TOOL 7

Quick guide to drug interactions with smoking cessation

NSW GOVERNMENT

Medication levels can vary if someone starts or stops smoking, or if they change how much they smoke.

- Cigarette smoking induces the activity of certain cytochrome P450 enzymes, particularly CYP1A2. These enzymes are involved in the metabolism of a number of medications.
- These effects are caused by components of tobacco smoke other than nicotine. **Therefore nicotine replacement therapy does NOT affect medication levels.**
- Decreased CYP1A2 activity after smoking cessation increases the risk of adverse drug reactions thus requiring adjustment to the dosage of some medications.
- CYP1A2 enzyme has a half-life of 36 hours, so dose adjustment to medications needs to be made within 2-3 days of smoking cessation.
- The change in metabolism/drug dose can occur with anyone who is reducing smoking. People considered light smokers may still need dose adjustment depending on the way they smoke (eg. compensatory smoking – inhaling more deeply).
- Predicting the required adjustment to medication can be challenging – the table below is a guide only. Therapeutic drug monitoring should be used where possible.

If unsure, access MIMS to establish smoking cessation effects on patient's medications.

Drugs affected by smoking cessation

Drug	Effect of smoking cessation	Impact on dosage required when client stops smoking	Clinical importance
Benzodiazepines	Possible increased sedation due to loss of CNS stimulation by nicotine.	May need lower dose. May be more sedated if dose remains the same	+
Beta blockers	Serum levels may rise and effects enhanced.	May need lower dose.	+
Caffeine and alcohol	Caffeine levels rise Alcohol levels rise	Reduce caffeine and alcohol levels by half within a week	+++
Chlorpromazine	Serum levels rise	May need lower dose	++
Clopidogrel	Effectiveness is significantly reduced when smoker stops smoking	Prasugrel or ticagrelor may be better choices for non-smokers	+++
Clozapine	Serum levels rise significantly	An average 50% dose reduction may be required	+++
Flecainide	Serum levels may rise	May need lower dose	+
Fluvoxamine	Serum levels may rise	May need lower dose	++
Haloperidol	Serum levels may rise	May need lower dose	+
Heparin	Serum levels may rise	May need lower dose	+
Imipramine	Serum levels may rise – monitor for side effects	May need lower dose	+
Insulin	Increased subcutaneous absorption due to vasodilation after quitting	May need lower dose	++
Olanzapine	Serum levels rise significantly	An average 30% dose reduction may be required	+++
Theophylline	Serum levels rise	May need lower dose	++
Warfarin	Serum levels increase by 15% on average	May need lower dose. Close monitoring of INR advised.	++
Methadone	Serum level may rise	May need lower dose	++

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