

**Nurse Initiated Medicine Protocol
Nicotine Replacement Therapy (NRT)
Mental Health Facilities & Psychiatric Emergency Centres (PEC)
(July 2008 / Version 1)**

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| Drug Formulations | Nicotine Replacement Therapy (NRT) - 21mg/24hr Patch OR 14mg/24hr Patch (QuitX®) - 4mg Lozenge (Nicabate®) - 4mg Nicotine Gum (QuitX®) - 10mg Cartridge Inhaler (Nicorette®) |
| Areas where Protocol/Guideline applicable | Mental Health Inpatient Units Psychiatric Emergency Centres (PEC) |
| Areas where Protocol/Guideline not applicable | All wards other than Mental Health Inpatient Units or Psychiatric Emergency Centres (PEC) |
| Authorised Prescribers | Nurse initiated for up to 24-hours, then medical officer to review and chart. |
| Indication for use | <p>Patients who smoke >10 cigarettes a day or usually smoke their first cigarette within 30 minutes of waking. or Patients who are unable to remain abstinent prior to, and/or during their hospital admission.</p> <p>Nurses should not administer NRT to:</p> <ul style="list-style-type: none"> ▪ <i>Patients who have contraindications to NRT (refer to medical officer)</i> ▪ <i>Patients who are breastfeeding (refer to medical officer)</i> ▪ <i>Pregnant women (refer to medical officer)</i> <p>NRT should not be administered to:</p> <ul style="list-style-type: none"> ▪ <i>Children under 12-years of age</i> |
| Contra-indications | <p>Non tobacco users or occasional smokers</p> <p>Patch</p> <ul style="list-style-type: none"> ▪ Patients with known allergy or hypersensitivity to nicotine or any component of the patch. ▪ Those with generalised skin conditions or disorders that may complicate patch therapy. <p>Lozenge</p> <ul style="list-style-type: none"> ▪ Phenylketonuria or hypersensitivity to nicotine or any components of the lozenge. <p>Gum</p> <ul style="list-style-type: none"> ▪ Hypersensitivity to nicotine or any component of the gum. <p>Inhaler</p> <ul style="list-style-type: none"> ▪ Hypersensitivity to nicotine or menthol. <p>If patients with these contraindications continue to smoke, prompt the medical officer to consider NRT.</p> |
| Precautions | Any risks that may be associated with NRT are substantially outweighed by the well-established dangers of continued smoking. If the patient has a precaution/s to NRT - provide NRT but indicate precaution/s to medical officer for review. |

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| | <p>Precautions for patch include:</p> <ul style="list-style-type: none"> ▪ Renal or hepatic impairment ▪ Diabetes mellitus requiring insulin (monitor blood glucose levels) ▪ Underlying cardiovascular disease (recent myocardial infarction, severe dysrhythmia or CVA) ▪ Severe high blood pressure. ▪ Chest pain or angina ▪ Allergic reactions (susceptibility to angiodema or urticaria) ▪ Atopic or eczematous dermatitis due to localized patch sensitivity ▪ Pheochromocytoma and uncontrolled hyperthyroidism ▪ Stomach ulcer ▪ Tumour of the adrenal gland ▪ Pregnancy & lactation <p>Precautions for lozenge include:</p> <ul style="list-style-type: none"> ▪ Renal or hepatic impairment ▪ Diabetes mellitus ▪ Underlying cardiovascular disease (recent myocardial infarction or stroke, severe dysrhythmia or CVA) ▪ Allergic reactions (susceptibility to angiodema and urticaria) ▪ Pheochromocytoma and uncontrolled hyperthyroidism ▪ Gastrointestinal disease ▪ People on a low sodium diet ▪ Pregnancy & lactation <p>Precautions for gum include:</p> <ul style="list-style-type: none"> ▪ Renal or hepatic impairment ▪ Diabetes mellitus ▪ Any type of heart disease, including angina ▪ High blood pressure or any circulation disorder ▪ Stomach ulcer or persistent stomach upset ▪ Hyperthyroidism ▪ Pheochromocytoma ▪ Pregnancy & lactation <p>Precautions for inhaler include:</p> <ul style="list-style-type: none"> ▪ Renal or hepatic impairment ▪ Diabetes mellitus ▪ Chronic throat or bronchial disease ▪ Underlying cardiovascular disease (recent myocardial infarction or stroke, severe dysrhythmia or CVA) ▪ Gastrointestinal disease ▪ Pheochromocytoma and uncontrolled hyperthyroidism ▪ Pregnancy & lactation |
| <p>Proposed Place in Therapy</p> <p>State whether drug to be used as first, second or third line. Where not first line, describe therapies to be used first.</p> | <p>PEC</p> <p>First Line: Every 30-60 minutes administer ONE form of intermittent NRT (4mg lozenge OR 4mg gum OR 10mg inhaler). For example give ONE dose of inhaler in the first 30-60 minutes then ONE dose of lozenge in next 30-60 minutes.</p> <p>Consider applying patch as first line if likely to be admitted to Mental Health Inpatient Unit.</p> |

