

## Appendix A – Part II: Effective pharmacological aids to smoking cessation

Note: Pharmacologic aids should be used in conjunction with behavioural intervention, such as self-help or brief counseling. Where possible, heavy smokers and people with schizophrenia, depression and alcohol or other substance abuse should receive more intensive individual counseling. Both over-the-counter and prescription medicines are available.

### Over-the-counter

**Nicotine Replacement Therapy (NRT):** All forms of nicotine replacement are available without a prescription. All four forms (gum, patch, nasal spray, inhaler) are equally effective and increase the likelihood of quitting by 50% to 100% compared to placebo.<sup>1</sup> Eight weeks of therapy is normally as effective as longer doses.<sup>1</sup> However, longer courses of treatment may be indicated for heavy smokers or for those with low self-confidence. The type of NRT should depend on susceptibility to adverse events, patient preference and availability. Combining different types of NRT<sup>1</sup> or NRT with other pharmacologic aids may provide additional benefit in difficult cases. NRT is safe for most patients, including those with heart disease and those who have experienced recent heart attack and stroke.<sup>2,3,4</sup> Avoid use in persons with severe, uncontrolled arrhythmias or angina. Although safe, efficacy among smokers under age 18 is undetermined.

- Gum: Common dosages: 2 mg or 4 mg. To be effective, the gum requires a repeated sequence of brief chew then ‘parking’ between cheek and gum. Move gum around in the mouth to avoid ulcers. Relatively rapid delivery is good for addressing cravings and stress-induced smoking. 4 mg is more effective than 2 mg with heavy smokers.<sup>1</sup>
- Patch: Common dosages: 7 mg, 14 mg and 21 mg for the 24-hour patch, and 15 mg for the 16-hour patch. The patch is a convenient form that delivers a steady, continuous low-dose of nicotine. One patch is normally worn for 24-consecutive hours, although it can be removed at bedtime for patients who experience sleep disturbances.<sup>5</sup> Avoid use in persons with allergies to band aid adhesives.
- Nasal spray: Works like gum to provide a rapid low-dose of nicotine to help control cravings. A single dose can be administered up to five times per hour and up to 40 times in 24 hours. The nasal spray should not be used for more than 6 months.
- Inhaler: Low-dose nicotine is inhaled or puffed through a mouthpiece which converts nicotine into a vapour that is absorbed through the mouth and throat. It is normally used to control cravings that may be particularly acute shortly after quitting. Each cartridge delivers up to 4 mg of nicotine. Use a maximum of 16 cartridges per day. Do not use longer than 6 months. Using the inhaler below room temperature can reduce the amount of nicotine that is inhaled.

### Prescription

**Bupropion SR:** Bupropion is an “atypical” antidepressant which has been shown to double the success rate for smokers who are trying to quit.<sup>5</sup> Common adverse effects include insomnia (35%), dry mouth (10%) and nausea. Serious adverse effects are rare, but include seizure (1/1000). It is commonly prescribed at 150 mg twice daily, less for smaller patients. If insomnia occurs, the later dose may be discontinued. It is commonly given over a couple of months, beginning one week before the quit date.<sup>5</sup>

**Nortriptyline:** Nortriptyline is an older, generic tricyclic antidepressant which also doubles the success rate of quitting. About 7% of patients will discontinue use due to adverse effects, such as dry mouth, drowsiness and constipation. Serious adverse effects are rare but overdoses can be lethal. It is commonly prescribed between 75 mg and 150 mg (start with a lower dose and titrate up) at bedtime over a couple of months, beginning one week before the quit date.<sup>6</sup>

**Clonidine:** Clonidine is an older medication used to lower blood pressure. It lessens the early symptoms of nicotine withdrawal and improves the quit rate. The usual dose is 0.1 mg to 0.2 mg twice daily over the initial 3-4 weeks of smoking cessation, either beginning a few days before the quit date or starting during the first few weeks after the quit date if nicotine withdrawal symptoms are prominent despite nicotine replacement.<sup>7</sup>

**Varenicline (Champix):** Varenicline is a relatively new treatment that blocks nicotine receptors in the brain. It appears to be more effective than Bupropion for moderate and heavy smokers without medical complications.<sup>8-11</sup> Efficacy with broader populations of smokers is still to be determined. Start administration at least one week before the quit date. Consume 0.5 mg (the “white” pills) once a day on days 1 to 3; 0.5 mg (white pills) twice a day for days 4 to 7; 1.0 mg (blue tablet) twice a day from day 8 (quit day) to the end of treatment. Normally used for 12 weeks, but extended doses may further enhance effectiveness.<sup>11</sup> Common adverse effects include nausea, dreaming, constipation, gas and vomiting. Varenicline should not be used by persons with kidney problems, pregnant or breastfeeding women and children under age 18. Exercise caution in persons who take insulin, asthma medications or blood thinners.

**Not supported by evidence:**

- SSRIs
- Naltrexone
- Amphetamines
- Acupuncture

**References**

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