmful alternative to tobacco smoking for dependent smokers and bystanders. Concurrent smoking and vaping (dual use) may not reduce the risk of adverse health effects, and people who vape should be encouraged to stop smoking completely, whereas people who have never smoked should be encouraged not to smoke or vape.^{22,24} Treatment algorithms Tables 4.21 and 4.22 outline treatment algorithms for people making an attempt to stop smoking and those wanting to abstain

or reduce their smoking level.

Addictions and substance misuse CHAPTER 4 Table 4.21 Treatment algorithm for people making an attempt to stop smoking. First-line pharmacological treatment is combination NRT or varenicline or a nicotine-containing vaping device¹ weekly by a trained tobacco-dependence treatment advisor for the duration of the attempt at stopping and for at least 4 weeks after discharge from hospital.

Combination NRT Varenicline For people who smoke more than 20 cigarettes/day or who smoke within 30 minutes of waking up: Start 21mg (24-hour) or 25mg (16-hour) patch and an oral/nasal NRT product of the person's choice Continue patch use for up to 12 weeks, aiming to reduce patch dosage every 4 weeks Continue oral/nasal product use while experiencing craving. Set target stopping date between 1 and 2 weeks of starting varenicline treatment. Start 0.5mg PO varenicline once daily on days 1–3. Increase to 0.5mg PO varenicline twice daily on days 4–7. Increase to 1mg PO varenicline twice daily on days 8–84. Consider 1mg varenicline PO twice daily for an additional 12 weeks for maintenance of abstinence in people who have successfully stopped smoking at the end of the initial 12 week course of varenicline. For people who smoke less than 20 cigarettes/day and do not smoke within 30 minutes of waking up: Start 14mg (24-hour) or 15mg (16-hour) patch and/or an oral/nasal NRT product of the person's choice Continue patch use for up to 12 weeks, aiming to reduce patch dosage every 4 weeks Continue oral/nasal product use while experiencing craving. People who want to use a nicotine vaping device to quit should generally set a stopping date and use the device to stop in one go by replacing all their tobacco cigarettes with it as soon as possible. Alternatively, they can gradually reduce the amount of tobacco they smoke over several weeks and increase the use of the vape until they have completely switched. Similar to the use of NRT, advise the service user to start with a higher strength of nicotine. There is no contraindication to using NRT and a nicotine vaping device simultaneously (if people find this beneficial). Cytisine

Set target stopping date within 5 days of starting cytisine treatment

Days of treatment	Recommended dosing	Maximum daily dose
Days 1–3	1.5mg (1 tablet) every 2 hours	9mg (6 tablets)
Days 4–12	1.5mg (1 tablet) every 2.5 hours	7.5mg (5 tablets)
Days 13–16	1.5mg (1 tablet) every 3 hours	6mg (4 tablets)
Days 17–20	1.5mg (1 tablet) every 5 hours	4.5mg (3 tablets)
Days 21–25	1.5–3mg (1–2 tablets) a day	3mg (2 tablets)

Bupropion Bupropion could be considered second line or where people who smoke express a preference for bupropion therapy. Set target stopping date between 1 and 2 weeks of bupropion treatment. Start 150mg PO bupropion daily on days 1–6. Increase to 150mg PO bupropion twice daily on days 7–49 (with an interval of at least 8 hours between doses, and avoiding bedtime dosing to reduce risk of insomnia). Maintain dose at 150mg PO bupropion on days 50–63 (otherwise discontinue if person has not stopped).

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