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| | <p>Inpatient Mental Health facility First Line: 21mg/24hr Patch Second Line: ONE dose of either 4mg Lozenge OR 4mg Gum OR 10mg Inhaler every 30-60 minutes.</p> |
| <p>Dosage (Include dosage adjustment for specific patient groups)</p> | <p>Patch</p> <ul style="list-style-type: none"> ▪ < 45 kg 14mg/24hr Nicotine Transdermal Patch ▪ > 45 kg 21mg/24hr Nicotine Transdermal Patch ▪ One patch to be applied to non-hairy site on chest or upper arm. Rotate patch to a new site each day. ▪ DO NOT place hot packs over patch as this may speed up the release of the drug from the patch. ▪ Change patch upon patient retiring to sleep, and patient must hand in old patch before receiving new patch. ▪ Remove at night only if patient experiences sleep disturbance and reapply new patch in the morning. <p>Lozenge</p> <ul style="list-style-type: none"> ▪ 4mg Nicotine per lozenge ▪ When used as single therapy, maximum of 15 per day. ▪ Frequency is every 30-60 minutes (encourage patient to self-titrate dose according to withdrawal symptoms), ▪ One lozenge placed in mouth and moved side to side in mouth until dissolved (20-30mins). ▪ Do not chew or swallow whole. ▪ Do not eat or drink while lozenge is in the mouth. <p>Gum</p> <ul style="list-style-type: none"> ▪ 4mg Nicotine per piece ▪ Maximum is 40mg daily (10 pieces). ▪ Chew 1 gum piece slowly and intermittently when urge to smoke is felt (no more than 1 gum per 30-60 minutes). ▪ Avoid coffee and soft drinks for 15 minutes before chewing gum. ▪ Encourage enough chewing for tingling to have effects and then place between teeth at back of mouth. <p>Inhaler</p> <ul style="list-style-type: none"> ▪ 10mg Nicotine Cartridge (4mg actually delivered) ▪ When used as single therapy a maximum of 12 cartridges a day (30-60 minutes frequency). ▪ Insert cartridge, close device to puncture. Each cartridge will deliver approximately 80 puffs before depleted. Inhale air through cartridge for 20 minutes. Encourage patient to self titrate dose according to withdrawal symptoms. <p>Combination therapy One 21mg/24hr patch combined with 4mg lozenges OR 4mg gum OR 10mg inhaler. You may initiate the additional intermediate forms of NRT, HOWEVER, each patient may only receive ONE dose of ONE form of additional intermediate NRT every 30-60 minutes.</p> |
| <p>Duration of therapy</p> | <p>24-hours then NRT to be charted by Medical Officer</p> |
| <p>Important Drug Interactions</p> | <p>No clinically relevant interactions between NRT and other drugs have been established - BUT the PI cautions that the dose of certain substances may need to be adjusted at cessation of smoking (with or without nicotine replacement</p> |

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| | <p>therapy).</p> <p>Potential drug interactions should be assessed by a medical officer as soon as possible.</p> <ul style="list-style-type: none"> ▪ Anticonvulsants may require special monitoring and/or dose adjustment ▪ Drugs that may require adjustment in dose once smoking ceases: paracetamol, caffeine, theophylline, oxazepam, oestrogens, warfarin, lignocaine, imipramine, pentazocine, tacrine, clomipramine, fluvoxamine, Adrenergic agonists (e.g. isoprenaline and phenylephrine), Adrenergic antagonists (e.g. prazosin, labetalol) ▪ Some medicines to treat depression ▪ Antipsychotics e.g. Clozapine, Olanzapine ▪ Insulin ▪ Appendix 1 (drug interactions) |
| <p>Administration instructions</p> | <p>When a nurse administers a dose of a nurse-initiated medication to a patient, the nurse must make a record in ink on the medication chart of the name of the medication, date, time, dose and any other relevant details and sign the entry. The record should be made in an appropriate section of the chart, such as an area dedicated to nurse-initiated medication or the 'stat' (once only) section.</p> <p>NRT should not be administered past a 24-hour period without a Medical Officer (MO) reviewing. If, on this review, the medication is to continue, it must be ordered on the medication chart by the MO.</p> |
| <p>Monitoring requirements</p> <p>Safety</p> <p>Effectiveness (state objective criteria)</p> | <p>Monitor:</p> <ul style="list-style-type: none"> ▪ Exacerbated symptoms in persons suffering from active oesophagitis, oral or pharyngeal inflammation or gastritis. ▪ Exacerbation of extrapyramidal side effects. ▪ Diabetes Mellitus- monitor BSL closely. ▪ Smoking withdrawal symptoms. <p>Monitor & document on medication chart, and progress notes with reference to any withdrawal symptoms experienced.</p> <p>Certain adverse symptoms reported may be related to withdrawal symptoms associated with smoking cessation.</p> <p>Nicotine withdrawal symptoms;</p> <ul style="list-style-type: none"> ▪ Insomnia ▪ Depression ▪ Irritability ▪ Anxiety ▪ Difficulty concentrating ▪ Restlessness ▪ Cravings ▪ Decreased heart rate ▪ Increased appetite or weight gain ▪ Frustration or anger ▪ Sleeplessness <p>Possible adverse reactions related to patch:</p> <ul style="list-style-type: none"> • Sleep disturbances • Nausea, vomiting or other gastrointestinal disturbances • Dizziness or headache |

