

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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Vitamin D deficiency (part two) – treatment of Vitamin D deficiency

The recommended daily intake of vitamin D varies in different age groups, and doses of vitamin D supplementation are dependent on baseline vitamin D levels, and whether vitamin D deficiency is being treated or prevented. The working group of the Australian and New Zealand Bone and Mineral Society, Endocrine Society of Australia and Osteoporosis Australia suggest the following: Vitamin D (cholecalciferol) dose required to reduce fracture risk in elderly: approximately 1000 IU per day. Vitamin D supplementation suggested to treat moderate to severe deficiency (serum 25-OHD < 25 nmol/L): 3000–5000 IU per day for at least 6–12 weeks will usually return serum 25-OHD levels to within the reference range and allow ongoing treatment with a lower dose of 1000 IU per day. The target serum 25-OHD level shown to reduce the risk of fracture in the elderly (in conjunction with adequate calcium) is > 75 nmol/L.

Some of the vitamin D-containing preparations available in Australia are presented below. All are available over-the-counter without a prescription, except for Fosamax Plus[®] and Actonel Combi D[®]. When selecting a preparation consider the quantity of cholecalciferol in the product. For example, the amount of cholecalciferol in Caltrate plus Vitamin DTM, and in Fosamax Plus[®], is insufficient to treat vitamin D deficiency, and insufficient to produce the outcomes of reduced fracture rates and reduced risk of falls in clinical trials in the elderly (i.e. a minimum of 800 IU cholecalciferol per day).

Products containing only vitamin D	
cholecalciferol 25 mcg (1000 IU) capsules	Blackmores Vitamin D ₃ , Ostelin Vitamin D
cholecalciferol 25 mcg (1000 IU) tablets	Ostevit-D
Products containing vitamin D in combination with other active ingredients*	
cholecalciferol 5 mcg (200 IU) plus calcium (600 mg) as carbonate	Caltrate with Vitamin D
cholecalciferol 12.5 mcg (500 IU) plus calcium (600 mg) as carbonate	Ostelin Vitamin D and Calcium; Ostevit-D & Calcium
cholecalciferol 12.5 mcg (500 IU) plus calcium (315 mg) as citrate	Citracal+ D
cholecalciferol 2.5 mcg (100 IU) plus calcium (360 mg) as phosphate and hydrogen phosphate	Blackmores Bio Calcium
cholecalciferol 20 mcg (800 IU) plus calcium (1200 mg) as lactate gluconate and carbonate	CalCourse1200+D
cholecalciferol 2.5 mcg (100 IU) plus calcium (600 mg) as carbonate	Nature's Way Total Calcium Plus
cholecalciferol 70 mcg (2800 IU) plus alendronate 70 mg (for administration once a week)	Fosamax Plus [®]
cholecalciferol 880 IU plus calcium (1000 mg) as carbonate (sachets for administration on six days of the week) plus risedronate 35 mg (for administration once a week)	Actonel Combi D [®]

*There are also numerous multivitamin preparations containing small amounts of vitamin D, and a number of multi-ingredient preparations promoted for calcium deficiency that contain vitamin D (in addition to a variety of other vitamins and minerals). A complete list of products has not been provided.

High dose oral vitamin D preparations (e.g. 100 000 IU orally every three months) have also been investigated and are being used in Australia (often manufactured on an individual patient basis by compounding pharmacists). These products are not currently approved by the Therapeutic Goods Administration.

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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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