

# RGH Pharmacy E-Bulletin

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A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.

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## Therapeutic agents for nicotine dependence & antidepressants

The medicines information centre at RGH has been asked many times for advice on the most appropriate medication to aid smoking cessation in a patient with a diagnosis of depression. With the recent listing of nicotine replacement patches for subsidised supply through the Pharmaceutical Benefit Scheme for concession card holders, it is timely to review important clinical interactions with the three currently available therapeutic agents used as an aid to smoking cessation and their use in combination with antidepressant therapy.

The three available agents: bupropion (Zyban<sup>®</sup>), nicotine replacement therapy (NRT) and varenicline (Champix<sup>®</sup>); all have similar efficacy rates in assisting with smoking cessation. Regular counselling and support (such as via the Australian government sponsored Quitline, telephone 137848) is known to increase quit rates (with or without additional pharmacological treatment) as these approaches aid motivation and provide behavioural skills to enable continued abstinence.

An earlier e-bulletin titled Smoking, smoking cessation and medications; volume 37(9): April 3 2010, discusses interactions between smoking and various medications and should be reviewed for patients who are stopping smoking and the implication this may have on other medications. When selecting an appropriate agent to aid with smoking cessation both pharmacokinetic and pharmacodynamic interactions need to be considered.

### *Bupropion*

Bupropion has documented pharmacodynamic and pharmacokinetic interactions with antidepressants. Bupropion inhibits CYP2D6 and may prolong the effect of drugs metabolised by this enzyme. Many antidepressants including venlafaxine, all of the SSRIs, and the tricyclic antidepressants are metabolised at least in part by this enzyme. Additionally bupropion increases the risk of seizures (as do all antidepressants) and the Australian Medicines Handbook recommends that bupropion should not be combined with other drugs that lower the seizure threshold.

### *Varenicline*

There is no documented pharmacokinetic or pharmacodynamic interaction between varenicline and antidepressants, but varenicline has been reported to destabilise existing psychiatric conditions. Patients with a pre-existing psychiatric illness such as depression were excluded from clinical trials of varenicline.

If the decision is made to use varenicline, it is suggested that appropriate discussion with patient occurs, and should be accompanied by frequent monitoring for any increase in psychiatric symptoms. The clinical decision to use varenicline should in part be guided by the clinician's assessment of the current stability of an existing psychiatric condition. In patients with existing psychiatric conditions, NRT may be a more appropriate first line option as it provides similar benefit in terms of likely success of smoking cessation while carrying a lower risk of harm.

It is important to note that after smoking cessation the activity of the cytochrome P450 1A2 isoenzyme may be dramatically decreased, meaning that the effects of substrate drugs such as caffeine, olanzapine, theophylline and donepezil will be increased.

This E-Bulletin is based on work by Ruth Wilton, Senior Pharmacist, DATIS, RGH

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