- Skin irritation
- Allergic reaction, including redness, swelling, itching, burning sensation or blisters at the patch site

Possible adverse reactions to lozenge:

- Gastrointestinal upset (including nausea, hiccups and flatulence) and indigestion
- Mouth irritation and throat burning
- Insomnia
- Dizziness, headache
- Coughing, pharyngitis, sore throat
- Dysphagia
- Heartburn

Possible adverse reactions to gum:

- Injury or irritation to the mouth, teeth or dental work
- Hiccups
- Headache
- Gastrointestinal discomfort
- Nausea, vomiting, sore mouth or throat
- Jaw muscle ache
- Erythema, urticaria, palpitations and reversible atrial fibrillation

Possible adverse reactions to inhaler:

- Irritation to the mouth and throat
- Headache
- Cough
- Mouth ulcers
- Gastrointestinal discomfort (nausea, hiccups, vomiting)
- Nasal congestion, palpitations and reversible atrial fibrillation.

NRT may cause adverse reactions similar to those associated with nicotine administered by other means, including smoking.

Signs of overdose or poisoning of nicotine may occur in the following order:

Nausea and/or vomiting; increased watering of mouth (severe); abdominal or stomach pain (severe); diarrhoea (severe); pale skin; cold sweat; headache (severe); dizziness (severe); disturbed hearing and vision; tremor; confusion; weakness (severe); extreme exhaustion; fainting; low blood pressure; difficulty in breathing (severe); fast, weak, or irregular heartbeat; convulsions (seizures). Other side effects may occur that usually do not need medical attention. These side effects may go away during treatment as the body adjusts to the medicine.

Treatment of ingestion of nicotine transdermal patch:

Due to the possibility of nicotine-induced seizures, activated charcoal should be administered. In unconscious patients with a secure airway, instil activated charcoal via a nasogastric tube. Repeated doses of activated charcoal should be administered as long as the system remains in the gastrointestinal tract since it will continue to release nicotine for many hours. A saline cathartic or sorbitol added to the first dose of activated charcoal may speed gastrointestinal passage of the system.

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| <p>Management of complications</p> | <p>Smoking withdrawal symptoms Prompt medical officer to review care and consider combination therapy.</p> <p>Patch Skin irritation - use a different area of the skin to apply the patch each day to reduce skin irritation</p> <p>Allergic reaction - if the symptoms described above occur, remove the patch immediately, and refer to Medical Officer.</p> <p>Inhaler Irritation to the mouth - if patient experiences irritation to the mouth: increase water intake, improve mouth hygiene and eat a well balanced diet.</p> |
| <p>Basis of Protocol/Guideline (including sources of evidence, references)</p> | <ul style="list-style-type: none"> ▪ MIMS online. ▪ Action on Smoking and Health (ASH). Guidance for health professionals on changes in the licensing arrangements for nicotine replacement therapy. London, December, 2005. ▪ NSW Health's Guide for the Management of Nicotine Dependent Inpatients. ▪ QuitX Consumer Information Leaflet ▪ QuitX Product Information ▪ Nicorette Product Information ▪ NicabateCQ Product Information ▪ Medication Handling in NSW Public Hospitals PD2007_077 |
| <p>Groups consulted in development of this guideline</p> | <ul style="list-style-type: none"> ▪ Mental Health Pharmacy ▪ Mental Health Nursing Services ▪ Mental Health Nurse Managers, Mental Health Clinical Nurse Consultant ▪ HNEH Smoke Free Area Implementation Committee ▪ HNEH Smoke Free Team |