

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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Drug interactions with urinary alkalinisers

Urinary alkalinisers are used to relieve the discomfort associated with urinary tract infections, help treat certain types of renal stones, or may be used in the specialist setting to treat some metabolic and renal disorders. A number of preparations are available on the Australian market, including Citralite[®], Citravescent[®], Uracol[®], Ural[®], Uricalm[®] and Sodibic[®] — none of which are available for subsidy through the Pharmaceutical Benefits Scheme. However, Uracol[®] and Ural[®] (both as a restricted benefit), and Sodibic[®] are available for subsidy through the Repatriation Pharmaceutical Benefits Scheme. All of the urinary alkaliniser preparations are unscheduled preparations and can therefore be purchased over the counter in pharmacies. People who purchase or are prescribed these preparations may well be taking other medications which could potentially interact if taken concomitantly with the urinary alkaliniser.

Below is a table which lists some interactions associated with urinary alkalinisers. This list is not exhaustive, and each individual case needs careful consideration (including the duration of treatment with the urinary alkaliniser).

Interacting drug	Features and management
Amphetamines	Urinary excretion of amphetamines is reduced by urinary alkalinisers. The effect of the amphetamines may be prolonged and the risk of adverse effects increased. In the setting of amphetamine overdose, if a urinary alkaliniser is used, toxicity will be prolonged. Avoid urinary alkalinisers, especially in overdose settings.
Ephedrine/ pseudoephedrine	Alkalinisation of the urine causes retention of these drugs by the kidney, leading to possible development of toxicity (e.g. tremors, anxiety, insomnia and tachycardia). Avoid the combination if possible, or monitor patients for toxicity and reduce the dose of the ephedrine/pseudoephedrine if concomitant use is required.
Hexamine hippurate	Hexamine hippurate is inactive and is hydrolysed to active formaldehyde in acidic urine. Sodium bicarbonate alkalinises the urine preventing the formation of formaldehyde. Therefore, the antibacterial effect of hexamine hippurate is reduced. Avoid the combination.
Lithium	Sodium bicarbonate increases lithium excretion; therefore, it may decrease the concentration and effect of lithium. Avoid the combination, or monitor lithium concentration and clinical effect, increasing the dose of lithium if necessary.
Memantine	The clearance of memantine is decreased by about 80% at alkaline urine conditions. Therefore, the clearance of memantine could be decreased, and adverse effects increased, if it is used concomitantly with urinary alkalinisers. Caution is required. If the combination is used, monitor patient for increased adverse effects due to memantine.

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FOR FURTHER INFORMATION – CONTACT THE PHARMACY DEPARTMENT ON 82751763 or email: chris.alderman@rgh.sa.gov.au
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