Managing inpatient nicotine dependence - Nicotine Replacement Therapy (NRT)

The CDHB is smokefree across all sites, which in addition to patient's health, makes it important to assess smoking status on admission. Although smoking may be secondary to the presenting complaint, a smoker's dependence on nicotine needs to be managed during their stay in hospital. It is important to be supportive and non-judgemental. The aim of this bulletin is provide some guidance on this topic.

Guide for the management of nicotine-dependent inpatients
(Refer to guidelines in the Blue Book – see the CDHB intranet)
1) **Identify** smokers on admission and document (form C120001 and others as appropriate). Inform the patient of the 'CDHB Smokefree Policy' and state the health risks of leaving the hospital to smoke. It is important to be supportive and non-judgemental.
2) **Discuss** with the patient, options for initiation of a quit attempt or management of nicotine dependence while in hospital.
3) **Assess** level of nicotine dependence and prescribe appropriate NRT on medication chart (see Table 1).
4) **Monitor** patient for symptoms of withdrawal or overdose. This may require a change to the NRT prescription (dose and/or product). The patient may benefit from combination therapy (e.g. patch + gum/lozenge). Patches offer a sustained amount of nicotine during the day, with the gum/lozenge being used "when necessary" to treat cravings. Gum and lozenges release nicotine more rapidly than patches.
5) **Discharge** - encourage **ALL** smokers to stop smoking. Patients who wish to stop can be referred to one of several smoking cessation programmes that include:
   - PEGS smoking cessation programme (inpatient referral forms) – GP led, partially subsidised NRT. Most GPs will provide support for smoking cessation
   - Quitline (0800 778 778) – heavily subsidised NRT with a Quitcard and additional support
   - Aukati Kaipaipa (03 364 1771) – fully subsidised NRT and support for Maori women and their whanau
   - Pacific Trust Canterbury (03 366 3900) – fully subsidised NRT and cessation support for Pacific Island families
   - Smokechange (0800 226 242) – fully subsidised NRT and support for pregnant women and their partners

Dosage of NRT
Individual requirements for NRT may vary considerably between patients even if they smoke the same number of cigarettes. This may be due to several factors including how deeply the smoke is inhaled (and therefore the amount of nicotine absorbed) and how addicted they are. In practice this means that some patients require far more NRT than the dose recommended by the manufacturers of NRT. Use the following to help gauge dosing:
- how many cigarettes smoked in one day?
- how soon after waking does the patient smoke?

Table 1: NRT practical dosage recommendations

Cigarette consumption	Patch strength
≥10/day#	21mg/24 hours + PRN gum or lozenges
<10/day*	14mg/24 hours + PRN gum or lozenges
Dose of PRN nicotine for breakthrough cravings	
Smoke <30min after waking	use 4mg gum OR 2mg lozenge PRN for cravings
Smoke ≥30min after waking	use 2mg gum OR 1mg lozenge PRN for cravings

#>20/day in product datasheets + max 12 x 2mg gum/1mg lozenges
*<20/day in product datasheets + max 12 x 2mg gum/1mg lozenges

Overdose symptoms of NRT: usually reflect the common effects of nicotine. Symptoms include nausea/vomiting, diarrhoea, abdominal pain, dizziness, headache, confusion, changes in hearing/vision, flushing, tachycardia and hiccups.

Withdrawal symptoms: may reflect under-dosing of NRT and include craving, anxiety, impaired concentration, irritability, depression, sleep disturbance, hunger and bradycardia.

Cautions: these are relative and usually the benefits of NRT will outweigh potential risks. They include a history of serious cardiovascular events within the previous 4 weeks, pregnancy, lactation, severe renal and/or hepatic impairment.

Contraindications: nicotine hypersensitivity.

Drug interactions - smoking cessation may increase or induce clearance of some drugs such as clozapine and theophylline. If a patient stops smoking, talk to your ward pharmacist or Drug Information (ext 80900) to check for potential interactions.

Table 2: NRT products available within the CDHB

Product	Dosage (should be individualised for each patient)	Use (Adverse effects usually similar to effects of nicotine as above)
Patches 7,14,21mg /24h	Apply 1 patch daily. Patches are left on for 24h (Habitrol) or 16h (Nicotrol) Time to peak concentrations: 6-12h. (initial onset ~1-2h)	Apply to clean, non-hairy, unbroken skin. Apply new patches to fresh skin site daily. Do not use old site for 3 days. Rash may occur at site of placement. (**NB**: Habitrol is subsidised in community)
Lozenges 1,2mg	Use 1 lozenge every 1-2 hours. Manufacturers recommended a max of 25 (1mg) and 15 (2mg) lozenges/day for monotherapy; 12 (1mg) for combination therapy – higher doses may be needed by heavy smokers. Time to peak concentrations: ~30-40min	When the urge to smoke is felt suck the lozenge until the taste is strong and then park between the cheek and gum, repeat once the taste dissipates (each lozenge should last about 30 minutes). (**NB**: Subsidised in community)
Gum 2,4mg	Use 1 piece over 30min. Manufacturers recommended a max of 20 (2 mg) or 10 (4mg) pieces/day; 12 (2mg) for combination therapy – higher doses may be needed by heavy smokers. Time to peak concentrations: ~20-30min	When urge to smoke is felt, chew 1 piece of gum until taste becomes strong; park gum between gum and cheek, chew again when taste fades; continue for 30 min. Mild adverse effects include hiccups, upset stomach. (**NB**: Subsidised in community)
Inhaler 10mg	Dose usually 6-12 inhaler cartridges daily. In combination with nicotine patch: use 14mg/24h patch with 4-5 inhaler cartridges daily – max 12/day Time to peak concentrations: ~15min	Use whenever there is an urge to smoke. Use approx 6 cartridges for smokers of <24 cigarettes/day and up to 12 cartridges for >40 cigarettes/day. Adverse effects include mouth/throat irritation & cough which usually resolve with continued use. (**NB**: Not funded in community)